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Understanding the historical building process of a professional activity, such as nursing, is an essential element in the affirmation of its identity. The specific purpose of this text is to draw attention to this fact and offer some conceptual incentives to broaden the work in the history of nursing. So, what categories should we use and develop to study the process of building the professional identity of nursing? Let’s start with the principle that the concept of professional identity is a plural concept that includes individuals, educational institutions, work contexts, sociopolitical dynamics, gender issues, religious and state influences, internal and external pressures, and conflicts that require choosing and defining identity strategies that enable the group’s affirmation, with advances and setbacks, and the building of a professional jurisdiction.

Studying professional groups, such as nursing, requires resources for building an analysis model that is able to systematically illustrate some of the aspects that contribute to its construction and, in so doing, find in the profession’s past an anchor to highlight the identity of the individuals who are part of the nursing profession and develop it in the present. We consider that “the understanding of an identity-building process can only be interpreted, broadly, if attention is paid to dialogue, negotiation, and conflict with the various participants in this process.”\(^{(1)}\) To this end, we propose a set of categories that may serve as supporting elements for studying identity-building processes in nursing.

A socio-historic analysis of the process and dynamics for building a professional group are rooted in at least three dimensions, two fields of action and four lines of analysis that must be taken into account in the process to investigate group dynamics and professional identities. With regard to the three conceptual dimensions, we are referring to the need to examine the role of the state, according to the political projects of a specific era, in influencing the paths and dynamics of the nursing group. We are also referring to the scientific dimension, often influenced by the state, where knowledge is produced and analyzed – through training schools – and is potentially related to the nursing group; and also to the social dimension where the paths of individuals who choose to become nurses need to be explored, i.e., socioeconomic and family aspects and especially those related to issues of social mobility that can influence the definition of the paths taken by nursing.
These dimensions of analysis are integrated within two fields of action that are essential for understanding identity-building processes: the **training and professional fields**. The state, science and the social dimension should be studied as a pendulum in the context of training and the profession. Our focus, however, is on the training field since socialization processes, incorporation of values and appropriation of technical and scientific knowledge take place in nursing schools.

**Training** “is a core element in the organization, structuring and affirmation of groups and professional identities”.(1) There is a close relationship between training processes and building professional identities. We agree with David Tavares who argues that “specific socialization processes” are built within the training sphere(2) that expands the legitimacy, respectability and accreditation of those who have chosen a specific kind of training and, consequently, a professional path. Therefore, initial training represents a structuring period for exercising a professional activity, during which time ways of being, acting and doing things are learned.

“The role of educational institutions in the emergence and consolidation process of a group is crucial. Besides embracing a credentialist logic, they enable the building of professional knowledge and the promotion of group awareness, as well as the jurisdictional development process through the establishment of interdependent relationships”.(3)

Based on the statement above, four lines of analysis emerge that enable us to objectify what we have been affirming: **professional jurisdiction**, **credentialism**, **knowledge**, and **standards and values**. These are most visible operative axes, among other possible ones, for any socio-historic analysis applied to a group such as nursing.

**Professional jurisdiction** corresponds to that which can be designated as a theoretical and practical field, with concrete tasks, acts and exclusive knowledge, where training is controlled and assumed by peers and where there are state and social acceptance in relation to what they represent, despite the existence of many situations of tension and confrontation among the various parties.(4)

**Credentialism** can be defined as the act of accreditation of individuals intending to become nurses. In simple terms, it corresponds to the process of ascertaining their physical, psychological or moral conditions in order to determine whether or not they can join the training institution and, consequently, the nursing group. Training schools are responsible for the accreditation of these individuals, through licenses or diplomas, so they can exercise that activity in a social context.

**Knowledge** is part of the process above in that scientific knowledge enables training institutions to measure or verify the capabilities of individuals. At the same time, knowledge, according to Keith Macdonald, “provides the foundation for professional practice”.(5) Furthermore, it is through the construction or appropriation of knowledge that different groups are able to solve social problems and achieve greater respectability and a more stable professional jurisdiction.
Last, standards and values, as subjective constructions, are another operative line of analysis for understanding how nurses and the nursing group have been built. What points of reference did they assume? What beliefs did they defend? How did they appropriate them within the training context? How did they externalize them in the workplace? What was the state’s role in defining the axiological codes? Among many other possible questions.

In sum, this text sought to present an analysis structure able to clarify the importance of knowledge in relation to the past of professions such as nursing, and the need to use this knowledge as an identity anchor that can enhance and achieve greater social and state respectability for nursing within the Brazilian context. We hope that this short text, within the context of the 30th anniversary of Acta Paulista de Enfermagem, may encourage nurses to get to know more about their profession’s past.

Helder Henriques
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References

Contents

Original Articles

Booklet on premature infants as educational technology for the family: quasi-experimental study
Cartilha sobre o prematuro como tecnologia educacional para família: estudo quase experimental
Folleto informativo sobre el prematuro como tecnología educativa para la familia: estudio casi experimental
Ifé Odara Alves Monteiro da Silva, Natália Del Angelo Aredes, Mariana Bezozn Bicalho, Natália Condé Brondi Delácio, Lígia De Lazzari Mazzo, Luciana Mara Monti Fonseca ................................................................. 334

Experiences of adolescents and their families in the short-term after scoliosis surgery
Experiências de adolescentes e suas famílias a curto prazo após cirurgia para correção de escoliose
Experiencias de adolescentes y sus familias a corto plazo después de cirugía para corrección de escoliosis
Ozlem BILIK, Orgul KARAYURT, Aysegul SAVCI, Hale TURHAN DAMAR ............................................................................... 342

Maternal depressive symptoms during immediate postpartum: associated factors
Sintomas depressivos maternos no puerpério imediato: fatores associados
Síntomas maternos de depresión en el puerperio inmediatamente posterior al parto: factores asociados
Marcela Muzel Poles, Ana Paula Pinho Carvalheira, Maria Antonieta de Barros Leite Carvalhaes, Cristina Maria Garcia de Lima Parada ........................................................................................................... 351

Interaction between the nursing technician and the family of the hospitalized patient
Interação do técnico em enfermagem com a família do paciente hospitalizado
Interacción del técnico en enfermería con la familia del paciente hospitalizado
Maria Cristina Ferreira Carlos Rodrigues da Silva, Regina Issuzu Hirooka de Borba, Juliana Yukari Takahashi Onishi, Ana Lúcia de Moraes Horta, Circéa Amália Ribeiro ......................................................................................... 359

First-time parents: acquisition of parenting skills
Pais pela primeira vez: aquisição de competências parentais
Padres por primera vez: adquisición de habilidades de los padres
Catarina de Sousa e Silva, Marinha do Nascimento Fernandes Carneiro .................................................................................... 366

Psychometric properties of the Turkish Version of the Tuberculosis-Related Stigma Scale
Propriedades psicométricas da versão turca da escala Tuberculosis-Related Stigma
Propiedades psicométricas versión turca de la escala Tuberculosis-Related Stigma
Ayse Bener, Zuhal Bahar, Aygul Kusal, Ayse Cal, Figen Cavusoglu, Hanice Mert, Canturk Capık ........................................................................ 374

ICNP® terminology subset for patients with cancer-associated venous thromboembolism
Subconjunto terminológico CIPE® para pacientes con tromboembolismo venoso asociado a cáncer
Subconjunto terminológico CIPE® para pacientes con tromboembolismo venoso asociado con el cáncer
Paula Dias Vidigal, Telma Ribeiro Garcia, Mauro Leonardo Salvador Caldeira dos Santos, Alessandra Conceição Leite Funchal Camacho, Marise Dutra Souza, Giselle Gomes Borges, Patrícia dos Santos Claro Fuly ............................................................ 382
Clinical indicators for knowledge assessment of venous ulcer patients
Indicadores clínicos para avaliar o conhecimento de pacientes com úlcera venosa
Indicadores clínicos para evaluar el conocimiento de pacientes con úlceras venosas
Viviane Maria Osmarin, Taline Bavaresco, Amália de Fátima Lucena, Isabel Cristina Echer ...................................................391

Absenteeism in the nursing team in emergency services: implications in care
Absenteísmo na equipe de enfermagem em serviços de emergência: implicações na assistência
Absentismo en el equipo de enfermería en los servicios de emergencia: implicaciones en la atención
Denise Ferro, Fabiana Costa Machado Zacharias, Luciana Aparecida Fabriz, Tatiele Estefâni Schonholzer, Silvia Helena Valente, Sara Maria Barbosa, Carolina Grigolato Viola, Ione Carvalho Pinto ................................................................. 399

Assessment of the patient safety culture in primary health care
Avaliação da cultura de segurança do paciente na atenção primária à saúde
Evaluación de la cultura de seguridad del paciente en la atención primaria a la salud
Nathalia Malaman Galhardi, Camila Eugenia Roseira, Fabiana de Souza Orlandi, Rosely Moralez de Figueiredo.......................... 409

Weight regain after a bariatric surgery: a focus on social phenomenology
Reganho de peso após a cirurgia bariátrica: um enfoque da fenomenologia social
Recuperación del peso después de la cirugía bariátrica: un enfoque de la fenomenología social
Estela Kortchmar, Miriam Aparecida Barbosa Merighi, Claudete Aparecida Conz, Maria Cristina Pinto de Jesus, Deise Moura de Oliveira........................................................................................................................................................ 417

Intrafamilial abuse in the childhood of men criminally prosecuted for domestic violence
Abuso intrafamiliar na infância de homens em processo criminal por violência conjugal
Abuso intrafamiliar en la infancia de los hombres en proceso penal por violencia conyugal
Josinete Gonçalves dos Santos Lírio, Nadirlene Pereira Gomes, Gilvânia Patrícia do Nascimento Paixão, Álvaro Pereira, Júlia Renata Fernandes Magalhães, Moniky Araújo da Cruz, Anderson Reis de Sousa .................................................................................................................... 423

Breastfeeding difficulties: analysis of a service specialized in breastfeeding
Dificuldades relacionadas ao aleitamento materno: análise de um serviço especializado em amamentação
Dificultades relacionadas a la lactancia materna: análisis de un servicio especializado en el amamantamiento
Juliana de Almeida Carreiro, Adriana Amorim Francisco, Ana Cristina Freitas de Vilhena Abrão, Karla Oliveira Marcacine, Erika de Sá Vieira Abuchaim, Kelly Pereira Coca ........................................................................................................ 430

Peripheral neuropathy in people with multiple myeloma
Neuropatia periférica em pessoas com mieloma múltiplo
Neuropatía periférica en personas con mieloma múltiple
Maya Mayran Chaves Moreira, Andrea Bezerra Rodrigues, Patrícia Peres de Oliveira, Maria Isis Freire de Aguiar, Gilmara Holanda da Cunha, Roberta Marjorie Cunha Pinto, Deborah Francielle Fonseca, Luciana Regina Ferreira da Mata .................................................. 439

Integrative Review

Educational interventions for the health promotion of the elderly: integrative review
Intervenções educativas para promoção da saúde do idoso: revisão integrativa
Intervenciones educativas para promover la salud de los ancianos: una revisión integradora
Khelyane Mesquita de Carvalho, Cynthia Roberta Dias Torres Silva, Maria do Livramento Fortes Figueiredo, Lidya Tolstenko Nogueira, Elaine Maria Leite Rangel Andrade .................................................................................................................. 446

Erratum

Erratum..................................................................................................................................................................................455
Booklet on premature infants as educational technology for the family: quasi-experimental study

Folletos informativos sobre el prematuro como tecnología educativa para la familia: estudio quase experimental

Keywords
Neonatal nursing; Premature; Health education; Mothers; Teaching materials

Descripciones
Enfermería neonatal; Prematuro; Educación en salud; Madres; Materiales de enseñanza

Abstract
Objective: Verify mothers’ cognitive learning on care for their premature infants through an educative activity based on a booklet.

Methods: Quantitative study with a quasi-experimental time-series design, involving mothers of premature infants hospitalized at two neonatal wards of a high-complexity hospital. A pre and post-test was applied to the control and experimental groups with a ten-day interval between the verifications of learning, analyzing the performance and comparing the groups by means of the Wilcoxon and Mann-Whitney tests. The intervention consisted of an educational activity using a booklet on care for premature infants. The control group participated in an activity traditionally offered at the neonatal wards where the study was undertaken, without the support of the booklet. The data collection took place in October 2016.

Results: Eighteen mothers participated in the study, eight of whom were allocated by convenience to the experimental group and ten to the control group. Intergroup comparison revealed a statistically significant difference (p=0.027) favorable to the use of the educative booklet in combination with health education for the mothers’ learning on care for their infants.

Conclusion: The educative booklet on care for the premature infant is a resource that favors the mothers’ learning on the theme. Hence, it represents important technology for health education and favors the knowledge construction. At the health services, it can be used as a trigger and support for discussions and experience exchange.

Resumen
Objetivo: Verificar el aprendizaje cognitivo de madres sobre los cuidados de sus hijos prematuros mediante una actividad educativa basándose en una cartilla.

Métodos: Estudio de abordaje cuantitativo y diseño casi-experimental de serie temporal, realizado junto a madres de prematuros hospitalizados en dos unidades neonatales de un hospital de alta complejidad. Fueron aplicados pruebas pre y post-test con los grupos control y experimental con intervalo de diez días entre las verificaciones de aprendizaje, analizando desempeño y comparando grupos con pruebas Wilcoxon y Mann-Whitney. La intervención consistió de una actividad educativa con uso de una cartilla sobre cuidados al bebé prematuro, mientras que el grupo control participó de una actividad tradicionalmente ofrecida en las unidades neonatales del estudio, sin apoyo de la cartilla. El colectivo de datos fue realizado en el mes de octubre de 2016.

Resultados: Participaron del estudio 18 madres, siendo que ocho fueron alocadas por conveniencia al grupo experimental y 10 al grupo control. Por medio de la comparación entre grupos, hubo diferencia estadísticamente significativa (p=0.027) favorable al uso de la cartilla educativa en asociación a la educación en salud para el aprendizaje de las madres sobre los cuidados al hijo.

Conclusion: La cartilla educativa acerca de cuidados es un recurso que favorece el aprendizaje de madres en el tema, favoreciendo el aprendizaje de cuidados para sus hijos prematuros. Es importante para la educación en salud y favorece la construcción del conocimiento, pudiendo ser utilizada en los centros de salud como disparador y soporte de las discusiones y experiencias educativas.

How to cite:
Introduction

Pregnancy is a time that involves many expectations and anxiety for the parents, given its modifying characteristic of the family structure with the arrival of a new member, the fear of the risks for the health of the woman and the child, and the care to the newborn. Increasing concern has been expressed regarding prematurity, whose relevance in rates in Brazil remains a challenge in the health area. It is verified in the literature that the birth of a premature baby can entail significant emotional repercussions, mainly for the mother, who may feel incapable and fragile, due to the health risks for the infant with recognized physiological immaturity and how to provide care for him.\(^\text{(1,2)}\)

The World Health Organization defines preterm infants as those born with a gestational age of less than 37 full weeks. Prematurity is a public health problem and triggers high social and economic costs, as well as suffering for parents and the family, especially regarding the confrontation between the “imagined baby” and the “real baby” (physically more fragile) and the unexpected hospitalization that impedes the family from taking the baby home soon after birth.\(^\text{(3,4)}\) Often, preterm infants remain hospitalized in Neonatal Intensive Care Units or Neonatal Intermediate Care Units (NICUs) due to conditions inherent in their physiological immaturity, especially of respiratory order, or various disorders whose appearance and intensity depend on the level of prematurity. In this context, there may be a distancing from parental care as a result of the interventions the health team performs in the hospital routine or, more than distancing, deprivation may occur, considering institutions that do not include family-centered care during the hospitalization as part of the health promotion process.\(^\text{(1)}\)

In order to bond babies and their families, it is important that health professionals encourage their contact in the spaces of the units, especially the nursing team, due to its direct and routine contact with those involved in this process. Thus, the importance of family preparation to take care of premature infants during hospitalization and after discharge is emphasized in a context of inclusive health education, with guidelines based on scientific evidence and focusing on the families’ needs, paying attention to parental skills, especially of the mother, who is culturally recognized as the baby’s main caregiver.\(^\text{(4)}\)

Health education can be performed with groups of mothers (or other caregivers) using active learning methods. This approach is recognized for leveraging the development of activities in a participatory manner, valuing individual contribution and participation and further enriching the knowledge of the professional involved in this action. This type of method favors dialogue and formal and informal knowledge exchange, based on the need of the members involved and being significant as new knowledge connects to previous experiences and answers important questions.\(^\text{(5)}\)

Despite this recommendation, a current challenge is the compliance of the clients and community in general to the guidelines offered in the daily reality of health services, as communication with professionals is often superficial, complex or makes no sense at that time. Thus, the implementation of health education focused on the context and needs of those involved becomes potentially more effective in allowing the group, or peers, to interact further and exchange experiences, approaching the realities of those involved and promoting their autonomy even more.\(^\text{(6)}\)

In order to promote better utilization of recommended care in family learning and knowledge exchange among health professionals and the community, the importance of health education groups engaged in promoting autonomy and emancipation in care is emphasized, both in the hospital and in the home environment.\(^\text{(5)}\) In addition, a broader view on the learning needs of these families is needed by offering educational materials that can be analyzed whenever necessary to equip them about care, following the logic of knowledge dissemination, using the Health Department itself as a example, which offers the Child Health Handbook to the families. In this sense, the aim in this study is to verify the cognitive learning of parents about the care for their preterm children through an educational booklet, based on the comparison with health edu-
cating activities traditionally developed in neonatal units, without the support of this technology.

**Methods**

Quantitative study with quasi-experimental time-series, involving parents of preterm infants hospitalized in two neonatal wards of a high-complexity hospital.

This research is classified as a quasi-experimental study, as it involves an intervention applied to the experimental group and the results are compared with the control group, without random allocation of participants to the groups, justified by the possible operationalization in the field of data collection.

To minimize the risk of communication between the two groups and inadvertent contact with the booklet, data in the control group were collected during two weeks, followed by two weeks in the experimental group.

Within the universe of quasi-experimental studies, some prototypes can be used and, in this research, the time-series model was employed. In that type of research, biases related to time and space need to be considered. In view of this assertion, it is justified to perform the data collection within the same month, minimizing the chance of major changes that may impact the results, such as changes in the care team (considering the mediator of health education as an influencer of the process), in the institutional (such as possible implementation of educational materials or changes in guideline practices) and macro-socioeconomic standards (such as changes in the status quo that impact health education, such as education level and access to health). Finally, the period delimited avoids that other sources of information on the research theme influence the participants’ cognitive learning beyond the study procedures, considering the risk of common bias in the educational research context.

The intervention in this study deals with health education with the support of a booklet that has been developed in a participatory manner with mothers of preterm infants and nurses from neonatal units, named: “Caring for preterm infants: family orientations”. It was developed in question-answer format with clarifying illustrations, which through clear and objective language proposes instructions to parents and family about care for the premature baby.

The material was elaborated based on needs pointed out by mothers, nurses and other health professionals, dealing with subjects such as care related to bathing, perineum, sunbathing, colic, crying, pacifier use, umbilical stump dressing, clothing, heel lance, rights of working mothers, breast care, nipple trauma and breastfeeding, among others.

Access to the booklet is open to the community free of charge and is available on the website of the University of São Paulo at Ribeirão Preto College of Nursing, through the link of the Nursing Research Group on Child and Adolescent Care (GPECCA) and the Virtual Library of the Ministry of Health: http://www2.eerp.usp.br/site/grupos/gpecca/objetos/LivroPrematuro2012.pdf and http://bvsms.saude.gov.br/bvs/publicacoes/cuidados_bebecom prematuro_3ed.pdf.

In addition to online access, the printed educational booklet is distributed free of charge by e-mail to parents of premature infants, health professionals, public and private teaching and care institutions, non-governmental organizations, teachers and undergraduate students from different courses in the health area. In its almost 15 years of existence, about 20 thousand copies have been distributed and, in this period, the booklet has been improved and expanded to align with updated scientific evidence and with the parents’ request for preterm infants about information they would like to have access to. The fourth version is currently circulating.

For this research, all the parents of infants hospitalized in the NICU were invited, who were literate and considered they were available to read the booklet. These inclusion criteria were considered in view of the need for the participants to answer the pre- and post-test and, in case of participation in the experimental group, read the booklet.

Data collection was performed in October 2016, after approval by the Ethics Committee.
at the University of São Paulo at Ribeirão Preto College of Nursing, No. 1.761.771, dated October 6, 2016, in compliance with the ethical precepts established in Resolution 466/2012 and other regulations in force.

The number of participants was defined by convenience and sample availability in the study period, totaling 18 mothers (although the criteria are open to both father and mother), with ten being allocated in the control group and eight to the experimental group. In the recruitment process, two mothers refused to participate in the study, indicating that they did not feel well due to the clinical status of the babies and two gave up after completing the pre-test due to death and discharge.

Regarding the study procedures, a pre-test was applied with 46 questions after obtaining the free and informed consent of the entire sample and a post-test with the same questions after ten days, counting the correct answers to verify the learning. In the interval period, the participants in the control group did not have access to the educational material, experiencing the health education process as traditionally offered in the health services (conversation between mothers of hospitalized infants and health professionals). For the experimental group, in turn, the educational booklet was offered as a basis for discussions between mothers and health staff, aiming to reinforce the health education traditionally offered, as well as the material provided to participants as support for study at other times.

It should be emphasized that the questions of the pre- and post-test, structured with answers in the format of alternatives with only one correct answer to every question and including the possibility of selecting the option “do not know”, were specially adapted for this research from a questionnaire previously developed by other authors, which was validated by nine post-graduate students, nurses and nursing teachers working in the field of neonatology knowledge.

Based on the framework of cognitive learning theories, represented by scholars such as Ausubel and Piaget, in this study, cognitive learning is considered as learning that represents the knowledge of hierarchically organized and mutually related concepts. For research purposes, hits were counted as frequencies, comparing the participants’ performance before and after the educational activity in a same group and analyzing the intergroup differences in the scores.

For the analysis, the data obtained in the pre-test and post-test of both groups were double-typed in worksheets formatted in Microsoft Excel 2010® checking and confirming the consistency of the data, and were later transported to SPSS version 24® for statistical tests. The Wilcoxon test was used for before-and-after comparison of learning in a same group and Mann-Whitney’s U test for comparison between the control and experimental groups, adopting a 95% level of significance ($\alpha = 0.05$) in all comparisons.

**Results**

Mothers were between 21 and 36 years of age (median 29 years) and the participants’ level of education was higher in the experimental group than in the control group. In the former, they had minimally finished high school and, in the latter, the corresponding proportion was 62.5%. When considering the entire sample, 72.2% ($n = 13$) of the mothers had finished high school education and 22.2% ($n = 4$) of them held a higher education or were taking a higher education program, being three in the experimental group and one in the control group.

Only two mothers in the total sample did not formally work, being one student (5.5%) and one housewife (5.5%). Half of the participants reported coming from Ribeirão Preto ($n = 9/50$), most of them living with their partners ($n = 12/66.6$). In all the aforementioned characterization variables,
we did not notice any significant differences between the groups, indicating homogeneity.

In table 1, the number and frequency of correct answers in the pre-test and post-test of the control (Group 1) and experimental (Group 2) groups are presented, considering the total of 46 questions per test.

It should be noted that the groups were considered statistically homogeneous, given that p = 0.423, also defined by the Mann Whitney test, demonstrating equality between the groups in the pre-test, which made them comparable in this study.

The data in table 1 indicate a significant difference between the groups in the post-test phase, with superior cognitive learning result for the experimental group. That is, when comparing the post-test scores among the participants, those who used the educational booklet in the health education process obtained a superior cognitive learning result (p = 0.027) in relation to the control group, which followed the conventional routine at the institution of verbal and practical instructions by the nursing team in the bedside model, without the educational material.

Despite this advance of the experimental group over the control group, it is worth noting that, in the comparison of intragroup learning, that is, considering the participants of the same group, counting their hits before and after health education, neither presented a statistically significant increase, whether in the control group that used the health services’ conventional procedures (p = 0.259), or in the experimental group that used the booklet (p = 0.208).

### Discussion

In the post-test, the control group did not show an increase in the frequency of correct answers in relation to the pre-test, representing what may occur with families in the daily reality concerning the health education the professionals offer at the health services. In this finding, the educational challenge of disease prevention and health promotion of the cli-

<table>
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<tr>
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*The p-value indicates statistical analysis results deriving from the Wilcoxon test, comparing the result within one group. ** The p-value indicates statistical analysis results deriving from the Mann-Whitney test, comparing the results of the pre and post-tests between the control and experimental groups.
ents and community is reinforced, considering the complexity of the information in the area and the need for innovation in the approaches and materials used to foster the development of know-how in care.

In this context, the importance of using different educational strategies is emphasized, aiming for better outcomes in the context of the involved participants’ knowledge construction, in view of the learning objectives and the content they are intended to address. In addition, the learning needs of the target community or client need to be recognized, mainly to make learning meaningful and interesting, based on active participation and curiosity, autonomy and respect for the rhythm and style each person has to process the information.

Despite this premise, health professionals are confronted with difficulties in the daily reality of health services regarding the educational component, and this action is often carried out superficially due to communication difficulties between professionals and clients or relatives, particularly to the detriment of the intensive workload.

A proposed solution for this gap is the development of technologies and resources to support health education, with a view to the alignment with scientific evidence and recommendations from competent entities, such as the Federal Health Department and the World Health Organization, and with the active learning methods. The post-test results of the experimental group in this study reinforce this proposal, considering that health education supported by the booklet impacted and significantly improved the mothers’ cognitive learning about the care for their preterm infants in the post-test (p = 0.027) in comparison to the group that did not have access to the material.

When we observed the “I do not know” answers obtained in this study, the frequency remained close in the pre- and post-test of the control group (decrease by 5.4%); in the experimental group, the “I do not know” answers dropped by 83.6% in the post-test in relation to the pre-test, representing the participants’ greater confidence in answering the questions on the topic of care for their children after the intervention using the booklet.

It is important to emphasize that health education support resources can support health professionals in the conduct of routine educational activities, and also serve as material for consultation by the population at any time necessary, reinforcing its autonomy and empowerment.

Data from the city of origin show that 50% (n = 9) live in the city where the research was conducted, while the others come from cities in the region within the Regional Health Department XIII. This analysis is fundamental for the planning of health education activities, as these take place in a continuum that is not limited to the hospital, but involves a network of support and articulation with other health services responsible for the follow-up of these families.

In order to guarantee comprehensive care for these premature infants and their families, communication among all stakeholders is necessary, recognizing the network that can continue the process of health education where they live, even at the regional level, and verify the application of this knowledge in prevention, health promotion and recovery. Knowing the characteristics of the infants’ families is fundamental to guide and strengthen the educative activities, identifying the caregivers and potential caregivers and involving them in the care process. In this sample, exclusively consisting of mothers, 66.6% (n=12) of the women live with their partner, a lower frequency than in another Brazilian study involving 137 mothers of premature infants in 2014, in which 81.8% lived with their partner.

This data should be taken into account to understand the women’s support network, According to Brazilian scientific literature, this centralizes the care for the baby amidst the Brazilian culture, a fact reinforced by the composition of this sample in which all participants are mothers. In general, this finding is justified by the mother’s stay in the hospital as the infant’s companion, while the father or partner maintains job actions. This is due to the predominance of the man’s role as financial provider in the family, despite the increasing insertion of women in the job market. Nevertheless, the joint participation of the couple or other family members in care for the baby should be weighted,
which is why educational activities and materials should be inclusive.\(^{(17)}\)

When identifying that other family members support the definition and achievement of the care offered to the baby, they may be involved in the health education process and considered by health professionals when offering instructions and solving doubts.

Another pertinent question in the conduct of health education, related to the correct interpretation of the information and its implementation in practice, is the educational level of the target population. These data in this study were higher than the average national level of education published by the Brazilian Institute of Geography and Statistics (IBGE), updated for these variables in 2016, which indicates that about 29% of the population in the Southeast has completed high school, with better statistics for the age group from 25 to 34 years, reaching 38.9%.\(^{(18)}\)

The sample had a good level of education compared to the Brazilian scenario and the experimental group had an advantage in this variable, despite the homogeneity of scores in the pre-test, which may have favored cognitive learning in this group at the end of the educational intervention. This observation is important in the context of this research, education being an important social determinant of health, and its impact is evidenced by higher maternal and infant mortality rates when the woman (mother) has few or no years of education. This is due to the greater or lesser chance that women will obtain and understand basic health information, ranging from the benefits of prenatal care to the postpartum and infant care.\(^{(19)}\)

Also in this sense of caring for the baby since pregnancy, following the recommendation of the National Integral Child Health Care Policy, and the relevance of health education, the prevalence of preterm deliveries due to women’s health problems is an alert for prevention activities of and instruction to the community, an area in which nursing should gain prominence. Prematurity being recognized as prevalent in the context of public health, also recognizing its consequences for health, the structuring axes of the same policy include guidelines for the monitoring of child growth and development, breastfeeding and comprehensive care for children in acute situations and vulnerabilities, representing challenges in the qualified monitoring of premature infants.\(^{(16,20,21)}\)

The findings of this research reveal the relevance of using booklets with instructions of care for premature infants at neonatal care services, so that the family feels safer with regard to hospital and home care. This empowerment is largely due to qualified nursing care in health education and promotes health in childhood, preventing injuries and contributing to the reduction of neonatal mortality, which accounts for 40% of infant mortality and is still a major challenge in the health area.\(^{(22,23)}\)

It is essential to discuss accessible education strategies and technologies that involve the community and grant it an active and essential role in knowledge construction, valuing background knowledge and questions.\(^{(4,5,8)}\)

As a limitation of this study, we point out the sample size and suggest that future studies verify learning retention or, if possible, observe its application in the families’ daily practice. Also, similarly to this study, future studies should investigate the impact of different methods and strategies adopted in health education: with and without support of educational materials, using playful approaches such as games and technological support. Thus, health professionals, especially nurses in their natural role as educators involving clients and communities, can rely on evidence and best practices.

**Conclusion**

As verified, the educational booklet “Caring for premature infants: family orientations”, developed by nurse researchers and available on the website of the Federal Health Department, has significantly supported mothers’ cognitive learning on this theme when incorporated into the health education process. There was no significant difference in learning when comparing the pre- and post-test in the same group, both for the control and experimental groups, reinforcing the challenges of health
education. In view of the above, we emphasize the importance of the existence and incorporation of educational technologies aligned with the interest and needs of the population and based on scientific evidence. We suggest incorporating health education practices with the aid of the booklets in the neonatal services of the hospital where the research was conducted, and the institution was informed about the positive results achieved. The distribution of the booklet to other health institutions is stimulated, as it deals with several issues that permeate the daily lives of families of preterm infants, such as family relationships, food, hygiene, daily care, special care, support for parents, among others.

Collaborations

Silva IOAM, Aredes NDA, Bicalho MB, Delácio NCB, Mazzo LDL and Fonseca LMM contributed to the project design, data analysis and interpretation, writing of the article, relevant critical review of the intellectual content and final approval of the version for publication.

References

Experiences of adolescents and their families in the short-term after scoliosis surgery

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Aysegul SAVCI3
Hale TURHAN DAMAR1

Abstract

Objective: This study was performed to reveal experiences of adolescents and their families in the short-term after scoliosis surgery.

Methods: This study had a qualitative descriptive design, and data were collected from adolescents with scoliosis surgery (n=17) and their family members (n=9) at in-depth interviews. Obtained data were analysed with content analysis.

Results: Five main themes emerged: physical complaints, unfamiliar environment (operating room and intensive care unit), emotional changes, wanting their parents to stay with them and worry about future. Both the adolescents and their families reported that the adolescents experienced not only physical and emotional problems but also worries about their future after surgery.

Conclusion: Nurses should meet the adolescents and their families and allow them to express their feelings before surgery. Informing them before surgery is important in terms of relieving their anxiety and enhancing their adaptation. Creating an appropriate environment in recovery rooms and intensive care units where the adolescents can frequently see their parents may help them have better psychology. In addition, education programs that will be offered at discharge should be designed and interactive methods should be used to allow them to share their thoughts about their future.

Keywords
Scoliosis/ surgery; Adolescents; Family

Descritores
Escoliose/ cirurgia; Adolescentes; Família

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Introduction

Scoliosis is a serious structural disorder presenting with lateral curving and rotation and leading to anatomical malformation in the chest over time. The prevalence of scoliosis varies between 0.13% and 13.6% depending on ethnic and geographical features. Regional studies performed in our country revealed that the prevalence of idiopathic scoliosis ranges from 0.2% and 1%. Scoliosis surgery is one of the most frequent surgeries carried out in adolescents. Although the disorder is diagnosed earlier, surgery is performed between the ages of 12-16 years. Surgery can stop progression of curving of the spine, improve trunk deformity and prevent respiratory complications. However, the patients experience severe pain, nausea, vomiting, difficulty in mobilization and psychological problems after surgery. Adolescents can have more traumatic experiences due to features of the developmental stage they go through. These experiences may cause their parents to face some problems. Offering information to adolescent patients and their families and helping them to get prepared before surgery can allow them to feel more comfortable and experience postsurgical period without being traumatized. Therefore, there is a need to reveal what adolescent patients and their families experience in the early postsurgical period.

Problems frequently appearing after scoliosis surgery like pain, tiredness, lack of appetite, nausea, vomiting, depression and malnutrition have negative effects on mobilization and healing in adolescents. Pain is one of the most important factors reducing patient comfort after surgery. It has been noted that postsurgical pain is also associated with preoperative fears of the patients, which lead them to feel helpless. In addition, posttraumatic stress experienced after surgery increases the severity of pain. In fact, hospitalization alone causes anxiety in adolescents. They can give different reactions to what they experience after surgery because adolescence is a complex period during which young people want to have freedom, have conflicts with their parents to acquire their autonomy, experience quick changes in their bodies and make future plans.

Methods

Design and participants

The study had a descriptive qualitative design and focused on experiences of the adolescents undergoing scoliosis surgery and their families. Participants were recruited from an orthopaedic unit of a university hospital in western Turkey. Purposive sampling was used. Inclusion criteria for adolescents were as follows: a) to be at the age of 12-18 years b) to have undergone scoliosis surgery c) to be willing to be interviewed on the 2nd and 10th postoperative days d) to be able to understand Turkish and express their own experiences verbally. Exclusion criteria were severe concentration problems and functional disabilities (e.g. cerebral palsy). Eligibility criteria required for family members were as in the following a) to be a member of an adolescent’s family (mothers, sisters or fathers) b) to be willing to be interviewed c) to be able to understand Turkish and express their own experiences verbally.
Experiences of adolescents and their families in the short-term after scoliosis surgery

The study was conducted between January 2015 and August 2016. In-depth interviews were used to collect data. The interviews continued until a point at which no new information was obtained. A total of 26 participants, of whom 17 were adolescents undergoing scoliosis surgery and nine were their family members (mothers, sisters or fathers), were enrolled in the study.

Data Collection
The adolescents and the members of their families were interviewed separately in a quiet, well-lit and well-air-conditioned room to provide an opportunity for them to respond to questions comfortably. The interviews were in-depth in nature and were tape recorded. All data were collected by two researchers using a demographic and clinical data form and an interview form. The demographic form included questions about sociodemographic features of the adolescents and their family members. The interviews began with the question “What kind of experiences have you had after scoliosis surgery?” and then continued with the question “What do you think about your future after surgery?”. Exploratory questions were also used when necessary during the interviews. The researchers took field notes during the interviews. Each interview took approximately 20 minutes.

Data Analysis
Inductive content analysis, in which obtained data were continuously compared by two researchers, was used to analyse the data. To perform this analysis, first recorded interviews were transcribed verbatim, and subthemes and main themes were determined independently by two researchers. The two researchers subsequently compared their coding and reached consensus on them. The themes were next analysed and confirmed by another researcher (investigator triangulation). To determine themes, first concepts were derived from the coding. They revealed subthemes and the subthemes were combined to create themes (Figure 1). The field notes taken by the researchers during the interviews were also taken into consideration in the analysis process. In order to maintain anonymity, participants were

Figure 1. Essential Themes and Subthemes

identified with their years, postoperative days, and relationship.

The adolescents and their family members included in the study were informed about the aim of the study, and both oral and written informed consent was obtained from all the participants. This study was approved by the Ethics Committee of the Dokuz Eylul University (protocol no=1869-GOA, 2015/09-31) and was conducted according to the ethical guidelines of the Declaration of Helsinki.

Results

The mean age of the adolescents and their family members was 15.41±3.05 years and 44.14±5.03 years respectively. Of 17 adolescents included in the study, 14 were female and three were male. Of all the family members included in the study, five were mothers, one was a sister and three were fathers. Five main themes and ten subthemes emerged from the experiences of the adolescents and their family members after scoliosis surgery (Figure 1).

Physical Complaints

The adolescents having scoliosis surgery reported that they had pain, nausea, vomiting, constipation and difficulty in mobilization and felt hungry after anaesthesia and surgery. The majority of the adolescents added that the physical complaints they had in the early postsurgical period were surprising.

Pain: All the adolescents commented that they experienced pain after surgery. They explained that severe pain caused sleep problems and nervousness. A mother noted that they did not think her child would experience such severe pain.

“I started to cry due to the pain I had after surgery” (15-year-old, postoperative third day).

“I had severe pain on the first day and night of surgery. I couldn’t sleep at all” (18-year-old adolescent, Postoperative second day).

Vomiting, Constipation and Feeling Hungry: One adolescent and his mother said that he had fasted for two days due to postponement of surgery and that the feeling of hunger was severe after surgery.

“I was very hungry since I was left hungry for two days in the recovery room” (14-year-old adolescent, postoperative seventh day).

“He was left hungry for two days since his operation was postponed two times … He said he was hungry while sleeping” (45-year-old father).

The adolescents reported to vomit and have constipation after surgery.

“I had severe vomiting for two days after surgery” (18-year-old adolescent, postoperative fifth day).

Difficulty in Mobilization: Although the adolescents wanted to move, walk and perform their daily routines after surgery, they had difficulty in doing them. The adolescents and their family members reported difficulties in mobilization and problems with standing up after surgery.

“I had great difficulty in moving. I think it is because I’ve lain continuously” (17-year-old adolescent, Postoperative fifth day).

“When they first walked me, I couldn’t raise my head since I was still under the influence of anaesthesia. I had great difficulty in walking” (15-year-old adolescent, Postoperative third day).

“We didn’t know surgery would cause so much difficulty for him. He even didn’t want to move” (48-year-old father).

Unfamiliar Environment (Operating Room and Intensive Care Unit)

The operating room and the intensive care unit were unfamiliar to the adolescents. They said they were cold in the operating room and an electric heater was used to make them warm. Staying in the intensive care unit, being intubated and being alone when recovered from anaesthesia had a negative impact on them. Some family members attracted
attention to the fact that their children were very cold when they were taken to the ward.

“Going to the operating room was like an action film … When they (health staff) took me to the surgical stretcher, they were talking. Then I slept. They took me to a cold room. I waited there. Then I was operated. When I woke up, my hands were tied. I guess I couldn’t wake up completely and struggled to untie my hand. I was told to be injected a sedative since I threw the thing attached on my finger (pulse oximeter probe). (17-year-old adolescent, postoperative fifth day).

“I can’t completely remember what happened in the intensive care unit, but I thought I was going to suffocate; there was something in my throat. I couldn’t speak, I slept and then I woke up. Later, they removed it from my throat and I felt quite relaxed” (18-year-old adolescent, Postoperative second day).

“She was freezing when she was brought to the ward. She said she was kept warm with a pipe-like thing, but she was very cold” (45-year-old father).

Emotional Changes
The majority of the adolescents reported their positive and negative feelings about scoliosis surgery. The adolescents felt nervous and were afraid of death due to pain and restricted movements after surgery. Despite these negative experiences, they said they were happy and felt better thanks to positive changes in their bodies.

Nervousness: One adolescent and one parent commented that surgery and physical changes experienced after surgery made the adolescents more nervous.

“It’s very important to be free for me and I know my body is well. I felt my muscles were contracted after surgery and I felt irritated and was moody and bad-tempered” (17-year-old adolescent, Postoperative fifth day).

“In general, she isn’t bad-tempered … She became really aggressive” (26-year-old, sister).

Fear of Death: One adolescent associated fear of death in the early postoperative period with bleeding in surgery. The father of this adolescent reported that he learned about the fear of death his child experienced during the interviews.

“I might have died of bleeding. If I had died, I would have wanted the last persons I saw were my parents” (15-year-old adolescent, postoperative fifth day).

“We found out that she was afraid of possible bleeding and experienced fear of death during her recovery from anaesthesia when you (the researcher) mentioned them. She did not talk to us about them. In fact, she was really afraid of them (45-year-old father)

Positive Body Image: The adolescents happily reported that they stood upright and were taller after surgery.

“I couldn’t sit before surgery, but now I can sit upright” (15-year-old adolescent, Postoperative fifth day).

“Now I’m taller. I’m surprised with it. I didn’t know that I would be taller” (14-year-old adolescent, Postoperative seventh day).

“Becoming taller made her very happy. When I see her being happy, I say luckily she had surgery” (50-year-old father).

Feeling Good: The participants said they felt good when they recognized positive effects of surgery.

“Undergoing operation benefitted me. If I hadn’t had this operation, the outlook would have been worse. My bones would have stuck into my liver” (14-year-old adolescent, postoperative seventh day).

Wanting Parents’ Accompaniment
Not seeing family members upon waking up in the intensive care unit caused the adolescents to feel helpless. The majority of the adolescents wanted their parents to accompany them.
“I wanted to see my mom in the intensive care unit after surgery. I started to cry. They couldn’t sooth me. I wanted to be with my mom…” (15-year-old adolescent, Postoperative third day).

“I didn’t want to be alone (in the recovery room). I wanted to see my parents, not people I don’t know. What if I would have died there? The people I last saw could have been those I didn’t know, couldn’t they? (15-year-old adolescent, postoperative fifth day).

“The intensive care unit nurse called me. My daughter wanted to see me very much. They couldn’t help her and called me. I got surprised when I received that call” (38-year-old mother).

One adolescent told her nightmare she had in the recovery room while recovering from anaesthesia as in the following:

“I saw men holding knives under the lights in the intensive care unit. I asked the woman wearing a surgical cap to call my mom. I asked for it many times, but they didn’t allow it” (13-year-old adolescent, postoperative tenth day).

Worry about Future
The adolescents said that they did not know anything about the processes of healing and discharge from hospital and how to perform their daily activities since no sufficient knowledge was offered to them and their families before and after surgery. The participants were worried about return to daily life activities and pain. The adolescents expressed their worries about their life in the future as in the following:

“I wonder whether I will be able to walk as in the past” (18-year-old adolescent, postoperative second day).

“Will my back pain continue at home? I’m afraid of it” (13-year-old adolescent, Postoperative seventh day).

Fear of Reoperation: The adolescents and their mothers commented that they had a fear of reoperation.

“…will I have problems as I become taller? Will I need another operation? I don’t want to grow up… I’ve heard that there were others operated again” (15-year-old adolescent, postoperative fifth day).

“She is afraid of returning home. She thinks we can give harm to her accidentally. Actually, she is afraid of having an operation again” (43-year-old mother).

Lack of Knowledge about Life at Home: The adolescents and their mothers needed to be offered information about life after surgery.

“When will I be able to run? When will I be able to go to school?” (13-year-old adolescent, postoperative seventh day).

“We know nothing about what she will or won’t do at home. What kind of exercise will she do?

Discussion
In the present study, the adolescents having scoliosis surgery experienced pain, vomiting, constipation and difficulty in mobilization and felt hungry in the early postoperative period. The adolescents and their family members reported that they encountered more severe pain on the first day of surgery than they expected. It has also been noted in the literature that severe pain occurs after scoliosis surgery. Sieberg et al. reported that 35% of the children undergoing spinal fusion surgery had moderate to severe pain. In a qualitative study by Rulander, adolescents having scoliosis surgery complained about pain. An effective pain management following surgery is important. It has been emphasized in the literature that administration of narcotic analgesics through patient controlled analgesia (PCA) after spinal surgery is very beneficial in pain management. PCA, frequently used in vertebrae surgery, has been reported to have advantages like performing activities more comfortably, provision of more effective analgesia at lower doses, having fewer side-effects and reducing stress.
Nonsteroidal anti-inflammatory drugs and corticosteroids are used in combination with narcotics for pain management.\(^{(19,21)}\) Several studies have shown that multimodal analgesia is more effective in reduction of pain in children.\(^{(22-23)}\) Besides, transcutaneous electrical nerve stimulation (TENS) has been reported to decrease analgesia needs and have few side-effects.\(^{(24,25)}\) In addition, nonpharmacological techniques such as attracting attention to things other than pain and relaxation diminish pain.\(^{(26)}\) Relaxation training before spinal surgery and postoperative music therapy have also been found to lower pain and anxiety in adolescent patients.\(^{(27)}\)

Consistent with the present study, Rulander et al. (2013) reported that the adolescents complained about vomiting, difficulty in mobilization and hunger. Unlike the participants in the present study, they reported different hip levels and problems with scarring and the urinary catheter.\(^{(6)}\) It may be that the patients were not offered sufficient information about pain management and the postoperative process. In addition, practices related to pain, nausea and vomiting performed in the clinic might have been inadequate.

In the current study, the adolescents were affected by the atmosphere of the operating room and the intensive care unit and the interventions performed there with which they were unfamiliar. Adolescence is a period during which adolescents want to gain their autonomy and make future plans. They also think as if they could do everything and keep away from their families and want to become individuals, which cause conflicts.\(^{(11,28)}\) The intensive care unit environment can be traumatic for patients trying to recover from anaesthesia. Surgery and hospital stay restrict freedom of adolescents. Therefore, their individuality and decisions should be respected. In this process, the participation of the family in the care of the adolescent is important. It has been underlined in the literature that involvement of families is important in reduction of anxiety children experience before surgery and their preparation for surgery in accordance with their age and personal characteristics.\(^{(29,30)}\) It is also recommended that families should stay with their children until anaesthesia induction. Several studies have shown that cooperation with families are important in effective management of pain after scoliosis surgery and decreases pain.\(^{(30,31)}\) Even if families are involved in care for their children, nurses should talk to adolescents individually; they should give them information about the operating room, the intensive care unit, possible risks of surgery, pain management after surgery and the healing process. Their explanations should be based on the real situations and appropriate terms which adolescents can understand should be used.\(^{(8,13)}\) This can make them feel that they have control over their body. If they have peers in the clinic, they should be introduced to each other. This may allow them to get peer support and help them to cope with their difficulties.

Spinal curvature in patients with scoliosis cause them to feel bad. The angle and the place of the curvature lead to poor body image and a reduction in spinal functions. This restricts their movements and affects their psychology. Inability of adolescents to perform their normal activities with their friends and families and their use of a girdle can decrease the quality of their life.\(^{(32)}\) In the present study, disappearance of the spinal curvature and an increase in height helped to restore body image and to be happy in the adolescents. In studies on patients with scoliosis, scores for functions-activities, physical appearance, mental health and satisfaction have been found to increase after surgery. This suggests that patients with scoliosis have a better body image and the quality of life after surgery. Compatible with the literature, the present study showed that improvement of physical functions and physical appearance had positive effects on psychology of the adolescents.

In the current study, the participants reported to worry about healing after surgery and discharge from hospital and daily life. Congruent with this finding, several studies have indicated that the patients had fears about persistence of pain after their discharge from hospital.\(^{(17)}\) In a study, 7% of the patients undergoing scoliosis surgery reported to suffer from pain for 12 months after surgery.\(^{(33)}\) Persistence of pain after surgery causes a change in mood and anger in individuals.\(^{(34)}\) Preoperative education can enhance adaptation of children undergoing scoliosis surgery. However, it is quite
difficult to prepare children for surgery in the preoperative period when intensive anxiety is experienced. Provision of information and development of coping strategies before surgery are important so that adolescents can have real expectations. After surgery, the patients’ needs for information about healing and discharge from hospital should be determined and fulfilled by nurses. Cooperation with families by taking account of individual characteristics of adolescents can improve their adaptation to surgery and the healing period. Underlying anxiety of children and their families about the healing period and the future is their insufficient knowledge. Therefore, adolescents undergoing scoliosis surgery and their families should be supplied information before discharge about the problems they are likely to encounter. They should be offered information about pain management, girdle use, movements to be avoided, recommended daily exercise, what needs to be taken care of concerning daily life activities and when to return to hobbies and work in particular. In the current study, the adolescents were found to experience fears about bleeding and death before surgery and fears about reoperation after surgery. Several studies have revealed that adolescents have different fears after scoliosis surgery. The fact that scoliosis surgery is a major surgery and difficulties in the healing process after surgery result in fears in adolescents.

**Conclusion**

Adolescents having scoliosis surgery experience conflicting feelings including happiness, aggression and anxiety in addition to physical problems. They have insufficient information and anxiety about the postsurgical period. When combined with poor body image and problems with adolescence, this complex process experienced after surgery complicates the healing process. Therefore, nurses should evaluate adolescents and their families separately and develop a multifaceted care plan. Adolescents planned to have scoliosis surgery and their families should be provided education about the surgery and support for development of coping skills. Adolescents should certainly be involved in treatment and care processes and allowed to express their feelings. They should be offered detailed information about scoliosis surgery and care before and after surgery. Generating a suitable environment in recovery rooms and intensive care units where the adolescents frequently see their parents can lead them to have better psychology. However, Further studies should be performed to determine effects of using technologies including mobile phones, netbooks and tablets on understanding and putting the information given into practice.

**References**


Investigate the prevalence and risk factors for maternal depressive symptoms in the immediate postpartum period.

Methods: Cross-sectional study, involving 1099 postpartum women. The presence of maternal depressive symptoms was measured using the Edinburgh Postnatal Depression Scale, applied on the second day after birth, adopting ≥10 as a cut-off point. The data were collected in Botucatu-SP between January and June 2012. Factors associated with the depressive symptoms were initially investigated using multiple logistic regression, and those associated at the level of \( p < 0.20 \) were included in the final regression model, signifi cance being set as \( p < 0.05 \), with a 95% confi dence level. This study received approval from a Research Ethics Committee and complied with the recommendations for research involving human beings.

Results: The prevalence of depressive symptoms amounted to 6.7%. Use of antidepressants during pregnancy, violence suffering during pregnancy and cesarian section were associated with the depressive symptoms in the immediate postpartum two, four and two times, respectively.

Conclusion: Women taking antidepressants, who were victims of violence during pregnancy and who gave birth through a cesarean section need particular attention, considering that these events were identifi ed as risk factors for depressive symptoms.

Abstract

Objective: Investigate the prevalence and risk factors for maternal depressive symptoms in the immediate postpartum period.

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Resumen

Objetivo: Investigar la prevalencia y factores de riesgo para síntomas depresivos maternos en el puerperio inmediato.

Métodos: Estudio transversal, realizado con 1099 puérperas. La presencia de síntomas depresivos maternos fue obtenida con la escala de Depresión Pós-natal de Edimburgo, aplicada en el segundo día después del parto, adoptándose como punto de corte escoré ≥10. Los datos fueron recogidos en Botucatu-SP, en el periodo de enero a junio de 2012. Faktors asociados a los síntomas depresivos fueron inicialmente investigados por regresión logística múltiple y aquellos asociados en nivel de \( p < 0.20 \) fueron incluidos en el modelo de regresión final, considerándose nivel crítico de significancia \( p < 0.05 \), con intervalo de confianza del 95%. Este estudio fue aprobado por el Comité de Ética en Pesquisa y atendió a las recomendaciones para investigaciones con seres humanos.

Resultados: La prevalencia de síntomas depresivos fue de 6.7%. Use de medicación antidepressiva en la gestación, violencia sufrida en la gestación y cesárea asociaron-se a síntomas depresivos en el puerperio inmediato en dos, cuatro y dos veces, respectivamente.

Conclusión: Especial atención debe ser dada a las mujeres usuarias de medicación antidepressiva, a las que soportaron violencia en la gestación y a los que evolucionaron para cesárea, visto que esos eventos fueron identificados como factores de riesgo para síntomas depresivos.

Keywords

Postpartum period; Depressive symptoms; Analytical epidemiology; Risk factors

Descritores

Período pós-parto; Sintomas depressivos; Epidemiologia analítica; Factores de riesgo

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Introduction

The pre and postpartum periods have been particularly identified as part of the phase in the woman’s life where the risk of presenting some mental disorder is greater. When she becomes a mother, the woman leaves her social activities (some forms of leisure or work, activities previously practiced and whose frequency can be reduced after the child’s birth) to take care of the child and this fact, combined with the adaptation to the new roles required, can generate an individual psychological demand in the existing relationships and resources. Also, some emotional instability is natural to the transitions of life and adaptations to the changes, being the process of pregnancy, delivery and the birth of a child an important moment of transition.(1) It is noteworthy that one third of the women who develop depressive symptoms in the postpartum maintain the condition beyond the first year after giving birth.(2)

The main mental disorder that affects women in the pregnancy-postpartum cycle is depression: its prevalence amounts to 10% during pregnancy and 13% after delivery in women from high-income countries. In developing countries, rates are even higher: 15.6% during pregnancy and 19.8% postpartum.(3) Thus, depression in both underdeveloped and developing countries is a relevant problem.(4)

At present, there is an understanding that postpartum depression may be the continuation of prepartum depression and that, the earlier the condition is identified, the greater the chances of interventions that reduce its negative impact. Evidence shows that prepartum depression is the main risk factor for postpartum depression, which is often a continuation of the depression that started during pregnancy.(5) It is important to note that depression in the pregnancy-postpartum cycle can entail severe consequences for the woman, family and child, affecting the formation of the fetus as well as mother-infant bonding and consequent damage in its development, which evidences the importance of investigating the depressive symptoms in prenatal care.(6)

The risk factors for the occurrence of depressive disorders (pre and postpartum) already identified in the literature include: background history of depression; absence of social, family or marital support; unwanted pregnancy; extreme stress and anxiety; addiction to alcohol, tobacco or other drugs; history of domestic violence and poverty. Much of the research admits that these factors act interrelated in the genesis of depression. Overall, the risk factors associated with depression in the pregnancy-postpartum cycle in developing countries were the same as those found in developed countries, except for some factors in economically unfavorable contexts, such as low education level, unemployment, financial difficulties and violence, which were predominant in studies in low-income countries.(3,5,7,8)

In view of the above, the objective of this study is to investigate the prevalence and risk factors for maternal depressive symptoms in the immediate postpartum. We believe that the answers can guide antenatal and birth care actions at the local level and will broaden the understanding of this important aspect of health today.

Methods

Epidemiological and cross-sectional study. The data come from a larger study “The mother-child binomial in Botucatu: epidemiological study with emphasis on maternal and infant morbidity and mortality”.

The study was carried out in Botucatu, a city located in the Central South of the State of São Paulo, with an estimated population of 138,590 inhabitants in 2018, which is part of the Regional Health Department VI (DRS VI), Bauru, together with 67 other cities. In 2016, 1735 children were born alive in this city. The municipal infant mortality rate was 12.6 per thousand live births, approximately half of the population (47.2%) had formal employment in the service area and the average monthly income in this area was R$ 3,458.30. The city has a human development index (HDI) of 0.800, which is higher than that of the state (HDI = 0.783).(9)

Data were collected in the maternity wards of the two hospitals in the city, being one public and another belonging to the supplementary
health network, from January to June 2012. The population of interest consisted of the postpartum women (N = 1395) who had children in Botucatu during this period. A convenience sample was selected, without calculating the minimum number needed, as the intention was to capture, during the established period, all the postpartum women. The only inclusion criterion was to have given birth in one of the two maternity hospitals in the city. Due to the impossibility of contact before hospital discharge, out of 1395 postpartum women, 1317 were contacted, and 22 cases of twin pregnancy and 196 cases with incomplete data on variables related to the mother and/or baby were excluded, resulting in an intentional sample of 1099 puerperal women included in this study.

The data were collected during visits to the maternity hospitals in the immediate postpartum, on the second day after birth, using the histories, delivery room notes, antenatal cards and interviews with the postpartum women, after they had signed the Informed Consent Form. To collect the data, tools specifically constructed for the “mother” research were used.

The exposure variables included maternal sociodemographic data: age at birth (years), self-reported skin color (white, non-white), complete elementary education or higher (yes, no) and presence of partner (yes, no); obstetric history: number of pregnancies, births, abortions and previous live births; pre-pregnancy weight (kg); pre-pregnancy health problem (yes, no); data on the current pregnancy: gestational age at the first antenatal visit and at delivery (weeks), antenatal care (yes, no), number of antenatal consultations, planned pregnancy (yes, no) and pregnancy classified as risky (yes, no); smoking (yes, no), use of alcohol (yes, no), use of illicit drugs (yes, no) during pregnancy, violence suffered during pregnancy (yes, no), self-reported use of antidepressants (yes, no) and disease problems during pregnancy (yes, no); delivery route (vaginal delivery, cesarean section); problems during delivery (yes, no) and infant weight at birth (grams). The outcome variable was the presence of depressive symptoms (yes, no).

The assessment of depressive symptoms and their subsequent classification were performed using the Edinburgh Postnatal Depression Scale (EPDS). This scale can be applied by interview or self-reported, measuring the presence and intensity of depressive symptoms during the seven days prior to data collection. It was applied by means of an interview, together with the other questions in the instruments the interviewers used. The application result of the EPDS can range from zero (best situation) to 30 (worst-case scenario). Several studies appoint ≥10 as a positive predictive score in depression screening, and this value was adopted in this study.(10-12)

To evaluate the factors associated with maternal depressive symptoms, multiple logistic regression was performed, using all variables of interest. Then, the most strongly associated variables (p <0.20) were included in a second final multiple model, when p <0.05 was used to consider the association between exposure and outcome. Relationships were considered statistically significant if p <0.05, adopting a 95% confidence interval (CI). The analysis was performed using the software SPSS version 21.0.

This study complied with the recommendations of Resolution 466/12 and received approval from the Research Ethics Committee at Botucatu Medical School, Universidade Estadual Paulista “Júlio de Mesquita Filho” (CAAE 65750817.0.0000.5411, Approval Opinion: 1.997.274). Women with a score ≥10 in the EPDS were treated in routine basic care, with the possibility of referral to a specialized service when necessary.

Results

The prevalence of depressive symptoms among postpartum women was 6.7% (74 women), the maximum EPDS score was 26, with a single case. The median maternal age was 26 years (13-48 years); the median number of previous pregnancies, births and live births was 1 (0-9); the median number of antenatal consultations was 9 (1-20) and the median birth weight of the infant was 3190 grams (880-5210 grams), as shown in table 1.
Most postpartum women had finished primary education or higher and had a partner. Almost all women (99.5%) had participated in antenatal care and more than half mentioned some health problem during the pregnancy. In addition, 35.7% of the study participants were classified as pregnant women at risk. Smoking was present in 12.5% of the pregnant women and alcohol consumption in 3.7%. About one percent of the postpartum women had taken illegal drugs and had been victims of violence during the pregnancy. In 53.2% of the cases, the infant was born through a cesarean section (Table 1).

Factors associated with the presence of maternal depressive symptoms are displayed in table 2. Skin color, taking antidepressants during pregnancy, pre-pregnancy weight, participation in prenatal care, violence suffered during pregnancy, gestational age at birth and birth through cesarean section were the variables selected for inclusion in the final multiple logistic regression model (Table 3), as those were the variables most strongly associated with depressive symptoms in the immediate postpartum ($p<0.20$).

Table 1. Characteristics of mothers and infants included in the study

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Median (minimum-maximum)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at birth (years)</td>
<td>26(13 - 48)</td>
</tr>
<tr>
<td>Number of previous pregnancies</td>
<td>1(0 - 9)</td>
</tr>
<tr>
<td>Number of previous deliveries</td>
<td>1(0 - 9)</td>
</tr>
<tr>
<td>Number of previous abortions</td>
<td>0(0 - 5)</td>
</tr>
<tr>
<td>Number of previous live births</td>
<td>1(0 - 9)</td>
</tr>
<tr>
<td>Pre-pregnancy weight (kilograms)</td>
<td>62(40 - 145)</td>
</tr>
<tr>
<td>Gestational age (weeks) at first antenatal consultation</td>
<td>9(5 - 40)</td>
</tr>
<tr>
<td>Number of antenatal consultations</td>
<td>9(1 - 20)</td>
</tr>
<tr>
<td>Gestational age (weeks) at birth</td>
<td>38(26 - 42)</td>
</tr>
<tr>
<td>Infant weight at birth (grams)</td>
<td>3190(880 - 5210)</td>
</tr>
<tr>
<td>Variables (%)</td>
<td></td>
</tr>
<tr>
<td>Self-referred skin color</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>851(77.4)</td>
</tr>
<tr>
<td>Not white</td>
<td>248(22.6)</td>
</tr>
<tr>
<td>Finished elementary education or higher (%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>888(80.8)</td>
</tr>
<tr>
<td>No</td>
<td>211(19.2)</td>
</tr>
<tr>
<td>Presence of companion (%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>934(85.0)</td>
</tr>
<tr>
<td>No</td>
<td>165(15.0)</td>
</tr>
<tr>
<td>Planned pregnancy (%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>488(44.4)</td>
</tr>
<tr>
<td>No</td>
<td>611(55.6)</td>
</tr>
<tr>
<td>Participation in antenatal care (%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1094(99.5)</td>
</tr>
<tr>
<td>No</td>
<td>5(0.5)</td>
</tr>
<tr>
<td>Health problem before pregnancy (%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>588(53.5)</td>
</tr>
<tr>
<td>No</td>
<td>511(46.5)</td>
</tr>
<tr>
<td>Pregnancy classified as risky (%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>392(35.7)</td>
</tr>
<tr>
<td>No</td>
<td>707(64.3)</td>
</tr>
<tr>
<td>Smoking during pregnancy (%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>137(12.5)</td>
</tr>
<tr>
<td>No</td>
<td>962(87.5)</td>
</tr>
<tr>
<td>Alcohol use during pregnancy (%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>41(3.7)</td>
</tr>
<tr>
<td>No</td>
<td>1058(96.3)</td>
</tr>
<tr>
<td>Illegal drug use during pregnancy (%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>5(0.5)</td>
</tr>
<tr>
<td>No</td>
<td>1094(99.5)</td>
</tr>
<tr>
<td>Violence suffered during pregnancy (%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>13(1.2)</td>
</tr>
<tr>
<td>No</td>
<td>1086(98.8)</td>
</tr>
<tr>
<td>Use of antidepressants during pregnancy (%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>30(2.7)</td>
</tr>
<tr>
<td>No</td>
<td>1069(97.3)</td>
</tr>
<tr>
<td>Disease interfering in pregnancy (%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>252(22.9)</td>
</tr>
<tr>
<td>No</td>
<td>847(77.1)</td>
</tr>
<tr>
<td>Birth route</td>
<td></td>
</tr>
<tr>
<td>Vaginal birth</td>
<td>514(46.8)</td>
</tr>
<tr>
<td>Cesarean section</td>
<td>585(53.2)</td>
</tr>
<tr>
<td>Problems at birth (%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>206(18.7)</td>
</tr>
<tr>
<td>No</td>
<td>893(81.3)</td>
</tr>
</tbody>
</table>

Table 2. Multiple logistic regression of sociodemographic, obstetric and clinical history variables, considering the outcome maternal depressive symptoms

<table>
<thead>
<tr>
<th>Variables</th>
<th>OR</th>
<th>95%CI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at birth (years)</td>
<td>1.01</td>
<td>0.96</td>
<td>1.05</td>
</tr>
<tr>
<td>White skin color</td>
<td>1.52</td>
<td>0.67</td>
<td>2.65</td>
</tr>
<tr>
<td>Finished elementary education or higher (%)</td>
<td>1.15</td>
<td>0.56</td>
<td>2.33</td>
</tr>
<tr>
<td>Presence of companion (%)</td>
<td>0.87</td>
<td>0.42</td>
<td>1.70</td>
</tr>
<tr>
<td>Number of previous pregnancies</td>
<td>1.86</td>
<td>0.61</td>
<td>4.21</td>
</tr>
<tr>
<td>Number of previous deliveries</td>
<td>0.83</td>
<td>0.42</td>
<td>1.64</td>
</tr>
<tr>
<td>Number of previous abortions</td>
<td>1.03</td>
<td>0.38</td>
<td>2.76</td>
</tr>
<tr>
<td>Number of previous live births</td>
<td>0.85</td>
<td>0.32</td>
<td>2.30</td>
</tr>
<tr>
<td>Pre-pregnancy weight (kilograms)</td>
<td>1.01</td>
<td>1.00</td>
<td>1.03</td>
</tr>
<tr>
<td>Health problem before the pregnancy (%)</td>
<td>1.00</td>
<td>0.56</td>
<td>1.79</td>
</tr>
<tr>
<td>Disease interfering in pregnancy (%)</td>
<td>0.92</td>
<td>0.44</td>
<td>1.94</td>
</tr>
<tr>
<td>Use of antidepressants during pregnancy (%)</td>
<td>3.68</td>
<td>1.45</td>
<td>9.30</td>
</tr>
<tr>
<td>Gestational age (weeks) at first antenatal consultation</td>
<td>1.03</td>
<td>0.98</td>
<td>1.08</td>
</tr>
<tr>
<td>Planned pregnancy (%)</td>
<td>1.21</td>
<td>0.71</td>
<td>2.09</td>
</tr>
<tr>
<td>Participation in antenatal care (%)</td>
<td>0.17</td>
<td>0.02</td>
<td>1.71</td>
</tr>
<tr>
<td>Number of antenatal consultations (%)</td>
<td>0.94</td>
<td>0.84</td>
<td>1.05</td>
</tr>
<tr>
<td>Pregnancy classified as risky (%)</td>
<td>0.71</td>
<td>0.37</td>
<td>1.38</td>
</tr>
<tr>
<td>Smoking during pregnancy (%)</td>
<td>1.24</td>
<td>0.59</td>
<td>2.62</td>
</tr>
<tr>
<td>Alcohol use during pregnancy (%)</td>
<td>0.88</td>
<td>0.27</td>
<td>2.89</td>
</tr>
<tr>
<td>Illegal drug use during pregnancy (%)</td>
<td>2.92</td>
<td>0.21</td>
<td>41.49</td>
</tr>
<tr>
<td>Violence suffered during pregnancy (%)</td>
<td>4.36</td>
<td>1.03</td>
<td>18.44</td>
</tr>
<tr>
<td>Gestational age (weeks) at birth (%)</td>
<td>0.91</td>
<td>0.80</td>
<td>1.04</td>
</tr>
<tr>
<td>Cesarean section (%)</td>
<td>2.58</td>
<td>1.43</td>
<td>4.65</td>
</tr>
<tr>
<td>Problems at birth (%)</td>
<td>0.71</td>
<td>0.36</td>
<td>1.38</td>
</tr>
</tbody>
</table>
Table 3 refers to the final multiple logistic regression model. Use of antidepressants during pregnancy, being a victim of violence during pregnancy and giving birth through a cesarean section were independently associated with the presence of maternal depressive symptoms. Taking antidepressants increased the chance of depressive symptoms in the immediate postpartum period twice (OR=2.07, 95% CI=1.12-3.61); being a victim of violence during pregnancy four times (OR=4.06, 95% CI=1.02-16.19) and giving birth through cesarean section twice (OR=2.07, 95% CI=1.22-3.53).

### Discussion

In this study, the occurrence of depressive symptoms in postpartum women was investigated, which were evaluated two days after birth, by means of a consistent, validated and widely used instrument in the literature. Adopting the cutoff point ≥10, 6.7% of the postpartum women presented depressive symptoms. As, in the EPDS, the depressive symptoms refer to the seven days before the application and the scale was used during the hospitalization to give birth, with application on the second day postpartum, the prevalence of depressive symptoms was evaluated in the immediate postpartum. Eventually, such symptoms may be the continuity of other similar ones that occurred during the pregnancy or even in previous phases of life, as the research by Pereira et al., Ghaedrahmati et al. and Faisal-Cury et al. allows us to suppose.\(^{(5,13,14)}\)

Three factors were identified that are independently associated with the increased chance of depressive symptoms: use of antidepressants during pregnancy, being a victim of violence during pregnancy and cesarean birth of the child. Considering that the underdiagnosis of gestational depression is common and that there is reluctance to prescribe and use medication during this period,\(^{(15)}\) it is possible that the postpartum women who took antidepressants in the prenatal period were those who presented depressive symptoms prior to pregnancy, since the start of pregnancy or with greater severity. Nevertheless, the use of antidepressants in pregnancy was investigated, without addressing the previous use, which is a limitation of this study.

The American College of Obstetricians and Gynecologists advocates that midwives systematically investigate psychosocial stressors and depression in each gestational trimester and in the postpartum, and act with the necessary care in positive cases.\(^{(16)}\) In the main current public policy on maternal and child health, the Stork Network, the postpartum period is considered as fundamental to detect problems in situations that can lead to depression and that require clinical follow-up.\(^{(17)}\)

In the scientific literature, an association has been found between mental health disorder during pregnancy and the occurrence of postpartum depression: Ghaedrahmati et al., in a review of the literature between 2000 and 2015, pointed out that the previous history of depression and anxiety figured among the factors most strongly associated with postpartum depression.\(^{(13)}\) Faisal-Cury et al., in a study involving 831 women in the city of São Paulo, found a risk of postpartum depression 2.4 times higher among women who presented prepartum depression.\(^{(14)}\) These studies reinforce the importance of the early evaluation of postpartum women to screen for symptoms of depressive disorders. Also in this context, in a study conducted in Rio Grande do Sul in 2013, EPDS was applied within two days after delivery and a cut-off point ≥10 was established. Postpartum depressive symptoms were significantly associated with depression at some point in pregnancy or sadness during the last trimester of pregnancy, which corroborates the findings of this research and supports systematic screening for depression in antenatal care and in maternity wards.\(^{(18,19)}\)
The violence suffered during pregnancy figured as a negative determinant for depressive symptoms in the immediate postpartum, enhancing the recognition already present in the literature of the severe consequences of gestational violence for the woman and the baby. A Japanese research has pointed out that both physical violence and verbal violence are causal determinants for the development of depressive symptoms in mothers during pregnancy, emphasizing the importance of nurses to identify violence during their care of pregnant women and to refer timely for psychosocial support, as a way to prevent depressive symptoms before and after childbirth and also to reduce its negative repercussions on the mother-child binomial.

A study conducted in Tanzania with 1013 women pointed out that one in three women were exposed to intimate partner violence during pregnancy, which contributed to the close association with the development of postpartum depression. Exposure to domestic violence at least once increased the risk of postpartum depression by more than three times. A similar finding was obtained in Bangladesh, in a study in which more than half of women who experienced physical, sexual or psychological violence during pregnancy developed postpartum depression. Also in an Indian research, a relationship was found between exposure to partner violence in the immediate postpartum, postpartum depression, and suicidal ideas.

Another factor associated with depressive symptoms in this study was having given birth through a cesarean section, a situation that increased the chance of scoring ≥10 in the EPDS twofold. This result, although difficult to fully explain, also finds support in the literature: in a systematic review, cesarean section was appointed as a risk factor for postpartum depressive symptoms, the explanatory hypothesis being the surgical trauma or the problems that led to the indication of the surgery, such as pelvic pain, gastrointestinal problems, among others, all of which could affect the mother’s psychological condition. In a recent study in California, involving 223 women, the participants who gave birth by vaginal delivery had almost half the chance of postpartum depressive symptoms when compared to women who gave birth through cesarean delivery. The study closest to the present study was conducted in Italy, with 950 women being evaluated using EPDS on the second day after delivery and adopting the same cut-off point as in this study, and this also identified a positive association between cesarean section and depressive symptoms.

The analysis performed and the result obtained are relevant, especially in view of the high cesarean rate in Brazil. It is difficult to evaluate the sense of the association, as depressive symptoms prior to delivery may favor the caesarean section and the opposite, that is, the cesarean section may trigger depressive symptoms in women. Only prospective studies can better reveal the temporality of this relationship.

Comparing the prevalence of maternal depressive symptoms in Botucatu with the results reported by other authors is a difficult task, as measures and/or cutoff points can be used in the studies, besides variations in how long the symptoms are measured. In addition, it must be taken into account that sociocultural factors may be important and may influence the results of the studies. Nevertheless, some research results deserve to be presented.

In 2014, in a study carried out in Spain and France, a high rate was found, with 39.3% of postpartum depression but, despite adopting the same data collection instrument used in this study, the cut-off point was higher (≥ 12), and the instrument was applied four weeks after delivery. It is possible that differences in sample characteristics may be the main cause of the difference in prevalence between these results.

In a literature review that included studies developed in nine countries, including Brazil, the postpartum depression rate varied strongly: 4.9% in Nepal, EPDS being applied between five and ten weeks postpartum and cut-off point > 12; and 59.4% in India, with EPDS application as from six months postpartum and cut-off point ≥ 10.

In a Brazilian study carried out in the state of Minas Gerais, the prevalence of postpartum depression was 26.9%, also using a cut-off point ≥10. In another study performed in Bauru, in the interior of São Paulo, the cutoff point was 12 and the
prevalence was 29.5%.\textsuperscript{(27)} Faisal-Cury et al. found a prevalence of 15.9%, with data being collected on the tenth day postpartum and adopting the Beck Depression Inventory as a measure of depression.\textsuperscript{(28)} The two surveys closest to the present study found higher prevalence rates: in a public hospital in the city of São Paulo, applying EPDS on the second or third day postpartum and adopting the same cutoff point (≥10), the prevalence was 18%.\textsuperscript{(29)} In the city of Rio Grande/RS, using the same scale and cutoff point, the prevalence was 14%, and the measure was taken on the second day postpartum.\textsuperscript{(18)}

In view of the above, the comparison of the prevalence rate obtained in Botucatu with others found in Brazil and abroad should be performed with caution, considering the differences related to the evaluation moment, the scale used and the cutoff point adopted.

Even with a lower prevalence than in other studies, 6.7% of postpartum women with depressive symptoms is a relevant finding, justifying the attention of maternity teams, due to the potential negative impact on the initial care for the child. The use of EPDS in the immediate postpartum refers to the depressive symptoms the women experience during a delicate period, which includes the final days of pregnancy and the first days of the baby's life. Thus, recognizing the presence of depressive symptoms and the associated factors while still in the maternity hospital can result in the health team taking actions to prevent depression in the postpartum period.

The time of onset of the depressive symptoms could not be identified and the use of antidepressants during or before the pregnancy could not be evaluated, as the women were not monitored during the pregnancy, a limitation inherent in the cross-sectional design. It is also worth noting that, despite the existence of a condition known as puerperal sadness or baby blues, with symptoms similar to those of depression, when evaluating the women on the second day postpartum, the chances of having identified this condition instead of the depressive symptoms that were the actual focus of this study are small, considering that baby blues start between the third and fourth day postpartum.\textsuperscript{(30)}

**Conclusion**

The prevalence of depressive symptoms in the immediate postpartum corresponded to 6.7%. Postpartum women who took antidepressants during pregnancy, were victims of some type of violence while pregnant or gave birth through a cesarean section present a greater chance of depressive symptoms. In view of these results, the maternity health teams should pay particular attention to women with these characteristics.

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**Collaborations**

Poles MM contributed to the project design, writing of the article and final approval of the version for publication. Carvalheira APP, Carvalhaes MABL and Parada CMGL collaborated with the data analysis and interpretation, critical review of the intellectual content and final approval of the version for publication.

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3. Worldwide about 10% of pregnant women and 13% of women who have just given birth experience a mental disorder, primarily depression. In developing countries this is even higher, i.e. 15.6% during pregnancy and 19.8% after child birth. In severe cases mothers' suffering might be so severe that they may even commit suicide. In addition, the affected mothers cannot function properly. As a result, the children's growth and development may be negatively affected as well. Maternal mental disorders are treatable. Effective interventions can be delivered even by well-trained non-specialist health providers.


Interaction between the nursing technician and the family of the hospitalized patient

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Abstract
Objective: Analyze the interactions observed between the nursing technician and the family of the hospitalized patient, in the light of the premises of Patient and Family-Centered Care and the Ethics Code of Nursing Professionals.

Methods: Qualitative study with the premises of Patient and Family-Centered Care and the Ethics Code of Nursing Professionals as the theoretical framework. The participants were nine nursing technicians from the medical clinical wards of two public hospitals in the State of São Paulo. The data were collected using participant observation and analyzed using Conventional Qualitative Content Analysis.

Results: The interactions between the nursing technician and the relatives were limited in terms of using the premises of Patient and Family-Centered Care and in complying with the recommendations of the Ethics Code of Nursing Professionals, as the following categories revealed: Not treating the family members with respect and dignity; Not sharing information with the family members; Not negotiating on how to participate and collaborate in the care provision.

Conclusion: It is fundamental to incorporate the premises of Patient and Family-Centered Care and the ethical aspects related to the family recommended in the Ethics Code of Nursing Professionals and in the professional experience of the nursing technician, contributing to high-quality, ethical and solidary care.

Keywords
Family; Nursing; Nursing care; Medical chaperones; Education, professional

Descritores
Família; Enfermagem; Cuidados de enfermagem; Acompanhantes formais em exames físicos; Educação profissionalizante

Resumo
Objetivo: Analisar as interações observadas entre o técnico em enfermagem e a família do paciente hospitalizado, à luz dos pressupostos do Cuidado Centrado no Paciente e na Família e do Código de Ética dos Profissionais de Enfermagem.

Métodos: Estudo qualitativo, cujos referenciais teóricos foram os pressupostos do Cuidado Centrado no Paciente e na Família e o Código de Ética dos Profissionais de Enfermagem. Participaram nove técnicos em enfermagem das unidades de clínica médica de dois hospitais públicos do Estado de São Paulo. Os dados foram coletados por observação participante e analisados pela Análise Qualitativa de Conteúdo Convencional.

Resultados: As interações entre o técnico em enfermagem e os familiares foram limitadas no que se refere à utilização dos pressupostos do Cuidado Centrado no Paciente e na Família e no cumprimento do que era preconizado pelo Código de Ética dos Profissionais de Enfermagem, conforme revelaram as categorias: Não tratando os familiares com respeito e dignidade; Não compartilhando informação com os familiares; Não negociando a forma de participação e colaboração na prestação de cuidado.

Conclusão: É imprescindível a incorporação dos pressupostos do Cuidado Centrado no Paciente e na Família e de aspectos éticos relacionados à família preconizados pelo Código de Ética dos Profissionais de Enfermagem na formação e na vivência profissional do técnico em enfermagem, contribuindo para um cuidado de qualidade, ético e solidário.

Descritores
Família; Enfermagem; Atenção de enfermagem; Chaperones médicos; Educação profissional

Interaction between the nursing technician and the family of the hospitalized patient

Introduction

The Ethics Code of Nursing Professionals presents more than the rights and duties of professionals, as it considers their responsibility to promote the recovery of health, prevent diseases and illnesses, and alleviate suffering in the care for the person, family and community. It also recognizes the principle of respect for the person’s right to life, liberty, equality, security, freedom of choice, dignity and treatment without any distinction.\(^1\)

Nursing workers should understand that the participation of family members is fundamental for quality patient care. Otherwise, all aspects of care, including policy, program development and evaluation, do not respond to their true needs.\(^2\) Professionals need to develop specific scientific and technical knowledge, within the social, ethical and political practices, which is accomplished through education, research and care, materializing during the care.\(^1\)

With regard to care for the family, as recommended by the Code of Ethics, the philosophy of Patient and Family-Centered Care stands out. It is a process of planning, providing and evaluating care, which seeks to transform the relationships established during care into health benefits, highlighting the collaboration among patients, family and professionals, in all care.\(^2\) Besides proposing that the professionals recognize the family as a unit of care, its premises are directed at the promotion of the health and well-being of individuals and family members, ensuring that they are treated with dignity and respect; sharing information; encouraging their participation in care and decision making; and integrating their collaboration into the development, implementation and evaluation of policies, health programs, professional education and care provision.\(^2\)

In our reality, with regard to nursing care, these recommendations should extend to the nursing technicians, who represent the majority of professionals and are responsible for direct care provision, spending more time with the patients and their families.

Although the literature presents evidence on the importance of the family’s role in care, especially in the pediatric area, there are few publications about the experience of the nursing technician with families of adult hospitalized patients. It is known that countless difficulties mark the meaning the nursing technician attributed to the interaction with the adult hospitalized patient’s family.\(^3\)

Thus, the following questions arise: How does the nursing technician interact with the patient’s family during the practice of care? Does (s)he use the assumptions of Patient and Family-Centered Care and the Ethics Code of Nursing Professionals?

This study aimed to analyze and discuss the interactions observed between the nursing technician and the family of the hospitalized patient, in the light of the assumptions of Family-Centered Care and the Ethics Code of Nursing Professionals.

Methods

Qualitative research, whose theoretical reference frameworks were the premises of Patient and Family-Centered Care and the Ethics Code of Nursing Professionals.\(^1,\(^2\)\) The methodological framework was Conventional Qualitative Content Analysis, recommended when studies on a theme are still scarce.\(^6\)

The study was carried out in the medical clinical wards of two general public hospitals in the State of São Paulo. One of them had 48 beds, without a humanization program; the other, with 41 beds, had an established humanization program.

Nine nursing technicians participated, seven of whom were women, who had graduated between five and 16 years ago, possessed four to 12 years of professional experience and had worked at the institution between two and 12 years of age, complying with the following selection criteria: working in medical wards and having more than two years of professional experience. This number of participants was defined by the saturation criterion, reached when the information was sufficient to reproduce the study, new additional information was obtained, and additional coding was no longer possible,\(^5\) in which the certainty of the researcher as to having found the internal logic of the research object should prevail.\(^6\)
Data were collected between February 2013 and April 2014. The strategy used was participant observation, commonly used in qualitative studies and fundamental in field research, because it permits understanding the reality, in which the researcher interacts directly with the subjects in their social environment, aiming to collect data and understand the research scenario.\(^7\)

The observations were carried out by one of the researchers and they looked at how the nursing technicians behaved when interacting with the family members, what dialogues they maintained with them, during the care provision; and with their colleagues in this respect, thus approaching the reality. These observations were immediately recorded in a field diary.\(^7\)

Data were analyzed after transcribing, reading and re-reading the observations, following the steps recommended by the method: coding, categorization, integration and description of categories.\(^4\)

The observations described in the text were identified by the initials ON, for “observation note”, and a numerical sequence (NO1, NO2, ...), aiming to maintain the participants’ anonymity.

The research project received approval from the Ethics and Research Committee of the Federal University of São Paulo, Protocol 517.749/14, and the participants signed the Informed Consent Form. At the end of the data collection, the results were returned to the chief nursing officers of the institutions.

**Results**

The interactions of the nursing technicians with the relatives of the hospitalized patients were limited regarding the use of the premises of Patient and Family-Centered Care and the compliance with the recommendations of the Ethics Code of Nursing Professionals, as described in the categories, named in accordance with the theoretical frameworks.

**Not treating family members with respect and dignity**

The nursing technicians showed disrespect by not valuing the requests of the accompanying family members, including those related to the patient’s comfort, focusing their priority on the preparation of the medication, in addition to complaining that the companions complained too much, which was very tiring.

*While preparing the medication, two nursing technicians talk about the companion, that he complains too much: bathroom that is dirty, snack that did not come, lack of water to drink. One of them says, “This is very tiring, so much medication to prepare, and I have to stop to listen to complaints” (NO1).*

*An elderly bedridden patient’s companion goes to the nursing station and asks for a diaper change. Two nursing techniques exchange glances with indignation, go to the room, find the patient and verify that the sheet is all wet. They look at the companion and say that the priority is the medication, because there are few employees and cannot change the patient all the time. One of them looks at the companion and says: this time I’ll change her, but you’ll have to give me a “hand”; the other leaves the room. [...] The technician removes the entire sheet, leaving the patient exposed and the companion helps to change the diaper (NO3).*

The disrespect was also observed when the professionals interrupted the visiting hours to perform the patient’s bath, asking the companion to leave the room, while the relatives who arrived were forbidden to enter. They also blamed the relatives for not bringing a towel to dry the patient, even though the latter informed that they did not know about this need. Furthermore, they left the patient’s body partially exposed in the hallway after bathing, causing an expression of dislike in the family.

*During visiting hours, two nursing technicians enter the room to bathe a patient, asking their companion to wait in the hallway; relatives who are arriving for the visit are forbidden to enter. [...] After some time, a technician appears in the hallway, telling the other that he needs a sheet to dry the patient and, looking at the family, says that*
this is happening because no one brought him a towel. Relatives say they did not know. Some time later, the technician appears in the hallway with the patient in a bath chair, covered by a sheet, but his gluteus is exposed, and the relatives look at each other with displeasure. [...] The family is waiting in the hallway, complaining about the delay and saying that they will have the right to stay longer than visiting hours (NO8).

Other observations also denoted the nursing technicians’ lack of dignity and respect for family members, who did not seem to perceive the presence of the patient and his or her companions during the procedures; during the patient’s admission to the unit, they acted as if the family member were invisible; informed, incisive and disrespectfully, that the companion could not stay on the bed; and set rules for the family member, determining that he could not leave the room, blaming him for problems with the patient.

Nursing technician enters the room to perform bed bath. She takes off all the patient's clothes, exposing her, starts throwing water with a plastic bottle and soaping her entire body. [...] The patient beside her, a young woman, and her accompanying grandmother, look with indignation and turn their faces. After a while, they look again, the first covers her face with the sheet and the other turns her face to the wall (NO7).

Two nursing techniques receive an elder elderly patient from the intensive care unit, accompanied by her granddaughter. She is not speaking at all, but her expression is frightened and she is paying attention to every movement. The technicians put the patient in bed and leave (NO4).

Patient and her two children talk, sitting on the bed. Two nursing technicians pass through the corridor, they look into the room, they exchange glances with indignation and one says to the other: “- Handle this!” She replies: “Leave it to me”. She enters the room and says in an incisive and sharp voice: “They can get off the bed, they are bringing 'bugs' to the patient and taking 'bugs' to the street.” The other technician is in the corridor watching her colleague communicate with the relatives, laughing (NO5).

Nursing technician enters the room to perform a procedure. The companion informs that the patient is calm. The technician answers: 'At night he was agitated and had to be restricted; all this happened because you were not here”. The companion changes her facial expression, seemingly not understanding what happened and says she has been in the hospital all the time. The technician looks at her and says sharply, “You cannot leave here, do you understand?” She ends the procedure and leaves the room (NO2).

Despite the countless observations that showed disrespect for family members, a situation was observed in which a nursing technician demonstrated respect for the patient’s privacy, explaining to the family member how the procedure would be performed.

Nursing technician enters the room to give a bedridden patient a bed bath. She greets the patient and the companion, explains how the procedure will be performed, the importance of her privacy and asks him to wait in the hallway. Afterwards, she raises a paper towel to close off the door glass [...] and asks the patient for permission when washing her private parts (NO9).

Not sharing information with family members
The nursing technician communicated little or shared little information with the family. Communication merely served to ask about the patient’s condition. When asked by the companions about the performance of procedures the patient would be submitted to, he restricted himself to answering only what was necessary or answered nothing.

Nursing technician enters the room, looks at the newly admitted patient and asks his granddaughter: “were both of her legs amputated”?
Granddaughter answers yes. Technician nods, says “hum!” and leaves the room (NO4).

Nursing technician enters the room, bringing a vacuum cleaner, without saying a word. The companion follows her with her head, and when she is leaving the room, she asks if this is for her patient. The technician says yes and starts closing the door. The companion again asks if it is in the lung, the answer is yes and then the technician goes away. [...] Technician returns bringing material for puncture. Companion gets up, mentioning a question, but the professional does not look at her, leaves the material and leaves (NO3).

Not negotiating on how to participate and collaborate in the care provision

The nursing technician did not negotiate on the care provision with the family members, assigning them responsibilities, even when they did not have the skills to perform the procedure that was determined.

In the bathroom of the ward, the nursing technician asks the daughter of a patient if she knows how to bathe and she answers negatively. The technician tells the daughter to bathe the patient in the shower in a bath chair and returns to the bedroom, leaving them in the bathroom while she arranges another patient’s bed. The daughter, with difficulty, manages to put on the gloves, tries to bathe her mother and, after drying her, takes her to the bedroom. The technician looks at the floor, sees a little stool, looks displeased, picks up the towel and says to the daughter in an imposing tone: “-Clean her!” (Referring to the patient). The daughter tries but is unable to clean her properly. The technician takes the diaper, asks the daughter to hold the mother, who does not stand without help, and puts on the diaper without completing the hygiene; puts the patient in bed, dresses her and covers her with the sheet [...]. Before leaving, the technician asks the daughter for the patient’s name. She responds and the technician leaves (NO6).

Discussion

This research was limited to studying a specific scenario. Thus, it is recommended that further studies be undertaken to broaden the understanding of the teaching and knowledge of the nursing technician on Patient and Family-Centered Care and the Ethics Code of Nursing Professionals in different care settings.

The analysis of the observations revealed that the nursing technicians value the performance of procedures, especially medication, higher than listening to the requests of family members as, often, the professional does not even perceive their presence, as if they were invisible. The absence of communication and the non-sharing of information between the technician and the relatives were also observed. Even when family members asked, the professional often did not respond or did so laconically.

Professionals should change their practices and take positions to care for their family members with dignity and respect, listening and respecting their choices and perspectives, so that their knowledge, values, beliefs and culture are incorporated into caregiving. (1,2,8) Nurses have the skills to develop, together with their team, awareness and training on the subject. To do so, they need to find themselves prepared to deal with the family member’s insertion in the care and, if this does not happen, one should seek training on family care and professional ethics.

With regard to the lack of communication and information sharing with family members, the professionals presented difficulties, possibly out of fear of sentimental relations or out of lack of preparation to face certain situations. (9)

During the hospitalization process, family members have many doubts and turn to the caregiver to obtain information, in order to get clarity about the actual situation and find comfort. How this information is transmitted, whether in a hurry or tactlessly, depends on the sensitivity of the professional. (10) This situation shows a worrisome care scenario, as the professionals need to establish more respectful, sincere and loving communication, improving the interactions between the technician and the family.
Professionals are responsible for transmitting information in an objective and accessible manner, close to the family members’ reality, informing about their rights, risks, benefits and problems related to the care practice, with the purpose of having them participate in the care.\(^{(1,2)}\)

To do so, it is necessary for the nursing technicians to develop the ability to communicate with the patients and their families, which takes place during the care because, at this moment, the professionals should be encouraged to reflect on their own actions, behaviors, values and beliefs.\(^{(12)}\) In this sense, communication plays a fundamental role in the interactions between people as it is how we demonstrate our thoughts, will and attitudes.\(^{(13)}\)

Regarding the negotiation about the participation and collaboration of family members in care provision, this situation was not observed, as the nursing technician assigned them responsibilities to take care of the patient, regardless of their desire or the ability to do so. According to the assumptions of Family-Centered Care, families should be encouraged and supported to participate in care and in free and informed decision making, choosing their level of action and collaborating in the development, implementation and evaluation of policies and programs, in facilitating health care, in vocational education and care provision.\(^{(2)}\)

The family needs to be seen as an important partner in the care, fundamental in relieving the patient’s suffering and anguish, being able to perform technical procedures of low complexity, after training, which is important for the continuity of care after hospital discharge. Reflection is due on the use of family members as substitutes for the nursing workforce though,\(^{(14)}\) emphasizing that, according to the Ethics Code of Nursing Professionals, it is prohibited to delegate the tasks of nursing professionals to family members.\(^{(1)}\)

On the other hand, the large number of bedridden patients and the lack of professional can be the reason for the transfer of care to the family members and for the impossibility to offer proper care to the patients and their relatives.\(^{(5)}\) The professional, who often were not trained for this approach during their vocational courses and along their professional trajectory, cannot be held responsible for the scenario that was observed.

The professionals need to broaden their view on the family members’ tasks in care, as their inclusion in care depends exclusively on contact and communication and should be pleasant for all stakeholders.\(^{(14)}\)

In short, the patient should not be considered as the sole focus of care, also including the family, aiming for the best way to welcome family members and include them in nursing care as a care unit.\(^{(15,16)}\)

**Conclusion**

The interactions observed between the nursing technicians and the family members were limited with respect to care for the family and the ethical conducts. The teaching and health institutions need to adopt a distinguished perspective when educating and training these professionals on the theme “family” and the ethical-professional conduct, contributing to high-quality, ethical and solidary care.

**Collaborations**

Silva MCFCR contributes to the project design, data collection, interpretation and analysis, writing of the article and relevant critical review of the intellectual content and final approval of the version for publication. Borba RIH, Onishi JYT, Horta ALM and Ribeiro CA contributed to the data analysis and interpretation, writing of the article, relevant critical review of the intellectual content and final approval of the version for publication.

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First-time parents: acquisition of parenting skills
Pais pela primeira vez: aquisição de competências parentais
Padres por primera vez: adquisición de habilidades de los padres

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Abstract
Objective: Discover the parents’ nursing care needs after the birth of their first healthy child during the first 48 hours after normal delivery.
Methods: Qualitative and exploratory study in which 26 parents participated (13 fathers and 13 mothers). As a data collection strategy, semistructured interviews were used. Content analysis was applied to the answers, following Bardin’s premises.
Results: The parental figures identified care needs related to breastfeeding, the infant’s bath, the umbilical stump and cramps.
Conclusion: Mothers and fathers expect interventions from the nurses that allow them to feel capable of taking care of their infants safe and self-confidently.

Resumo
Objetivo: Conhecer as necessidades dos pais, relativas aos cuidados de enfermagem, após o nascimento do primeiro filho saudável, nas primeiras 48 horas pós-parto eutôco.
Métodos: Estudo qualitativo exploratório, no qual participaram 26 progenitores (treze pais e treze mães). Como estratégia de coleta de dados recorreu-se à entrevista semestruturada. As respostas foram alvo de análise de conteúdo, segundo os pressupostos de Bardin.
Resultados: As figuras parentais identificaram necessidades de cuidados relacionadas com a amamentação, o banho do recém-nascido, o coto umbilical e as cólicas.
Conclusão: Mães e pais esperam dos enfermeiros intervenções que lhes permitam sentir-se capazes de cuidar dos seus recém-nascidos com segurança e autoconfiança.

Resumen
Objetivo: Conocer las necesidades de los padres, en cuanto a los cuidados de enfermería después del nacimiento del primer hijo sano, en las primeras 48 horas después del parto eutóco.
Métodos: estudio exploratorio cualitativo, el cual involucró a 26 progenitores (13 padres y 13 madres). Como estrategia de recolección de datos se recurrió a la entrevista semiestructurada. Las respuestas fueron objeto de análisis de contenido, según los principios de Bardin.
Resultados: La figura de los padres identificó las necesidades de atención relacionados con la lactancia materna, el baño del bebé, el cordón umbilical y cólicos.
Conclusión: Las madres y los padres esperan de los enfermeros intervenciones que les permitan sentirse capaces de cuidar a sus recién nacidos con seguridad y confianza.

Keywords
Postpartum period; Nursing care; Breastfeeding;
Infant, newborn

Descritores
Período pós-parto; Cuidados de enfermagem;
Aleitamento materno; Recém-nascido

Descriptors
Periodo posparto; Atención de enfermería;
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Conflicts of interest: none to declare.
Introduction

The discovery of the care needs and the identification of the skills that couples intend to acquire in order to develop autonomy for newborn care when they return home are a priority in the context of the transition to parenthood.

The parents usually consider postpartum care as inferior in quality compared to the care received in the prenatal and intrapartum periods. In addition, specialist nurses also classify the care they provide at a below-desired level. The reasons they appoint are: the reduction of hospitalization time, which results in a minimum amount of time to provide specialized care and the hospital environment, with countless tasks to perform. These professionals believe that changes are needed and that routine interventions do not translate into safe care. They also add that identifying and responding to individual needs are beneficial operational models that promote the quality of care and the parents’ rest. It has also been found that lack of time, inappropriate space and lack of support mechanisms are the factors with the strongest negative impact on care provision during this transition period.

To overcome the difficulties presented, some authors propose education and specific training, through which nurses specialized in maternal and obstetric health develop the skills to design and execute care programs that promote proper support and individualized care, focused on the needs of postpartum women.

Another factor of discontent is the welcoming of the father figures, who expose their displeasure by feeling often neglected and treated as mere visitors, in hospital services with environments that do not promote the involvement and support they need to respond to the fathers’ needs. Nowadays, these fathers intend to participate in the care for their children and their partner. The evidence tells us that the father’s presence, night and day, throughout the hospitalization period, promotes the postpartum women’s feeling supported. In this sense, the father intends to be involved as much as possible in this new dynamic.

In relation to the Portuguese context and specifically to the experience of these first hours postpartum, fathers and mothers express it in an unequal way. The maternal figures emphasize the physical fatigue and a psychological state that varies between joy and sadness. From the nurses, they expect attention, accompaniment and orientation. As for the father figures, they see their role as accessory, in a scenario in which mothers and newborns play the central roles and intend the nurses to be able to engage them more actively in this process.

The literature shows that, although the fathers, mothers and nurses have a similar view of postnatal care, the changes seem to be difficult to implement in the reality of daily health care management, influencing the women’s daily lives and their relationships with family and friends, as well as their parenting skills.

In this sense, the practice of nursing care, in the context of the short period of postpartum hospitalization, should prioritize aspects such as a calm environment in the ward, which promotes rest, and also value individualized interventions specifically adapted to the parents’ needs, rather than the provision of standardized and universal care.

In view of the above, both parental figures and specialist nurses classify postpartum care as below-desired. Thus, this research is justified to find strategies that respond to the demands of both, in order to adapt and optimize the care provided, contributing to increase knowledge, promote improvements in the quality of care and, ultimately, achieve health gains.

The purpose of this study was to discover the parents’ nursing care needs after the birth of their first healthy child during the first 48 hours after normal delivery.

Methods

The paradigm underlying the research that underpins this study is classified, as regards the approach, as qualitative. The qualitative paradigm helps to understand individual perceptions of the world and can be defined as an open set of logically related as-
The study object is focused on the parents’ nursing care needs after the birth of their first healthy child, during the first 48 hours after normal delivery.

The semistructured interview was the technique selected for this research, because of its flexible nature, being neither fully open nor guided by a large number of precise questions.

Participants’ ages range between twenty and forty. Regarding education, this varies between the 9th year and an undergraduate degree. Finally, as far as marital status is concerned, nine couples are married and the others live together but are single. They complied with the following inclusion criteria: postpartum women after normal delivery, a healthy newborn, parents living with the newborn and Portuguese. Exclusion criteria were: postpartum women with a newborn at risk and with an associated condition, who refused to participate in the study, whose newborn was preterm and/or was hospitalized in the intensive care unit.

Upon discharge, these fathers and mothers, who received nursing care during hospitalization after normal delivery at the obstetrical service in a central hospital in Porto, granted authorization for data collection at their homes until the first fifteen days of the newborn’s life.

Thirteen semistructured interviews were held, which took approximately two hours and addressed three fundamental questions: “Tell me about your experience during hospitalization after childbirth”, “What are your nursing care needs during postpartum hospitalization?”, “Given your nursing care needs, how do you envisage the nurse’s role during postpartum hospitalization?”. The participants validated each of the interviews after viewing the transcript, about one week after they took place.

In total, there were 26 participants, that is, thirteen postpartum women and the respective fathers of the newborns. The number of interviews was delimited when the data became saturated, that is, when the answers to the fundamental questions became redundant.

The answers to the interviews were analyzed, considering the assumptions of Bardin, who organizes, synthesizes and transforms the data into manageable units, resulting from the search for patterns. During this coding process, the interview transcripts were numbered, using the following symbols - I, followed by the interview identification number: I1; I2, I3 ... The category that resulted from this analysis process was: acquisition of parenting skills, from which the following subcategories emerged: difficulties with regard to breastfeeding, hygiene care for the newborn, care for the umbilical stump and difficulties in dealing with the newborn’s cramps.

In this study, the ethical and legal principles were considered. The interviewees particularly received information about the objectives and purpose of the study, and also about the guaranteed anonymity, informed consent, confidentiality and data protection. Thus, in all phases of the study, all the assumptions required by the hospital’s teaching, training and research department were guaranteed, whose Ethics Committee evaluated and approved the project under reference 027/11 (015-DEFI/027- CES).

Results

The results of the interviews permitted identifying the dimension care needs, which comprises the following category: acquisition of parenting skills. The respondents recognized and described them as essential, during the study period, in the transition process to parenthood, being fundamentally associated with breastfeeding and newborn care. The following subcategories emerged from this category: difficulties with regard to breastfeeding, hygiene care for the newborn, care for the umbilical stump, and difficulties in dealing with colic of the newborn.

In the testimonies, this need for skills related to breastfeeding can be clearly identified, which the postpartum women translated as follows:

(...) the baby was unable to latch on and then became very irritated by this and only cried (...) (I1);

The main reason I needed help was with breastfeeding (...) (I3);

The biggest difficulty and doubts I had were more based on breastfeeding. (I4); Usually,
when I called for the nurses, it was because of him sucking (...) (I5); I needed support to put the baby at the breast and the baby in the breast, there, those practical adjustments (I6); The biggest difficulty I had was to help the baby latch on correctly (...) (I7); I needed help to breastfeed, which is quite complicated. (I8); The most common doubts were regarding breastfeeding (...) (I9); The trickiest part was figuring how to breastfeed, because at first he would not take it and I did not know what to do (I10); My main difficulty was breastfeeding (...) we were very focused on the difficulties of breastfeeding (...) (I11); I had doubts about practical aspects of breastfeeding (I12); At first I had a lot of difficulties because of the breastfeeding. (I13).

The hygiene care for the newborn was another aspect the interviewees considered to be important to gain skills in postpartum care, as shown in the following testimonies:

(...) but the bath that is given there is totally different than what is given here at home, here it's a towel with a jug of water (...) the baby is put there, he punches and shoots at the water, covers himself and that's it (...) (I1); (...) the bath is not the same as what we give at home, it is a simpler bath, it is not with a bathtub, it is with compresses, it is a drier thing and at home it is not like that ... (I4); The bath is a little bit, I mean, that's not even a bath, it is not! That's like a rub! I think the first bath should be an actual bath and not a head rub (I7); I'm honest, at first I thought I was going to be a bath in a bathtub, I wish it had been. (I8); The part of the bath in the bathtub they did not explain and it is necessary (...) maybe, better teaching of this part is lacking... (I9); (...) the baby's bath is not very explicit, it is dry and at home we have difficulties to adapt to the bathtub. (I11); But at home I did not choose the same way, there it's with compresses and water and here I give an actual bath, but the way I start and the principles I do in the same way, but the rest is a bit different. (I12); I cannot bathe the baby so well, because here at home I give it in the bathtub and that, unfortunately, they did not teach. (I13).

Regarding care for the umbilical stump, three of the parents interviewed reported some degree of difficulty to perform this, as verified when they say that:

(...) I was afraid of doing harm because of the cord, that makes quite an impression and I needed them to reinforce what they had already taught (...) (I2); (...) what got me a lot more confused was the navel, because the cleaning was done very quickly and, although they explained, I felt some difficulty to handle it at home. (I8); They explained how to take care of the baby's umbilical cord, how we had to disinfect, but they do it so quickly that, sometimes, you can't see it well. (I10).

The other parents did not mention anything about care for the umbilical stump.

Another nursing care need the parents identified regarding skills acquisition was related to the crying associated with the presence of cramps in the newborn. Although addressed in several investigations, in practice, it remains a problem that is sometimes difficult to solve. The parents themselves stated that they felt the need to turn to the nurses to help and relieve the associated symptoms, as the following reports reveal:

(...) I had to ask for help because my daughter had cramps and cried a lot with pain and I did not know what to do (...) (I7); Sometimes I would call the nurse because of the cramps the baby had, to help me relieve her discomfort. (I9); Sometimes, I called the nurses because I was in doubts if the baby cried because of cramps and to help me massage for the baby to feel more comfortable (...) (I12); The baby wouldn't stop crying (...) after they helped her to poo she felt more relieved and I noticed it was just cramps. (I13).

Discussion

The limitations of this study include the lack of knowledge about the level of preparation for parenting, planned/desired pregnancy, family contexts, parents' expectations regarding parenting and the
provision of nursing care. The different aspects these factors can assume can influence the way in which the parenting is experienced and entail consequences for the care needs the parents in this study reported.

Based on the results found, there are various conditioning factors in the postpartum transition experience to parenthood and nurses are an important resource in mobilizing and optimizing those factors. Nevertheless, the core role of these health team members should be based not only on technical competencies, but also on the development of strategies that clearly identify the parents’ needs, so that the interventions outlined promote the transition to parenting.

The postpartum as a stage loaded with transformations and adaptations to the new parental role demands, as we can perceive from the available reports, that the parents develop skills and acquire the behaviors necessary to cope with the new challenges.

Breastfeeding is one of those challenges, which lacks a set of theoretical and practical knowledge and, in the transition process to parenthood, it can be considered as a critical event that can be overcome through well-organized and planned interventions. To achieve this objective, it is essential that health professionals are knowledgeable on the determining factors of successful breastfeeding.

Breastfeeding was traditionally the normal standard of behavior but, nowadays, different lifestyles are found, with artificial feeding models and habits. This lack of sociocultural memory about breastfeeding favors the insecurity of postpartum women as to their skills and the need for practical information about breastfeeding. Therefore, society itself should change its attitude, starting to consider breastfeeding as normal. This also means that family policy strategies should promote and support breastfeeding.

The decision to breastfeed is a personal decision, but is subject to influences resulting from the socialization of each woman, from family and professional support. If a woman grew up in a breastfeeding environment, that is, if breastfeeding was practiced naturally, if she was breastfed, if she witnessed other women breastfeeding their babies and joins positive experiences related to breastfeeding, those experiences will probably influence her decision.

The analysis of the interviews revealed that all the couples interviewed wanted their children to be breastfed. It became clear though that breastfeeding was one of the most valued nursing care needs and that most often aroused doubts, mainly concerning the practical part of the technique.

The strategies the health professionals need to develop should mainly promote self-confidence in the women/couples’ capacity to breastfeed and to overcome difficulties, through information based on practical aspects related to the technique. These interventions are supported by studies that demonstrate that information on the benefits of breastfeeding and support are useful, especially in first-time mothers. In addition, their effectiveness increases if the breastfeeding technique is addressed together with the promotion of women’s confidence in their ability to breastfeed and their individual needs.

These breastfeeding promotion practices entail economic repercussions, with the potential to reduce the rate of admissions and rehospitalization in health facilities and should be ensured beyond the postpartum hospitalization period, aiming to reduce the early weaning rate.

It is essential to remember that breastfeeding is a major public health issue because of its irreplaceable contribution to health promotion and disease prevention. It is universally established that nurses play a fundamental and unique role in the adherence to and maintenance of breastfeeding.

The institution where this study was conducted is certified as a Baby Friendly Hospital. That is, it supports, protects and promotes breastfeeding, as advocated by the World Health Organization, in association with the United Nations Children’s Fund (UNICEF), training professionals with specific skills in this area and who comply with the ten measures, ensuring that mothers and infants can receive proper support and up-to-date information for the sake of successful breastfeeding.

Regarding the hygiene care for the newborn, it is evidence-based knowledge that the importance of the maintenance and the integrity of the infant’s skin lies beyond doubt. This works as the
first protective barrier and the optimization of its functions depends on the care it receives, which includes the bath.\(^{(13)}\)

The parents prefer the immersion bath and the researchers support this modality as the first option, as it causes fewer hemodynamic variations, adding that the use of products should be minimized whenever possible due to the risk of percutaneous absorption.\(^{(14)}\)

It is important to consider that the transition of the infant’s skin from intrauterine to extrauterine life is gradual, it does not happen immediately or drastically, as is the case for example with the respiratory system. The role of the vernix seems to be quite significant, exerting a protective function of the outer layer of the skin, minimizing the risk of infection, aiding in thermoregulation and maintaining pH and hydration, so its removal is discouraged.\(^{(15)}\)

For the study participants, the absence of an immersion bath caused some displeasure. In this institution, due to the inexistence of bathtubs, this procedure is carried out partially, that is, hygiene care is provided to the infant on a rigid surface, where the newborn is undressed as the skin is cleansed with compresses moistened with water. This approach does not seem to agree with expectations and parental needs, as parents express their dismay because they did not get the opportunity to observe the bath in the bathtub, which results in difficulties to adapt to the reality existing in the home context.

Therefore, it is recommended that this procedure corresponds to the recommendations of the most recent scientific evidence, to the expectations and needs of the target population of the care and to the home contexts after the discharge.

Regarding umbilical stump care, the institutional procedure once again does not follow the scientific evidence, as the protocol recommends the use of 70% alcohol.

It is known that merely washing and drying the umbilical stump, a process often referred to as dry care, is associated with the early fall of the umbilical stump and that the routine application of topical products in this area is discouraged due to the risk of absorption.\(^{(16)}\)

Recently, a new study was published in France, which supported the above mentioned data, concluding that the cleaning of the umbilical stump with soap and water, followed by drying, does not have inferior results in the prevention of omphalitis in term newborns in developed countries when compared to the use of antiseptic agents.\(^{(17)}\) Other authors add that the application of antimicrobial agents may lead to bacterial colonization by more virulent strains.\(^{(18)}\)

Although international recommendations are clear about the most appropriate care, many practitioners implement and recommend unequal practices, making any attempt to standardize nursing care with an impact on the health of newborns inconsistent.\(^{(19)}\)

Thus, care for the umbilical stump remains relevant in the current context, being closely related to the infections acquired during the postpartum period. Although omphalitis is closely related to neonatal morbidity and mortality, this occurrence is currently rare in developed countries but should be prevented with all possible resources.

Based on the discourse analyzed, umbilical stump care should be approached more consistently and parents should get the opportunity to train the cleaning technique and develop the skills necessary to monitor the mummification process, as the prevention and rapid diagnosis of infections depend on these skills. Moreover, in the international literature, there are authors who suggest the creation of institutional protocols, in order to standardize procedures.\(^{(19)}\)

Regarding cramps, their etiology remains unknown and, consequently, there is no consensus about the treatment methods.\(^{(9,20,21)}\) This limitation of knowledge makes it impossible to develop guidelines and therefore, researchers do not advocate universal diagnoses or treatments, but rather the creation of decision algorithms capable of assisting in the identification of the diagnosis and, consequently, the choice of the most effective treatment through stepwise decision making.\(^{(22)}\)

It is known that “the prevalence of childhood cramps varies from 8% to 40% of live births, the highest percentage being due to the introduction of artificial milk and foods”.\(^{(23)}\)
The main sign of cramps is crying, and a measuring tool - Infant Colic Scale was developed, through which parents fill out a daily form, to measure the irritability and amount of crying. By merely focusing on crying, however, we are at risk of making a hardly differential diagnosis. Crying can be related to different needs of the infants, such as hunger or pain, and can also be physiological.

In view of the ambiguity in the definition of symptoms in relation to the diagnosis of abnormal crying, it is essential to consider the general health of the newborn, the pre- and postnatal history, family history of allergies, the postpartum woman’s diet (in case of breastfeeding) and the parents’ response to the baby’s crying, in order to avoid other precipitating factors of crying.

For some of the couples who participated in this study, the complexity inherent in the identification of signs and symptoms and the consequent acquisition of skills to cope with the presence of cramps was also evident.

There is research suggesting that breastfeeding mothers should avoid ingesting cow’s milk for at least two weeks and should maintain this restriction if the child’s response is favorable. In addition, if formula milk is used, preference should be given to options that contain extensively hydrolyzed proteins, lactose-free and containing prebiotics.

More recently, data emerged supporting probiotic supplementation as, in the first weeks of life, children exhibiting cramps were those with lower diversity and intestinal microbiotic stability. Specifically when Lactobacillus reuteri was administered, the symptoms of colic improved when compared to placebo, but the authors considered that further studies were necessary to validate this evidence and support the recommendations.

Likewise, a number of alternatives have been tested, including the use of soy hydrolyzed formulas, lactose-reduced or fiber-enriched, sucrose, herbal teas, music therapy, vibration, massage and spinal manipulation. None of them has proved to be effective though.

On the other hand, less conventional approaches have become increasingly important. Thus, nurses’ action in this aspect of symptom relief can contribute to reduce the indiscriminate use of drugs, which is often observed under these circumstances, and promote the use of non-pharmacological strategies to relieve pain caused by colic and gas in newborns.

Despite extensive research in the area, the etiology of colic is still not clearly defined in order to support and sustain the different perspectives stated. It is easy to see that, without an identified etiology, there is no effective method of treatment.

Thus, with regard to colic, it is important to enable parental figures to acquire skills that help them cope with this problem, in order to more easily identify the cause of crying, providing practical information that may be useful in relieving the discomfort the infant feels and remember the self-limited nature of this condition.

**Conclusion**

The development of this study allowed us to understand how some parents experienced the transition to parenthood during postpartum hospitalization after normal delivery. The parental figures clearly present and identify needs for care. They note that the support of the nursing team is fundamental for the development of skills and safety in performing procedures they identify as essential to respond to newborn care. Fathers and mothers want to be integrated and participate actively in nursing decisions and interventions that promote the autonomous practice of parenting. To this end, as the hospitalization takes place, they need to increasingly take control over care. Based on the results obtained, it is concluded that the demonstration of flexibility and receptivity to clarify doubts, execute procedures and supervise the parental competences, as well as the existence of a common line guiding the practices among the nursing team members, promote a more proper experience of the transition to parenthood.

**Collaborations**

Sousa e Silva C and Carneiro MNF contributed to the project design, data analysis and interpretation, writing of the article, relevant critical review of the
intellectual content and final approval of the version for publication.

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Psychometric properties of the Turkish version of the Tuberculosis-Related Stigma scale

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Abstrac
Objective: The aim of this study was to investigate the validity and reliability of the Turkish “Tuberculosis-Related Stigma Scale”.
Methods: This study used methodological design. This methodological study was conducted with 263 individuals who were not diagnosed as pulmonary tuberculosis. We also used Pearson correlation analysis, Cronbach alpha coefficient, item total correlation and factor analysis for the study data.
Results: In this study, Cronbach’s alpha coefficient was .83 for the subscale community perspectives and .89 for the subscale patient perspectives. RMSEA was 0.077, NFI was 0.91, CFI was 0.94, RMR was 0.056, SRM was 0.079, GFI was 0.95, AGFI was 0.94, x2 was 582.84, SD was 228 and x2/SD was 2.55 (p= 0.000). Clearly, all model fit indices were acceptable.
Conclusion: In the light of the findings, Turkish version of Tuberculosis-Related Stigma Scale has acceptable validity and reliability for use in Turkish population.

Descritores
Tuberculosis; Stigmatization; Estigma da escala de tuberculosis; Confiabilidade e validade

Keywords
Tuberculosis; Stigmatization; Stigma of tuberculosis scale; Reliability and validity

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Keywords
Tuberculosis; Estigmatización; Estigma de la escala de tuberculosis; Reproducibilidad de los resultados

Resumen
Objetivo: El objetivo de este estudio fue investigar el validez y confiabilidad de la escala Tuberculosis-Related Stigma.
Métodos: Estudio metodológico con 263 individuos no diagnosticados con tuberculosis pulmonar. También se utilizó el análisis de correlación de Pearson, el coeficiente alfa de Cronbach, correlación ítem total y análisis factorial de los datos del estudio.
Resultados: En este estudio, el coeficiente alfa de Cronbach fue del 0.83 para las perspectivas de la subescala de pacientes. El RMSEA fue del 0.077, NFI: 0.91, CF: 0.94, RMR: 0.056, SRM: 0.079, GFI: 0.95, AGFI: 0.94, x2: 582.84, DP: 228 y x2/SD: 2.55 (p = 0.000). Claramente, todos los índices de ajuste del modelo fueron aceptables.
Conclusion: Conforme los resultados, la versión turca de la escala Tuberculosis-Related Stigma es confiable y posee validez aceptable para su uso en la población turca.
Introduction

Tuberculosis is the second most frequent infectious disease causing death in adults in the world following HIV/AIDS and it continues to be an important public health problem.\(^{(1,2)}\) According to Global Tuberculosis Report from the World Health Organization in 2017, there are 10.4 million tuberculosis patients in the world.

Forty-five percent of the tuberculosis cases are in the South-East Asia Region, the African Region (25%) and the Western Pacific Region (17%); smaller proportions of cases occurred in the Eastern Mediterranean Region (7%), the European Region (3%) and the Region of the Americas (3%).\(^{(3)}\) According to a report about eradication of tuberculosis in Turkey issued in 2017, 12,772 tuberculosis patients were recorded in tuberculosis eradication centers. The incidence of the disease was 22 in 100,000 in Turkey in 2010, but it decreased to 15.4 in 100,000 in 2015.\(^{(4)}\)

Tuberculosis, like all other chronic diseases, is a health problem which affects individuals in terms of both physical, psychological and social aspects.\(^{(5)}\) Individuals with tuberculosis and their families may face judgemental and incriminatory attitudes and prejudices.\(^{(6,7)}\) These negative attitudes and prejudices result in their isolation and stigmatization by the society.\(^{(5)}\) The word stigma means deformity, mark, sign, a state causing indignity and categorization.\(^{(8,9)}\) Stigmatization can be related to physical and social issues causing negative feelings. It causes isolation of individuals from social relationships and marginalizing them. Actually, underlying stigmatization is prejudices, which may cause the society to develop a negative attitude towards some groups of patients and isolate them.\(^{(1,6,10-13)}\)

Due to stigmatization, people may have fears about losing their jobs, getting divorced, having marital conflicts, being the subject of gossips and being prevented from sharing their bedroom with their spouses and from using some articles at home like plates, forks, spoons and knives etc. Two most important features of tuberculosis causing stigmatization are that the disease is considered as a condition contaminating people and that tuberculosis patients are isolated from the society due to their disease. Stigmatization caused by discrimination against tuberculosis patients by people or organizations lead to feelings of guilt and embarrassment in the patients, which has a negative effect on their behavior of seeking medical help for the disease and non-adherence to or even discontinuation of treatment.\(^{(1,6,10-13)}\)

Before designing interventions to decrease stigmatization against tuberculosis patients, it is important to determine the extent of this problem, groups of the patients at higher risk and effects of the problem on diagnosis, treatment and adherence to treatment.\(^{(12,14)}\) At this step, to what extent both tuberculosis patients and healthy people in a population have stigmatizing attitudes should be revealed. To this aim, it is necessary to use a valid and reliable measurement tool for both groups.

Stigmatization associated with tuberculosis in Turkey has been investigated by several researchers\(^{(1,5)}\) by using a scale developed by Sert (2010).\(^{(15)}\) Ozpinar et al. (2015) tested validity and reliability of a scale in a Turkish population developed by Coreil et al (2010) to reveal stigmatization against tuberculosis patients in Haiti and the USA.\(^{(16,17)}\)

These scales, used in Turkey, are directed towards revealing opinions and feelings of only tuberculosis patients about stigmatization associated with their disease. However, it is of great importance to show what a society thinks about stigmatization. Therefore, in this study, Tuberculosis-Related Stigma Scale, developed by Rie et al. (2008) to measure to what extent both tuberculosis patients and healthy people in Thailand have stigmatizing attitudes, was adapted into Turkish and its validity and reliability were tested for Turkish population.\(^{(18)}\) This feature of the scale will have new contributions to the literature. The scale had been adapted into Mexican before.\(^{(19)}\)

This methodological study, directed towards adapting Tuberculosis-Related Stigma Scale into Turkish, will allow determining the extent of stigmatization regarding tuberculosis and effects of this problem on diagnosis, treatment and adherence to treatment of the disease in Turkish population by using a valid and reliable scale.
Psychometric properties of the Turkish version of the Tuberculosis-Related Stigma scale

Methods

Study design
This study had a methodological design.

Sampling and Setting
It is recommended that sample size should be 5 or 10 times the number of items in a scale to perform factor analysis in validity and reliability studies. Tuberculosis–Related Stigma Scale was composed of a total of 23 items, of which 11 were about community perspectives and 12 were about patient perspectives. Therefore, 263 individuals were included into the study.

Inclusion criteria were accepting to participate in the study, not being diagnosed as pulmonary tuberculosis, ages 18 years or older, being able to speak and read in Turkish and not having hearing or speech problems. No sampling method was used; the individuals meeting the above mentioned criteria formed the sample.

For test-retest purposes, an instrument should be administered for the second time. For test-retest analysis, a group of at least 30 participants is recommended. In this study, the scale was given to 50 people who were willing to take part in the retest two weeks after the first administration.

Instrument

Demographic characteristics
Data about age, education and marital status were collected with a demographic characteristics form.

Tuberculosis-Related Stigma Scale
Tuberculosis-Related Stigma Scale was created by Van Rie et al. in 2008. The scale was composed of two subscales. One was about community perspectives about tuberculosis (11 questions) and the other was about patient perspectives about tuberculosis (12 questions). Cronbach’s alpha coefficient was .88 for the first subscale and .82 for the second subscale.

Calculating standardized stigma scores
1. Responses to the question in the scale were assessed on a four-point Likert scale: (0) strongly disagree, (1) disagree, (2) agree, and (3) strongly agree. Higher scores indicate higher levels of stigmatization.
2. No items were reverse coded.
3. For each subscale, scores for all the items were summed to create the summary score (SSraw).
4. Before comparing scores across subscales, a standardized score needs to be created because each subscale has a different number of items. Any forms of standardizing will work (item-adjusted, 10-point scale, etc). We chose to standardize all scores to a 50-point scale using the following equation:

\[ SS_{50} = \frac{SS_{raw} \times 50}{n \times 3} \]

5. where \( n \) equals the number of items on the subscale being calculated and 3 equals the maximum value for any one item on the scale. Standardized scores range from 1 to 50.

Test-retest reliability was \( r=0.64 \) for community perspectives towards tuberculosis (\( p=0.01 \)) and \( r=0.46 \) for patient perspectives towards tuberculosis (\( p=0.10 \)).

Translation of the scale
In order to constitute the Turkish form of Tuberculosis-Related Stigma Scale group translates, back translations and judges’ expertise are performed. In the translation, linguistic equivalence was tried to be provided along with conceptual equivalence. To achieve linguistic validity of the scale, it was translated from English into Turkish by all the researchers and five linguists. For the expert opinion, both in terms of translation and clarity of items were obtained recommendations from five experts; one internal medicine specialist, two public health specialists, two nursing and one researcher. Then the scales translated by the linguists were compared with those translated by the researchers. Thus, the final Turkish version of the scale was obtained.

Data collection
Data were collected at face to face interviews from people living in the territories of Atakum munici-
pality of Samsun, Turkey, and accepting to participate in the study. The data was collected from Jan to Apr 2016 by researchers. Atakum was elected in this study because of the high number of tuberculosis patients registered to tuberculosis eradication center in northern Turkey. It took about ten minutes to complete the data collection tools.

Data analysis
Descriptive statistics and reliability and validity analyses were conducted by using SPSS 15.0 (SPSS Inc.Chicago, IL,USA). Confirmatory factor analysis (CFA) was made by using LISREL 8.80 (Scientific Software International, Inc, Lincolnwood, IL,USA). Exploratory factor analysis (EFA) was made with principal component analysis and obtained results were evaluated with varimax rotation. CFA was made with Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), Root Mean Square Residual (RMR), Standardized RMR (SRMR), Normed Fit Index (NFI), x2 and x2/SD.

Validity analysis
To determine appropriatesness of EFA, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was used. By using Bartlett's sphericity test, meaningfulness of intervariable correlation coefficients was determined. Validity of the scale was tested with EFA and CFA.

Reliability analysis
Cronbach's Alpha was used to test internal consistency for the instrument and for each of the factors resulting from the factor analysis. The item-total item correlations and mean inter-item correlations were included in the analysis. Pearson correlation analysis was used for analysis of test-retest and item total scores.

Ethical consideration
Written permission was requested from Annelies Van Rie, who developed this scale, through e-mail to examine reliability and validity of the Turkish version of the scale. Ethical approval was obtained from 19 Mayıs University Ethical Committee (Approval number: 2015/397). Also, the objective of the research was explained to the participants and oral informed consent was taken from them.

Results
Sample characteristics
The mean age of the participants was 35.41±14.6 years. Of all the participants (n=263), 65.4% were female, 54.8% were married, and 41.8% were university graduates. Besides, 50.6% were unemployed, 49.8% had an income equal to their expenditures and 67.3% were living in the city (Table 1).

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<tbody>
<tr>
<td>Age (mean)</td>
<td>35.41±14.6</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>172(65.4)</td>
</tr>
<tr>
<td>Male</td>
<td>91 (34.6)</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>144(54.8)</td>
</tr>
<tr>
<td>Single</td>
<td>119 (45.2)</td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>93(3.4)</td>
</tr>
<tr>
<td>Primary school</td>
<td>27(10.3)</td>
</tr>
<tr>
<td>Secondary school</td>
<td>30(11.4)</td>
</tr>
<tr>
<td>High school</td>
<td>67(33.1)</td>
</tr>
<tr>
<td>Two-year university education</td>
<td>110(41.9)</td>
</tr>
<tr>
<td>Employment status</td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>130(49.4)</td>
</tr>
<tr>
<td>Unemployed</td>
<td>133(50.6)</td>
</tr>
<tr>
<td>Income</td>
<td></td>
</tr>
<tr>
<td>Lower than expenditures</td>
<td>82(31.2)</td>
</tr>
<tr>
<td>Equal to expenditures</td>
<td>131(49.8)</td>
</tr>
<tr>
<td>Higher than expenditures</td>
<td>50 (19.0)</td>
</tr>
<tr>
<td>Place of living</td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>177(67.3)</td>
</tr>
<tr>
<td>Town</td>
<td>55 (20.9)</td>
</tr>
<tr>
<td>Village</td>
<td>31 (11.8)</td>
</tr>
<tr>
<td>Total</td>
<td>263(100.0)</td>
</tr>
</tbody>
</table>

Descriptive statistics of the Tuberculosis-Related Stigma Scale: community and patient perspectives towards tuberculosis
The mean score was 16.65±6.47 for the community perspectives towards tuberculosis subscale and 19.51±5.87 for the patient perspectives towards tuberculosis subscale (Table 2).

Validity analysis
Scores assigned by six experts were evaluated by using Kendall W analysis, and no statistically significant
difference was found between their scores (Kendall W= 0.47, p=0.16). EFA revealed a KMO coefficient of 0.878 and Bartlett’s test result was \( x^2 = 2644.691 \) (p= 0.000). The factor loadings of the scale ranged from 0.78 to 0.041. The explained total variance was 43.62% (Table 3).

Item - total score correlation coefficients of the scale ranged from 0.28 to 0.63. The correlation coefficients were greater than 0.20 for all the items of the scale (Table 3).

After EFA was conducted, CFA was used to create a model about the factor structure of the scale. RMSEA was 0.077, NFI was 0.91, CFI was 0.94, RMR was 0.056, SRM was 0.079, GFI was 0.95, AGFI was 0.94, \( x^2 \) was 582.84, SD was 228 and \( x^2/SD \) was 2.55 (p= 0.000). Clearly, all model fit indices were acceptable. According to PATH diagram obtained from the model, t values for all the items were higher than 1.96 and factor loadings of all the items were 0.30 or higher than 0.30. The model suggested that items 7 and 8 loaded on the factor community perspectives about tuberculosis should be associated. They were modified in accordance with the suggestion. As a result of CFA, none of the items were removed and the scale with its two-factor structure and 23 items was accepted. The PATH diagram obtained from the model is presented in figure 1.

**Reliability analysis**

Total Cronbach’s Alpha internal consistency reliability coefficient was 0.90 for Tuberculosis-Related Stigma Scale, 0.89 for the subscale community perspectives towards tuberculosis and 0.83 for the

### Table 2. Scores for community perspectives towards tuberculosis and patient perspectives towards tuberculosis

<table>
<thead>
<tr>
<th>Stigma subscale</th>
<th>X±SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community</td>
<td>16.65±6.47</td>
</tr>
<tr>
<td>Patient</td>
<td>19.51±6.87</td>
</tr>
</tbody>
</table>

TB – tuberculosis

### Table 3. Results of reliability and validity Analyses of Tuberculosis-Related Stigma Scale

<table>
<thead>
<tr>
<th>Scale Items</th>
<th>Factor loading</th>
<th>Mean (SD)</th>
<th>Item-total correlation</th>
<th>Cronbach alpha if item deleted</th>
<th>Explained variance (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1: Community perspectives towards tuberculosis (α=.897)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Some people do not prefer to live in the same environment as tuberculosis patients.</td>
<td>0.653</td>
<td>2.66</td>
<td>0.608</td>
<td>0.893</td>
<td>24.896</td>
</tr>
<tr>
<td>2 Some people keep away from tuberculosis patients.</td>
<td>0.682</td>
<td>2.66</td>
<td>0.625</td>
<td>0.893</td>
<td></td>
</tr>
<tr>
<td>3 Some people think tuberculosis patients are disgusting.</td>
<td>0.611</td>
<td>2.51</td>
<td>0.517</td>
<td>0.895</td>
<td></td>
</tr>
<tr>
<td>4 Some people feel uncomfortable when they are close to tuberculosis patients.</td>
<td>0.703</td>
<td>2.62</td>
<td>0.600</td>
<td>0.893</td>
<td></td>
</tr>
<tr>
<td>5 Some people do not want their children to play with tuberculosis patients’ children.</td>
<td>0.767</td>
<td>2.65</td>
<td>0.628</td>
<td>0.893</td>
<td></td>
</tr>
<tr>
<td>6 Some people do not want to talk to tuberculosis patients.</td>
<td>0.523</td>
<td>2.10</td>
<td>0.443</td>
<td>0.897</td>
<td></td>
</tr>
<tr>
<td>7 If a person has tuberculosis, some people may treat him/her differently throughout their life.</td>
<td>0.658</td>
<td>2.30</td>
<td>0.480</td>
<td>0.896</td>
<td></td>
</tr>
<tr>
<td>8 Some people may not want to eat or drink with their friends having tuberculosis.</td>
<td>0.715</td>
<td>2.41</td>
<td>0.505</td>
<td>0.896</td>
<td></td>
</tr>
<tr>
<td>9 Some people avoid touching tuberculosis patients.</td>
<td>0.782</td>
<td>2.55</td>
<td>0.598</td>
<td>0.893</td>
<td></td>
</tr>
<tr>
<td>10 Some people may not want to eat or drink with their relatives having tuberculosis.</td>
<td>0.720</td>
<td>2.61</td>
<td>0.566</td>
<td>0.894</td>
<td></td>
</tr>
<tr>
<td>11 Some people are afraid of tuberculosis patients.</td>
<td>0.691</td>
<td>2.59</td>
<td>0.617</td>
<td>0.893</td>
<td></td>
</tr>
<tr>
<td>Factor 2: Patient Perspectives about Tuberculosis (α=.836)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 People with tuberculosis feel guilty since they think their care causes burden on their families.</td>
<td>0.471</td>
<td>2.75</td>
<td>0.549</td>
<td>0.894</td>
<td>18.724</td>
</tr>
<tr>
<td>2 Some people with tuberculosis do not keep close with other people in order not to spread tuberculosis bacilli.</td>
<td>0.419</td>
<td>2.43</td>
<td>0.476</td>
<td>0.896</td>
<td></td>
</tr>
<tr>
<td>3 Some people with tuberculosis feel lonely.</td>
<td>0.625</td>
<td>2.76</td>
<td>0.536</td>
<td>0.895</td>
<td></td>
</tr>
<tr>
<td>4 Some people with tuberculosis feel disturbed when other people learn about their disease.</td>
<td>0.626</td>
<td>2.74</td>
<td>0.501</td>
<td>0.896</td>
<td></td>
</tr>
<tr>
<td>5 Some people with tuberculosis lose their friends due to their disease.</td>
<td>0.650</td>
<td>2.86</td>
<td>0.543</td>
<td>0.895</td>
<td></td>
</tr>
<tr>
<td>6 Some people with tuberculosis are worried that they may have AIDS.</td>
<td>0.647</td>
<td>2.55</td>
<td>0.476</td>
<td>0.896</td>
<td></td>
</tr>
<tr>
<td>7 Some people with tuberculosis fear about telling their disease to other people except family members.</td>
<td>0.609</td>
<td>2.37</td>
<td>0.405</td>
<td>0.898</td>
<td></td>
</tr>
<tr>
<td>8 Some people with tuberculosis carefully select who to tell about their disease.</td>
<td>0.603</td>
<td>2.58</td>
<td>0.408</td>
<td>0.898</td>
<td></td>
</tr>
<tr>
<td>9 Some people with tuberculosis are afraid of going to tuberculosis eradication centers since they think other people may see them.</td>
<td>0.664</td>
<td>2.82</td>
<td>0.497</td>
<td>0.896</td>
<td></td>
</tr>
<tr>
<td>10 Some people with tuberculosis are afraid of telling their disease to members of their families.</td>
<td>0.549</td>
<td>2.65</td>
<td>0.324</td>
<td>0.900</td>
<td></td>
</tr>
<tr>
<td>11 Some people with tuberculosis are afraid of telling their disease to other people in case these people think they have AIDS.</td>
<td>0.454</td>
<td>2.38</td>
<td>0.278</td>
<td>0.901</td>
<td></td>
</tr>
<tr>
<td>12 Some people with tuberculosis feel guilty due to their smoking habit, taking alcohol or other unhealthy behavior.</td>
<td>0.522</td>
<td>2.63</td>
<td>0.374</td>
<td>0.899</td>
<td></td>
</tr>
</tbody>
</table>

Total Cronbach Alpha α=.90
Total Explained Variance (%) 43.620
subscales patient perspectives towards tuberculosis (Table 3). In split-half analysis, Cronbach’s Alpha was 0.82 for the former subscale and 0.83 for the latter subscale. Both subscales had acceptable reliability. The correlation coefficient between the two subscales was 0.74.

Discussion

If a scale were to be used in a different language, its translated version is expected to display the same reliability and validity characteristics as its original form. Therefore, validity and reliability of Tuberculosis-Related Stigma Scale needed to be evaluated if it were to be used in a Turkish sample. The results of the present study showed that the scale was valid and reliable to reveal perspectives of Turkish population about tuberculosis related stigmatization.

Turkish version of Tuberculosis-Related Stigma Scale was sent to six experts for evaluation of its content validity and Kendall W analysis was made to determine consistency between the experts’ evaluations. Expert opinions about understandability of the items of the scale were not different (Kendall W = .47, p=.16).

In the factor analysis, the KMO coefficient was found to be 0.878 and Bartlett’s test result was significant (p<.001). The values for the Turkish version of the scale overlapped with those of the original scale and showed that the sample size was suitable both to perform both the factor analysis and to analyze the distribution of homogeneity of values. (20)

In the exploratory factor analysis, the total variance of the scale was found to be 43.62.

In studies in the field of social sciences, variance rates between 40% and 60% are deemed to be adequate so the total variance explained by the factor structure of the scale in the present study was sufficient. In this study, the scale demonstrated acceptable internal consistency. One of the methods used to evaluate internal consistency in the adapted scales in terms of reliability is item analysis. In item-total analyses, the acceptable coefficient for item selection should be higher than 0.20 or 0.25. In the item analysis made in the current study, the item-total score correlation coefficients ranged from 0.28 to 0.63. Since all the items had acceptable item-total correlation coefficients, all of them were kept. (18,21,22)

One of the methods used for evaluation of internal consistency is Cronbach’s Alpha reliability coefficient. If it is between .60 and .79, the measurement tool is considered relatively reliable. If it is between .80 and 1, the tool is considered highly reliable. (20) In the present study, Cronbach’s alpha coefficient was found to be .89 for the subscale community perspectives towards tuberculosis. It was reported to be .88 in the original. Cronbach’s alpha coefficient was .83 for the subscale patient perspectives towards tuberculosis in the current study. It was reported to be .82 in the original scale. (18) Cronbach’s alpha coefficients for both subscales of the Turkish version were consistent with those reported for the original scale and indicated that the scale had high reliability. (20)

How tuberculosis patients view their disease and the stigmatization they feel is important in terms of their compliance with the treatment. Studies conducted have shown that patients experienced intense feelings of stigmatization and the disease caused negative effects especially on their relationships with friends. (1,23,24) The feeling of stigmatization can be effective on individuals’ compliance to treatment in
addition to social isolation. For this reason, it is important to reveal this stigmatization felt especially in patients and to help them cope with it. The fact that both parts of this scale adapted to Turkish society have high reliability coefficient will make it possible to use it as a reliable instrument in studies conducted in many regions of Turkey, to show the dimension of stigmatization felt by patients and the views of the society and will contribute to interventions to prevent this. Especially in conducting tuberculosis control programs successfully throughout the country, it will be used as a facilitating measurement instrument in overcoming bias against the disease and in raising awareness in individuals. Besides, this adapted scale will contribute to determining tuberculosis control programs within the country.

This scale for finding out stigma against tuberculosis patients, the reliability and validity of which was confirmed, was adapted by reaching healthy individuals in society. The fact that it was not possible to take permission from the related institutions for tuberculosis patients is the limitation of this study.

Conclusion

To conclude, Turkish version of Tuberculosis-Related Stigma Scale has acceptable validity and reliability for use in Turkish population. However, prospective studies can contribute to validation of the tool. It is suggested to repeat the validity and reliability by applying to patients and healthy individuals in larger populations.

Collaborations

Bahar Z contributed to the project design, final approval of the version and relevant critical review of the intellectual content; Beser contributed to the project design, data analysis, a final approval of the version and relevant critical review of the intellectual content; Kissal A contributed to the project design, data collection, writing and interpretation, Cal A and Cavusoglu F, contributed to the project design, data collection, writing and interpretation; Mert H contributed to the project design, a final approval of the version and relevant critical review of the intellectual content; Capik C contributed to the data analysis, interpretation and relevant critical review of the intellectual content.

References


ICNP® terminology subset for patients with cancer-associated venous thromboembolism

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Mauro Leonardo Salvador Caldeira dos Santos
Alessandra Conceição Leite Funchal Camacho
Marise Dutra Souto
Giselle Gomes Borges
Patrícia dos Santos Claro Fuly

Abstract
Objective: To develop and validate an International Classification for Nursing Practice (ICNP®) terminology subset for patients with cancer-associated venous thromboembolism.

Methods: Four-stage methodological study, namely: integrative review of the literature, in which were sought empirical evidence of nursing diagnoses and interventions related to cancer-associated venous thromboembolism in MEDLINE, PUBMED, CINAHL, LILACS, BIREME and COCHRANE databases in the period between 2001 and 2016. In the second stage of the study, was performed the cross-mapping between terms identified in the literature and terms included in the ICNP®, version 2017. The third stage was the construction of the ICNP® terminology subset containing the nursing diagnosis/outcomes and interventions statements that were distributed according to the Basic Human Needs of Wanda Horta's conceptual framework. In the fourth stage, was performed the content validation of declarations by expert nurses.

Results: Thirty-seven nursing diagnosis and intervention statements were developed. Of these, 34 diagnoses and 35 interventions were validated.

The inclusion of four nursing diagnoses as pre-coordinated concepts in the ICNP® was proposed, as follows: Unilateral peripheral edema; Low Blood oxygen saturation; and Knowledge of treatment regime.

Conclusion: The instrument can be an easy-access reference for nurses by providing evidence-based care and a unified nursing language.

Keywords
Oncology nursing; Venous thromboembolism; Venous thrombosis; Nursing process; Nursing diagnosis

Descritores
Enfermagem oncológica; Trombose venosa; Trombose de vena; Processos de enfermagem; diagnóstico de enfermagem

Resumo
Objetivo: Elaborar e validar um subconjunto terminológico da Classificação Internacional para Prática de Enfermagem (ICNP®) para pacientes com tromboembolismo venoso associado ao câncer.

Métodos: Estudo metodológico, desenvolvido em quatro etapas: revisão integrativa da literatura, que buscou evidências empíricas de diagnósticos e intervenções de enfermagem relacionadas ao tromboembolismo venoso associado ao câncer, nas bases de dados MEDLINE, PUBMED, CINAHL, LILACS, BIREME e COCHRANE, com recorte temporal de 2001 a 2016; na segunda etapa do estudo foi realizado o mapeamento cruzado entre os termos identificados na literatura e os termos constantes na ICNP® versão 2017; a terceira etapa consistiu na construção do subconjunto terminológico ICNP®, contendo os enunciados de diagnósticos/resultados e intervenções de enfermagem e distribuídos conforme as Necesidades Humanas Básicas postuladas no referencial conceitual de Wanda Horta; na quarta etapa foi realizada a validação de conteúdo das declarações por enfermeiros peritos.

Resultados: No total, 37 afirmações de diagnósticos e intervenções de enfermagem foram elaboradas. Destas, 34 diagnósticos e 35 intervenções foram validadas.

Foi proposta a inclusão de quatro diagnósticos de enfermagem como conceitos pré-coordinados na ICNP®: Edema periférico unilateral; Edema periférico crônico; Saturação de oxigênio no sangue; baixa; e Conhecimento sobre regime terapêutico.

Conclusão: O instrumento poderá constituir-se numa referência de fácil acesso para enfermeiros, propiciando um cuidado baseado em evidências e linguagem de enfermagem unificada.
Introduction

Venous thromboembolism is an important clinical complication strongly associated with cancer, since it favors the occurrence of blood hypercoagulability, venous stasis and vascular endothelial injury.\(^\text{(1)}\) Its prevalence in cancer patients is about 20\%, and it is the second cause of death in these patients.\(^\text{(2,3)}\)

In search of qualified nursing care, some technological instruments can be applied in practice for the systematization of care. Nursing classification systems can be used to this end because they provide their own terminology and a standardized language used by nursing professionals in order to contribute to a more effective, conscious and above all, visible nursing practice in the data set of health.\(^\text{(4,5)}\)

The International Classification for Nursing Practice (ICNP\(^\text{®}\)) is one of the most widely used classification systems and a medium that helps reasoning and clinical decision making by promoting communication among nurses and with other professionals. In addition, it favors documentation of professional practice, and the resulting data and information can be used for planning and management of nursing care and the development of policies.\(^\text{(4,5)}\)

In order to optimize the use of ICNP\(^\text{®}\) and make it an easy-access reference for nursing professionals in their professional context, the International Council of Nurses suggests the development of specific catalogs. Among the possible types of catalogs, there are terminology subsets containing nursing diagnoses, outcomes and interventions statements directed to a particular area of care.\(^\text{(4,5)}\)

In view of the problematic of the study, we tried to answer the following question: What nursing diagnoses/outcomes and interventions are useful in nursing care for patients with cancer-associated venous thromboembolism? Based on this question, the aim of the study was to develop and validate an ICNP\(^\text{®}\) terminology subset for patients with cancer-associated venous thromboembolism.

Methods

This is a methodological study. It was conducted at an institution specialized in the treatment of cancer in Rio de Janeiro. Twelve sectors of the institution were selected, in which there was the highest prevalence of thromboembolic events: emergency, palliative care outpatient clinic, inpatient clinic for palliative care patients, hospitalization for chemotherapy and hematologic cancer patients, breast cancer, gynecological cancer, bone and connective tissue cancer, central nervous system cancer, lung cancer, prostate cancer, gastrointestinal cancer, and head and neck cancer.

The study participants were nurses with experience in the care of cancer and venous thromboembolism patients, and considered experts.\(^\text{(6)}\) The ICNP is used only in some units of the institution, but there is no definition about the standardization of language for the registration of nursing processes. However, it is noteworthy that the institution adopts standardized languages. Inclusion criteria were being an oncology specialist and working in the area for at least five years. Nurses on vacation or on leave during the data collection period were excluded from the study.

The study was developed in four stages. In the first stage, was performed an integrative review of the literature in order to answer the following question: what are the empirical indicators identified in databases for proposing nursing diagnosis, outcomes and interventions statements by using the ICNP? The databases consulted were the US National Library of Medicine (PUBMED via NLM), International Literature on Health Sciences (PUBMED via MEDLINE), Latin American and Caribbean Literature on Health Sciences (LILACS), Nursing Database (BDENF), Cumulative Index to Nursing & Allied Health Literature (CINAHL), and Cochrane Collaboration. The descriptors in Health Sciences (DeCs) and Medical Subject Headings (Mesh) were the following: Oncology nursing, Embolism and thrombosis, Thromboembolism, Venous thromboembolism, Thrombosis, Venous thrombosis, Intracranial thrombosis, Postthrombotic syndrome and Upper extremity deep vein thrombosis. The key-
words used were: Oncology nurse; Cancer nursing, Thromboses, Thrombus, Venous Stasis Syndrome, Deep Vein Thrombosis/Deep Stasis Syndrome, Deep Vein Thromboses/Deep-Vein Thrombosis, Central Venous Catheter Thrombosis.

The search was performed by cross-checking descriptors and keywords related to oncology nursing with those of thromboembolism by using the Boolean operator AND. The search in electronic databases was performed between April and July 2016. All full text articles published between 2001 and 2016 in Portuguese, English, Spanish and French were included. Exclusion criteria were articles in which deep vein thrombosis was not the central theme.

In the second stage of the study, was performed the cross-mapping between terms identified in the literature and terms included in the ICNP®, version 2017. Afterwards, were developed the nursing diagnoses, interventions and outcomes based on terms of the ICNP® Seven Axes Model, which underwent content validation by specialist nurses.

The third stage was the construction of the ICNP® terminology subset containing the nursing diagnosis/outcomes and interventions statements that were distributed according to the Basic Human Needs (BHN) postulated in the conceptual framework of Wanda Horta.[7] These data are in conformity with the recommendation of the International Council of Nurses for the use of a theoretical or conceptual model for constructing the terminology subset.[8]

In the fourth stage, was performed the content validation of the nursing diagnosis/outcomes and interventions statements of the ICNP through the opinion of expert nurses. Data were collected from August to September 2017. A non-probabilistic convenience sample was used. It included all subjects who met the inclusion criteria for participation in the study. The data collection instrument was given to 49 nurses. Of these, 34 returned with the completed material.

The experts were asked to express their level of agreement with the statements according to the following criteria: adequacy, pertinence, clarity, accuracy and objectivity. The expert’s level of agreement in each criterion was evaluated through a Likert scale. Each criterion had a 1-5 score, considering 5 as a maximum agreement, and 1 as no agreement. The score for each level of agreement was numerically transformed according to the Validation Model of Nursing Diagnosis, in which 1=0; 2=0.25; 3=0.50, 4=0.75; and 5=1.[9]

For data analysis, was calculated participants’ concordance index (CI) by means of simple statistical analysis with calculation of the average of established criteria. Statements with a CI greater than or equal to 0.8 in the general average were considered valid, since this cut-off score confers reliability to analyzed data.[9]

The study was approved by the Research Ethics Committee in Human Beings under number 2.173.119 by complying with standards of research with human beings (Resolution 466/2012 (12) of the National Research Council).

Results

During the integrative literature review, were found 712 articles in the six databases. When applying the exclusion criteria, 511 were excluded by duplication, 16 because they were out of the temporal cut, 106 after thorough reading of title and abstract, and five because they were not available in full. Seventy-four articles were read in full and seven were excluded because they did not present evidence of nursing diagnoses and interventions. In the end, 67 articles composed the integrative review. For the most part, articles excluded by title or abstract addressed vascular access thrombosis or superior vena cava syndrome.

A total of 151 empirical evidences were identified. From the cross-mapping with terms of the ICNP® version 2017 and by following the Seven Axes Model, these evidences resulted in 37 nursing diagnoses, out of which 27 were pre-coordinated concepts and other ten diagnoses were constructed a posteriori by researchers by using terms from the Focus, Judgment and Location axes.

Thirty-seven articles provided evidence for composing the nursing interventions. Other nursing
interventions were added based on other already validated ICNP® terminology subsets and on the authors’ clinical practice. After the construction of ICNP® statements of diagnosis, outcomes and interventions, the terminology subset was organized by using the Basic Human Psychobiological, Psychosocial and Psycho-Spiritual Needs of Wanda Horta’s Conceptual Model. In total, 18 BHN were included in the diagnoses, of which 11 were psychobiological needs and seven were psychosocial needs. Table 1 shows the nursing diagnoses distributed according to the affected BHN, and containing absolute and percentage values of these diagnoses in each BHN in relation to the total.

Table 1. Affected basic human needs and their respective nursing diagnoses

<table>
<thead>
<tr>
<th>Basic human need affected</th>
<th>Psychobiological needs</th>
<th>Diagnosis</th>
<th>n(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygenation</td>
<td>Dyspnea</td>
<td>4(10.8)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Impaired respiratory system function</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low Blood Oxygen Saturation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cough</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydration</td>
<td>Unilateral Peripheral Edema</td>
<td>2(5.4)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chronic Peripheral Edema</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin and mucosal integrity</td>
<td>Impaired Skin Integrity</td>
<td>3(8.1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Venous Ulcer</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inflammation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical integrity</td>
<td>Risk for medication side effect</td>
<td>1(2.7)</td>
<td></td>
</tr>
<tr>
<td>Thermal regulation</td>
<td>Fever</td>
<td>1(2.7)</td>
<td></td>
</tr>
<tr>
<td>Neurological regulation</td>
<td>Risk for fall</td>
<td>1(2.7)</td>
<td></td>
</tr>
<tr>
<td>Immunological regulation</td>
<td>Risk for infection</td>
<td>1(2.7)</td>
<td></td>
</tr>
<tr>
<td>Vascular regulation</td>
<td>Impaired peripheral tissue perfusion</td>
<td>9(24.3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Impaired vascular process</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tachycardia</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Impaired cardiovascular system</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Altered blood pressure</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Risk for impaired cardiac function</td>
<td>1(2.7)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nasal bleeding</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Risk for hemorhaging</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Risk for deep vein thrombosis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Locomotion</td>
<td>Impaired walking</td>
<td>1(2.7)</td>
<td></td>
</tr>
<tr>
<td>Tactile perception</td>
<td>High peripheral sensory perception</td>
<td>1(2.7)</td>
<td></td>
</tr>
<tr>
<td>Pain perception</td>
<td>Acute pain</td>
<td>4(10.8)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute chest pain</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chronic pain</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Musculoskeletal pain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Therapy</td>
<td>Impaired ability to manage medication regime</td>
<td>1(2.7)</td>
<td></td>
</tr>
</tbody>
</table>

Psychosocial needs

| Security                   | Fear                                                           | 2(5.4)                                   |
|                            | Anxiety                                                        |                                          |
| Apprenticeship (health education) | Lack of knowledge of treatment regime                           | 1(2.7)                                   |
| Self-image                 | Impaired adaptation                                             | 1(2.7)                                   |
| Self-achievement           | Negative quality of life                                        | 1(2.7)                                   |
| Participation              | Non adherence to therapeutic regime                              | 3(8.1)                                   |
|                            | Lack of family support                                          |                                          |
|                            | Impaired ability of caregiver to perform caretaking             |                                          |

In the experts’ evaluation regarding the applicability of the Nursing Diagnoses, out of the 37 nursing diagnoses constructed, only three (8.1%) did not reach a CI≥0.8, namely Acute chest pain, High peripheral sensory perception, and Inflammation. Table 2 shows the nursing diagnoses and their respective concordance indexes after content validation by the expert nurses.

Table 2. Nursing diagnoses and their respective concordance indexes after content validation by expert nurses

<table>
<thead>
<tr>
<th>Nursing diagnosis</th>
<th>Concordance index</th>
<th>Adequacy</th>
<th>Pertinence</th>
<th>Clarity</th>
<th>Accuracy</th>
<th>Objectivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyspnea</td>
<td>0.93</td>
<td>0.94</td>
<td>0.93</td>
<td>0.93</td>
<td>0.93</td>
<td>0.92</td>
</tr>
<tr>
<td>Impaired respiratory system function</td>
<td>0.89</td>
<td>0.89</td>
<td>0.89</td>
<td>0.87</td>
<td>0.90</td>
<td>0.90</td>
</tr>
<tr>
<td>Low blood oxygen saturation</td>
<td>0.86</td>
<td>0.86</td>
<td>0.88</td>
<td>0.84</td>
<td>0.86</td>
<td>0.86</td>
</tr>
<tr>
<td>Cough</td>
<td>0.81</td>
<td>0.82</td>
<td>0.80</td>
<td>0.81</td>
<td>0.81</td>
<td>0.82</td>
</tr>
<tr>
<td>Unilateral peripheral edema</td>
<td>0.82</td>
<td>0.82</td>
<td>0.82</td>
<td>0.83</td>
<td>0.82</td>
<td>0.82</td>
</tr>
<tr>
<td>Chronic peripheral edema</td>
<td>0.82</td>
<td>0.80</td>
<td>0.80</td>
<td>0.88</td>
<td>0.83</td>
<td>0.82</td>
</tr>
<tr>
<td>Impaired skin integrity</td>
<td>0.86</td>
<td>0.86</td>
<td>0.87</td>
<td>0.84</td>
<td>0.84</td>
<td>0.86</td>
</tr>
<tr>
<td>Venous ulcer</td>
<td>0.88</td>
<td>0.89</td>
<td>0.89</td>
<td>0.88</td>
<td>0.88</td>
<td>0.87</td>
</tr>
<tr>
<td>Inflammation</td>
<td>0.74</td>
<td>0.76</td>
<td>0.78</td>
<td>0.74</td>
<td>0.72</td>
<td></td>
</tr>
<tr>
<td>Risk for medication side effect</td>
<td>0.83</td>
<td>0.84</td>
<td>0.83</td>
<td>0.82</td>
<td>0.83</td>
<td>0.82</td>
</tr>
<tr>
<td>Fever</td>
<td>0.81</td>
<td>0.83</td>
<td>0.82</td>
<td>0.81</td>
<td>0.78</td>
<td>0.81</td>
</tr>
<tr>
<td>Risk for fall</td>
<td>0.91</td>
<td>0.92</td>
<td>0.91</td>
<td>0.92</td>
<td>0.91</td>
<td>0.91</td>
</tr>
<tr>
<td>Risk for infection</td>
<td>0.82</td>
<td>0.82</td>
<td>0.84</td>
<td>0.82</td>
<td>0.82</td>
<td>0.80</td>
</tr>
<tr>
<td>Impaired peripheral tissue perfusion</td>
<td>0.84</td>
<td>0.83</td>
<td>0.84</td>
<td>0.85</td>
<td>0.85</td>
<td>0.85</td>
</tr>
<tr>
<td>Impaired vascular process</td>
<td>0.84</td>
<td>0.85</td>
<td>0.86</td>
<td>0.83</td>
<td>0.84</td>
<td>0.83</td>
</tr>
<tr>
<td>Tachycardia</td>
<td>0.84</td>
<td>0.83</td>
<td>0.83</td>
<td>0.84</td>
<td>0.83</td>
<td>0.85</td>
</tr>
<tr>
<td>Impaired cardiovascular system</td>
<td>0.89</td>
<td>0.88</td>
<td>0.89</td>
<td>0.90</td>
<td>0.89</td>
<td>0.91</td>
</tr>
<tr>
<td>Altered blood pressure</td>
<td>0.86</td>
<td>0.85</td>
<td>0.85</td>
<td>0.88</td>
<td>0.88</td>
<td>0.88</td>
</tr>
<tr>
<td>Risk for impaired cardiac function</td>
<td>0.90</td>
<td>0.90</td>
<td>0.91</td>
<td>0.91</td>
<td>0.91</td>
<td>0.91</td>
</tr>
<tr>
<td>Nasal bleeding</td>
<td>0.83</td>
<td>0.82</td>
<td>0.83</td>
<td>0.81</td>
<td>0.83</td>
<td>0.84</td>
</tr>
<tr>
<td>Risk for hemorhaging</td>
<td>0.88</td>
<td>0.86</td>
<td>0.87</td>
<td>0.88</td>
<td>0.90</td>
<td>0.88</td>
</tr>
<tr>
<td>Risk for deep vein thrombosis</td>
<td>0.89</td>
<td>0.88</td>
<td>0.87</td>
<td>0.90</td>
<td>0.90</td>
<td>0.90</td>
</tr>
<tr>
<td>Impaired walking</td>
<td>0.90</td>
<td>0.89</td>
<td>0.89</td>
<td>0.94</td>
<td>0.90</td>
<td>0.90</td>
</tr>
<tr>
<td>High peripheral sensory perception</td>
<td>0.79</td>
<td>0.82</td>
<td>0.83</td>
<td>0.78</td>
<td>0.76</td>
<td>0.77</td>
</tr>
<tr>
<td>Acute pain</td>
<td>0.83</td>
<td>0.82</td>
<td>0.87</td>
<td>0.84</td>
<td>0.86</td>
<td>0.83</td>
</tr>
<tr>
<td>Acute chest pain</td>
<td>0.79</td>
<td>0.76</td>
<td>0.79</td>
<td>0.62</td>
<td>0.78</td>
<td>0.80</td>
</tr>
<tr>
<td>Chronic pain</td>
<td>0.84</td>
<td>0.84</td>
<td>0.86</td>
<td>0.62</td>
<td>0.81</td>
<td>0.86</td>
</tr>
<tr>
<td>Musculoskeletal pain</td>
<td>0.86</td>
<td>0.85</td>
<td>0.87</td>
<td>0.87</td>
<td>0.85</td>
<td>0.86</td>
</tr>
<tr>
<td>Impaired ability to manage medication regime</td>
<td>0.81</td>
<td>0.83</td>
<td>0.83</td>
<td>0.78</td>
<td>0.79</td>
<td>0.80</td>
</tr>
<tr>
<td>Fear</td>
<td>0.86</td>
<td>0.88</td>
<td>0.85</td>
<td>0.85</td>
<td>0.87</td>
<td>0.87</td>
</tr>
<tr>
<td>Anxiety</td>
<td>0.88</td>
<td>0.88</td>
<td>0.89</td>
<td>0.90</td>
<td>0.87</td>
<td>0.88</td>
</tr>
<tr>
<td>Low knowledge of treatment regime</td>
<td>0.90</td>
<td>0.90</td>
<td>0.91</td>
<td>0.91</td>
<td>0.91</td>
<td>0.89</td>
</tr>
<tr>
<td>Impaired adaptation</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.86</td>
<td>0.88</td>
<td>0.87</td>
</tr>
<tr>
<td>Negative quality of life</td>
<td>0.86</td>
<td>0.87</td>
<td>0.88</td>
<td>0.82</td>
<td>0.86</td>
<td>0.85</td>
</tr>
<tr>
<td>Non adherence to therapeutic regime</td>
<td>0.90</td>
<td>0.90</td>
<td>0.91</td>
<td>0.91</td>
<td>0.90</td>
<td>0.88</td>
</tr>
<tr>
<td>Lack of Family support</td>
<td>0.83</td>
<td>0.82</td>
<td>0.82</td>
<td>0.85</td>
<td>0.82</td>
<td>0.83</td>
</tr>
<tr>
<td>Impaired ability of caregiver to perform caretaking</td>
<td>0.85</td>
<td>0.86</td>
<td>0.86</td>
<td>0.84</td>
<td>0.84</td>
<td>0.85</td>
</tr>
</tbody>
</table>
Regarding the experts’ evaluation in relation to the applicability of nursing interventions, only the group of interventions for the diagnoses of High peripheral sensory perception and Inflammation did not reach a CI greater than 0.8. Table 3 presents the concordance indexes of the nursing intervention groups that were validated. The main nursing intervention of each diagnosis was also presented. The complete presentation of interventions is available for consultation online.

### Table 3. Nursing diagnosis with groups of interventions validated by expert nurses

<table>
<thead>
<tr>
<th>Nursing diagnosis with validated group of interventions/Main group intervention</th>
<th>Concordance index</th>
<th>Adequacy</th>
<th>Pertinence</th>
<th>Clarity</th>
<th>Accuracy</th>
<th>Objectivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyspnea/Elevating the chest</td>
<td>0.92</td>
<td>0.94</td>
<td>0.94</td>
<td>0.92</td>
<td>0.91</td>
<td>0.90</td>
</tr>
<tr>
<td>Impaired respiratory system function/Assessing respiratory status</td>
<td>0.90</td>
<td>0.90</td>
<td>0.91</td>
<td>0.88</td>
<td>0.91</td>
<td>0.88</td>
</tr>
<tr>
<td>Low blood oxygen saturation/Monitoring blood oxygen saturation using pulse oximeter or arterial blood gas, if indicated</td>
<td>0.89</td>
<td>0.89</td>
<td>0.90</td>
<td>0.89</td>
<td>0.90</td>
<td>0.87</td>
</tr>
<tr>
<td>Cough/Observe cough: frequency, onset, duration, intensity, associated signs and symptoms, precipitating factors, attenuating factors</td>
<td>0.84</td>
<td>0.84</td>
<td>0.83</td>
<td>0.85</td>
<td>0.82</td>
<td>0.83</td>
</tr>
<tr>
<td>Unilateral peripheral edema/Obtaining data on edema: evaluating the Godet sign daily and observing associated signs and symptoms (pain,stuffing, heat, blisters)</td>
<td>0.88</td>
<td>0.88</td>
<td>0.88</td>
<td>0.89</td>
<td>0.89</td>
<td>0.88</td>
</tr>
<tr>
<td>Chronic peripheral edema/Encourage resting if there is edema or discomfort</td>
<td>0.83</td>
<td>0.80</td>
<td>0.82</td>
<td>0.85</td>
<td>0.84</td>
<td>0.81</td>
</tr>
<tr>
<td>Impaired skin integrity/Obtaining data on skin: integrity, hydration, coloring and presence of other changes</td>
<td>0.85</td>
<td>0.85</td>
<td>0.86</td>
<td>0.85</td>
<td>0.84</td>
<td>0.85</td>
</tr>
<tr>
<td>Risk for medication side effect/Monitor occurrence of bleeding</td>
<td>0.84</td>
<td>0.84</td>
<td>0.84</td>
<td>0.82</td>
<td>0.84</td>
<td>0.85</td>
</tr>
<tr>
<td>Fever/Monitoring signs and symptoms of infection</td>
<td>0.82</td>
<td>0.78</td>
<td>0.83</td>
<td>0.84</td>
<td>0.84</td>
<td>0.83</td>
</tr>
<tr>
<td>Risk for fall/Identifying patients at high risk for fall and informing the team according to institutional protocol (bracelet, identification in the medical record)</td>
<td>0.88</td>
<td>0.88</td>
<td>0.88</td>
<td>0.90</td>
<td>0.87</td>
<td>0.88</td>
</tr>
<tr>
<td>Risk for infection/Training staff for environmental sanitation and precaution techniques, as needed</td>
<td>0.85</td>
<td>0.86</td>
<td>0.86</td>
<td>0.85</td>
<td>0.83</td>
<td>0.83</td>
</tr>
<tr>
<td>Impaired peripheral tissue perfusion/Obtaining data on peripheral tissue perfusion (peripheral capillary perfusion, peripheral pulse, edema, cyanosis)</td>
<td>0.86</td>
<td>0.88</td>
<td>0.88</td>
<td>0.85</td>
<td>0.85</td>
<td>0.86</td>
</tr>
<tr>
<td>Impaired vascular process/Monitoring tissue perfusion: assessing daily changes in tissue perfusion or skin; assessing ecodoppler examination result</td>
<td>0.87</td>
<td>0.86</td>
<td>0.87</td>
<td>0.86</td>
<td>0.88</td>
<td>0.88</td>
</tr>
<tr>
<td>Tachycardia/Monitoring vital signs</td>
<td>0.86</td>
<td>0.85</td>
<td>0.87</td>
<td>0.90</td>
<td>0.85</td>
<td>0.85</td>
</tr>
<tr>
<td>Impaired cardiovascular system/Monitoring cardiac condition during acute phase of venous thromboembolism by checking frequency, rhythm and alterations in the electrocardiographic tracing</td>
<td>0.90</td>
<td>0.90</td>
<td>0.90</td>
<td>0.92</td>
<td>0.90</td>
<td>0.89</td>
</tr>
<tr>
<td>Altered blood pressure/Implement cardiopulmonary physical examination by considering signs of low output and respiratory pattern</td>
<td>0.87</td>
<td>0.96</td>
<td>0.96</td>
<td>0.98</td>
<td>0.97</td>
<td>0.88</td>
</tr>
<tr>
<td>Risk for impaired cardiac function/Assessing signs of low cardiac output: oliguria, filiform pulse, cold extremities, and hypotension</td>
<td>0.84</td>
<td>0.84</td>
<td>0.84</td>
<td>0.86</td>
<td>0.85</td>
<td>0.80</td>
</tr>
<tr>
<td>Nasal bleeding/Evaluating bleeding</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
<td>0.97</td>
<td>0.88</td>
<td>0.87</td>
</tr>
<tr>
<td>Risk for hemorrhaging/Evaluating signs and symptoms of bleeding in integumentary, intestinal, urinary and respiratory systems</td>
<td>0.87</td>
<td>0.88</td>
<td>0.88</td>
<td>0.87</td>
<td>0.88</td>
<td>0.88</td>
</tr>
<tr>
<td>Risk for deep vein thrombosis/Teaching about anticoagulant therapy: objective, importance of adherence, duration, side effects, follow-up consultations and situations to seek health care</td>
<td>0.91</td>
<td>0.91</td>
<td>0.90</td>
<td>0.92</td>
<td>0.90</td>
<td>0.90</td>
</tr>
<tr>
<td>Acute pain/Obtaining pain data (characteristics of pain, including location, onset, duration, frequency, quality, intensity, precipitating factors, mitigating factors, and use of pain medication)</td>
<td>0.85</td>
<td>0.84</td>
<td>0.87</td>
<td>0.85</td>
<td>0.83</td>
<td>0.86</td>
</tr>
<tr>
<td>Chronic pain/Providing guidance for patient and family on pain management (time of pharmacological analgesia, concomitant drugs, use of non-pharmacological techniques for pain relief)</td>
<td>0.85</td>
<td>0.81</td>
<td>0.85</td>
<td>0.87</td>
<td>0.86</td>
<td>0.87</td>
</tr>
<tr>
<td>Musculoskeletal pain/Guiding to rest and lift limbs for discomfort relief</td>
<td>0.85</td>
<td>0.85</td>
<td>0.84</td>
<td>0.86</td>
<td>0.84</td>
<td>0.85</td>
</tr>
<tr>
<td>Impaired ability to manage medication regime/Obtaining data on ability to perform care: ability of reading, understanding orientations, motor ability</td>
<td>0.91</td>
<td>0.90</td>
<td>0.91</td>
<td>0.90</td>
<td>0.92</td>
<td>0.91</td>
</tr>
<tr>
<td>Fear/Offering emotional support: performing active listening, user embrace, touching</td>
<td>0.86</td>
<td>0.85</td>
<td>0.85</td>
<td>0.88</td>
<td>0.87</td>
<td>0.83</td>
</tr>
<tr>
<td>Anxiety/Obtaining data on anxiety (onset, associated symptoms, precipitating factors)</td>
<td>0.87</td>
<td>0.88</td>
<td>0.87</td>
<td>0.88</td>
<td>0.86</td>
<td>0.87</td>
</tr>
<tr>
<td>Lack of knowledge of treatment regime/Obtaining knowledge data about treatment regime: time of treatment, dose, schedule of administration, side effects, warning signs and outpatient follow-up</td>
<td>0.87</td>
<td>0.88</td>
<td>0.89</td>
<td>0.88</td>
<td>0.86</td>
<td>0.85</td>
</tr>
<tr>
<td>Impaired adaptation/Protect patients’ autonomy</td>
<td>0.85</td>
<td>0.83</td>
<td>0.84</td>
<td>0.88</td>
<td>0.85</td>
<td>0.84</td>
</tr>
<tr>
<td>Negative quality of life/Promoting social support: identifying social support network, calling family and/or caregiver to participate in care; identifying basic health unit of reference, referring to social services</td>
<td>0.85</td>
<td>0.87</td>
<td>0.87</td>
<td>0.85</td>
<td>0.83</td>
<td>0.84</td>
</tr>
<tr>
<td>Non adherence to therapeutic regime/Obtaining data on adherence barriers: difficulty with understanding, functional illiteracy, lack of social/family support</td>
<td>0.89</td>
<td>0.89</td>
<td>0.89</td>
<td>0.90</td>
<td>0.90</td>
<td>0.90</td>
</tr>
<tr>
<td>Lack of family support/Calling the family and guiding on the importance of participation for therapeutic success</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>0.82</td>
<td>0.80</td>
</tr>
<tr>
<td>Impaired ability of caregiver to perform caretaking/Facilitating family’s ability to participate in the care plan; including them in guidelines on disease and therapeutic regime; invite other family members to participate in orientations; teaching the form of medication administration</td>
<td>0.85</td>
<td>0.84</td>
<td>0.86</td>
<td>0.85</td>
<td>0.86</td>
<td>0.85</td>
</tr>
</tbody>
</table>

**Discussion**

The present study allowed the development and validation of an ICNP terminology subset for patients with cancer-associated venous thromboembolism that was organized according to Wanda Horta's Theory of Basic Human Needs. Of the 37 diagnoses presented, 91.9% had a CI ≥0.8, as well as 94.6% of the nursing interventions group. At the end, was proposed the inclusion of four nursing diagnoses as pre-coordinated concepts in the ICNP.

The high number of diagnoses considered as valid can be attributed to the wide bibliographical review and pertinent references to the proposed theme. By grouping empirical evidence, unilateral peripheral edema was the most prevalent evidence. Peripheral edema corresponds to a nursing diagnosis validated by the International Classification for Nursing Practice as a pre-coordinated concept. However, using the term ‘unilateral’, from the Location axis for developing the diagnosis of Unilateral peripheral edema is very important, since edema caused by thrombosis is unilateral and the name ‘peripheral edema’ alone does not bring specificity to the care of individuals affected by this comorbidity. Bilateral symmetrical edema may be related to any circulatory alteration, such as congestive heart failure, nephrotic syndrome or lymphedema, for example.\(^\text{11,12}\)

The diagnosis Chronic peripheral edema was constructed to differentiate patients with post-thrombotic syndrome, who have chronic venous insufficiency, since this sign is one of its manifestations.\(^\text{13,14}\) Although validated with CI 0.82, some experts suggested no specification of chronicity, because nursing interventions are similar in acute and chronic phases. Another expert suggested adding the term ‘unilateral’ as well, just as in the acute phase.

The nursing diagnosis was maintained because of its specificity. The post-thrombotic syndrome affects about 20 to 50% of patients and results in a reduction of individuals’ productive capacity, besides high costs to the health system related to its treatment.\(^\text{15}\) An attempt to decrease or even eliminate the occurrence of chronic peripheral edema reduces the risk of unfavorable signs and symptoms to the individual, such as the formation of venous ulcers, local dermatitis and severe chronic pain.\(^\text{13,14,16}\)

Blood oxygen saturation is a term of the Focus axis. The judgement ‘low’ was added in order to specify the hypoxemia picture presented by many patients with pulmonary embolism.\(^\text{17}\) Such a diagnosis reached CI 0.86 and is important, since it allows that nurses and the entire health team evaluate the aggravation or improvement of the impaired gas exchange picture. It also allows the evaluation of response to the adopted respiratory therapy.

Another case of nursing diagnosis construction by using a term of the Focus axis with a term of the Judgment axis was Impaired vascular process. The diagnosis was constructed based on evidence of circulatory changes originating from the obstruction in veins of affected extremities.\(^\text{18}\) Despite reaching CI 0.84, some experts questioned the similarity with the diagnosis Impaired peripheral tissue perfusion. In fact, peripheral circulatory alteration interferes with tissue perfusion. The latter is already a validated diagnosis in the ICNP 2017, hence the suggestion to maintain only this diagnosis in order to avoid ambiguity and uncertainty for nurses’ clinical judgment.

Nasal bleeding was a diagnosis constructed with terms of the Focus axis and the Location axis. Since bleeding is clinical evidence, there was no need to add a term from the Judgment axis.\(^\text{8}\) In spite of its validation with CI 0.83, the diagnosis was based on evidence of hemoptysis in cases of pulmonary embolism.\(^\text{13,19}\)

One of the experts questioned the fact that nasal bleeding is more appropriate to characterize the epistaxis condition, since hemoptysis is usually identified in cases of cough with bloody discharge. Another expert suggested the diagnosis should not be included and that evidence of hemoptysis should be part of the diagnoses Risk for hemorrhaging or Cough, validated with CI 0.88 and 0.81, respectively.

According to the Virtual Health Library, hemoptysis corresponds to a Health Sciences Descriptor (DeCS). Its definition is “To expectorate or spit blood originating from any part of the respiratory
tract, usually from hemorrhage in pulmonary parenchyma (pulmonary alveoli) and bronchial arteries. Therefore, by considering the data presented, is offered the suggestion to keep only the diagnoses Risk of hemorrhaging and Cough, because of the risk of ambiguity for nurses’ judgment, even after validation by the experts.

The diagnosis of Musculoskeletal pain was constructed only with one term of the Focus axis, as it corresponds to clinical evidence. Although validated with CI 0.86, some experts questioned its inclusion in the subset, because this diagnosis is not accurate for deep vein thrombosis - it can be triggered in any painful condition of the calf - as evidenced by a literature review. (18)

Since this diagnosis can also generate confusion or be inserted in a picture of Acute pain or Chronic pain, an expert suggested its exclusion, because reducing the amount of diagnoses facilitates nurses’ fast clinical decision making. Nursing interventions are also similar and, furthermore, interventions for diagnoses associated with the condition, such as Impaired walking (Walk) and Risk for fall, have similar empirical evidence. In view of the above, is proposed the exclusion of this diagnosis from the terminology subset.

The Low knowledge of treatment regime was approved with CI 0.90. The experts understand that, from educational interventions, one can optimize adherence to anticoagulant treatment and generate more safety throughout its course. Adherence to treatment will often be low due to lack of knowledge about it. The literature demonstrates that a better understanding of thrombosis and its treatment can reduce anxiety and increase adherence to treatment, and decrease the risk of side effects. (13)

Even though Inflammation is present in cancer patients with deep vein thrombosis, this diagnosis stands out among the non-validated diagnoses. None of its evaluated criteria reached a concordance index higher than 0.8. For validators, the symptoms related to inflammation (pain, erythema and edema) are more perceptible and susceptible to management by nursing interventions. Therefore, they deemed as more appropriate to maintain diagnoses related to symptomatology.

It is noteworthy that not only the experts in this study did not use the ICNP® term ‘Inflammation’. In the literature review, only one article cited the word Inflammation as one of the signs observed in cases of deep vein thrombosis in patients with central venous catheter. (12) In the same study, other isolated signs also appear in the characterization of the picture, such as pain and peripheral edema. Other studies presented only isolated terms such as edema, heat, erythema, and pain for describing the clinical picture, without mentioning the word inflammation. (11,13,20,21)

Regarding nursing interventions, the non-validated percentage (5.4%) is below the value found in other validation studies of ICNP® terminology subsets, in which were shown up to 22.6% of non-validated interventions. (4,22,23) This fact may be related to a methodological bias in this study, which refers to the impossibility of the expert performing the evaluation of nursing interventions separately. The expert evaluated a group of interventions for a given nursing diagnosis. In order to minimize this bias, there was a space for registration of comments (free from suggestions) that served for adjusting the interventions.

During the development of nursing diagnosis and intervention statements, there was no need to create any additional term other than those already included in the ICNP® 2017. The suggestions derived from the present study are in accordance with a study in which, throughout the updates of ICNP® versions, was observed an increased number of pre-coordinated concepts (nursing diagnoses/outcomes and interventions) and a decreased percentage participation of primitive concepts inserted in the Seven Axes Model. (24) This demonstrates the ICNP® currently maintains a set of sufficiently broad terms for the development of nursing statements in different scenarios and with a diverse clientele.

After the validated and suggested modifications, was proposed the ICNP® terminology subset for patients with cancer-associated venous thromboembolism. It contained 31 nursing diagnoses, of which 27 were already included as pre-coordinated concepts of the ICNP® and four suggestions of insertion, namely: Unilateral peripheral edema; Chronic
peripheral edema; Low blood oxygen saturation; and Low knowledge of treatment regime.

When organizing the nursing diagnoses by Wanda Horta’s BHN theory, it was found that 18 BHN of the psychobiological and psychosocial categories were contemplated. Eleven were psychobiological needs and seven were psychosocial needs. The most affected needs were of psychobiological level (61%), as follows: vascular regulation, pain perception, oxygenation and cutaneous/mucosal integrity/physical integrity, and these data are in line with another study in which were identified the main affected basic human needs.\(^{25}\)

The contemplated BHNs demonstrate that nursing care for patients with cancer-associated venous thromboembolism must cover individuals in their entirety. The biological repercussions of the pathology should be identified, as well as the family and social repercussions. Given the aforementioned facts, the material is expected to facilitate nurses’ clinical reasoning and decision making.

The following limitations were found while conducting this study: the scarce use of studies with high level of scientific evidence and of studies specifically on nursing, and the group validation of nursing interventions for each diagnosis.

Revalidation of the ICNP® terminology subset is suggested after the experts’ changes. The clinical validation of nursing diagnoses and interventions is also suggested, as well as submission of the five developed diagnoses to the International Council of Nurses.

**Conclusion**

The purpose of this study was reached from the development of the subset of nursing diagnosis, outcomes and interventions statements, which can serve as an easy-access reference for nurses at their point of care. They may develop individualized care plans and thus, offer a more reflexive, evidence-based practice to patients with cancer-associated venous thromboembolism. From the use of this subset of nursing diagnosis, outcomes and interventions statements, it is expected that nurses can develop individualized care plans by optimizing the available time to patients during care, offering an evidence-based practice to patients with cancer-associated venous thromboembolism, and increasing the visibility of nurses’ work process before the health team.

**Collaborations**

Vidigal PD, Garcia TR, Santos MLSC, Camacho ACLF, Souto MD, Borges GG and Fuly PS declare that they contributed to the study design, data analysis and interpretation, article writing, critical review of intellectual content and final approval of the version to be published.

**References**


Clinical indicators for knowledge assessment of venous ulcer patients
Indicadores clínicos para evaluar el conocimiento de pacientes con úlceras venosas

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Abstract
Objetivos: Selecionar, desenvolver e validar as definições dos indicadores clínicos do resultado “Conhecimento: Controle da Doença Crônica” da Nursing Outcomes Classification (NOC) para pacientes com úlcera venosa (UVe).

Métodos: Estudo de validação por consenso de especialistas, realizado em um hospital universitário em 2017. Participaram do estudo 10 especialistas com experiência na utilização da NOC e no cuidado aos pacientes com UVe. A coleta de dados ocorreu por meio de encontro presencial com os especialistas, que validaram os indicadores previamente selecionados pelos pesquisadores. Posteriormente, foram desenvolvidas as definições conceituais e operacionais de nove indicadores selecionados, em consonância com os especialistas. Na sequência, os especialistas responderam a um instrumento no google form para contribuir com os refinamentos das definições conceituais e operacionais dos indicadores e, por fim, houve no encontro presencial, onde os especialistas validaram os indicadores e suas definições, considerando-se a concordância de 100%.

Resultados: Os nove indicadores selecionados e validados, com suas definições conceituais e operacionais foram: benefícios do controle da doença; sinais e sintomas da doença crônica; estratégias de prevenção UVe complicações; estratégias para equilibrar atividade e repouso; estratégias de controle da dor; procedimentos envolvidos no regime de tratamento; responsabilidades pessoais com o regime de tratamentos e recursos financeiros para assistência.

Conclusão: Os indicadores clínicos selecionados e validados, por consenso de especialistas, poderão auxiliar enfermeiros no planejamento de intervenções e na avaliação dos resultados sobre o conhecimento do paciente referente aos cuidados no tratamento e prevenção da UVe.

Resumen
Objetivos: Seleccionar, desarrollar y validar las definiciones de los indicadores clínicos del resultado “Conocimiento: Control de la Enfermedad Crónica” de Nursing Outcomes Classification (NOC) para pacientes con úlcera venosa (UVe).

Métodos: Estudio de validación por consenso de especialistas, realizado en un hospital universitario en 2017. Participaron del estudio 10 especialistas con experiencia en el uso de NOC y en el cuidado a los pacientes con UVe. La recolección de datos ocurrió por medio de encuentro presencial con los especialistas, que validaron los indicadores previamente seleccionados por los investigadores. Posteriormente, se desarrollaron las definiciones conceptuales y operacionales de nueve indicadores seleccionados, en consonancia con la literatura y la experiencia clínica de los especialistas. Además, los expertos respondieron a un instrumento en Google Forms para contribuir con el refinamiento de las definiciones conceptuales y operacionales de los indicadores y, por último, hubo una nueva reunión presencial, donde los expertos validaron los indicadores y sus definiciones, considerándose la concordancia del 100%.

Resultados: Los nueve indicadores seleccionados y validados, con sus definiciones conceptuales y operacionales fueron: beneficios del control de la enfermedad; signos y síntomas de la enfermedad crónica; estrategias de prevención UVe complicaciones; estrategias para equilibrar actividad y reposo; estrategias de control del dolor; procedimientos implicados en el régimen de tratamiento; responsabilidades personales con el régimen de tratamientos y recursos financieros para asistencia.

Conclusión: Los indicadores clínicos seleccionados e validados, por consenso de expertos, podrán ayudar a enfermeros en las intervenciones de planificación y evaluación de los resultados sobre el conocimiento del paciente referente al cuidado en el tratamiento y prevención de la UVe.

How to cite:
Introduction

Chronic venous insufficiency (CVI) is associated with impairment of the venous system of the lower limbs due to obstruction, valve incompetence and/or calf muscle failure. The final stage of CVI is characterized by the appearance of the venous ulcer (VU), which affects approximately 70% to 90% of this population, with a prolonged healing process, reaching a relapse rate of 40% after healing.

Therapeutic management involves topical care of the lesion, compression therapy associated or not to invasive treatments for the control of venous hypertension, adoption of healthy life habits and control of chronic diseases such as diabetes and hypertension. The combination of care is intended to manage the underlying disease that triggers the injury, as well as to minimize the factors that hinder the tissue repair process. The difficulty in healing the lesion and the high relapse rates are related to the patient’s lack of knowledge about his/her disease and therapeutic process through.

Therefore, it is believed that the patient’s knowledge about the etiology, treatment, prevention of VU relapse turns him into an active participant in care. In this sense, the nurse’s role as a patient educator is fundamental, as clarification about the illness and daily care, which are essential, provide favorable conditions for healing and prevention of VU.

Therefore, as a starting point, it is necessary to evaluate the patients’ knowledge about their chronic illness, in order to plan the necessary care guidelines. This evaluation becomes accurate when the nurse uses a standardized classification system, which measures the results or the effectiveness of the implemented actions, in order to consolidate evidence-based behaviors.

One of the nursing classification systems that evaluates the response of nursing interventions and helps determine changes in care is the Nursing Outcomes Classification (NOC), which presents indicators and scales capable of assessing the patient’s state at defined intervals according to the nurse’s clinical judgment. Studies have shown that the use of this classification favors the evaluation of different groups of patients, but no study was found that evaluates VU patients’ knowledge on their disease.

The “Knowledge: Chronic Disease Management (1847)” outcome of the NOC is part of domain IV (Health Knowledge and Behavior) and is defined as the extent of understanding about a specific chronic disease, as well as its treatment and prevention of disease progression and complications. There are 30 indicators, which are measured on a five-point Likert scale, with five being considered the best score and one the worst score. Further definition is needed though as to which of these indicators is more applicable to VU patients. Thus, which are the indicators of the NOC outcome “Knowledge: Chronic Disease Management” that are best suited to assess the patient’s knowledge about his or her chronic disease, and what are their conceptual and operational definitions?

The relevance of the study is in the selection of indicators applicable in the actual care scenario for VU patients, as well as in the development of their conceptual and operational definitions, permitting less subjectivity in the evaluation of the patients.

Therefore, this study aims to select, develop and validate the definitions of the clinical indicators of the Nursing Outcomes Classification (NOC) “Knowledge: Chronic Disease Management” outcome for VU patients.

Methods

A validation study was undertaken by expert consensus, which permits reaching a collective opinion or agreement on a phenomenon among the participants, being applicable in the refinement of standardized nursing languages. The study was carried out in the outpatient clinic of a high-complexity university hospital in the South of Brazil from March to November of 2017.

The convenience sample consisted of ten nurse specialists. The inclusion criteria adopted were clinical experience in care for VU patients and in the use of the NOC for at least one year, besides having participated in courses or congresses in the area of

training for chronic wound treatment. The number of specialists and the inclusion criteria were defined based on previous studies performed in different scenarios.\(^{(8,9,11,12)}\)

For the data collection, first, the specialists were invited to participate voluntarily in a face-to-face meeting, in which the proposal of the study and the indicators of the NOC outcome “Knowledge: Chronic Disease Management”, previously selected by the researchers, were presented. The researchers also possess clinical experience in care for VU patients and in NOC use. During this meeting, the experts could include or exclude clinical indicators of the outcome “Knowledge: Chronic Disease Management (1847)”. The pre-selection of the indicators took into account that there are 30 indicators for this outcome, and that applying all of them would be unfeasible in clinical practice. Therefore, the indicators were preselected that could best assess the knowledge of VU patients due to CVI, based on the literature, which were later validated by the experts. After selecting the indicators, their conceptual and operational definitions were elaborated, considering the magnitude on the five-point Likert scale for each selected indicator.\(^{(7)}\) To elaborate these definitions, the literature was consulted in the databases SciELO, Excerpta Medica Database (EMBASE) and Literatura Latino Americana em Ciências da Saúde e do Caribe (LILACS) and MEDLINE, using the descriptors: Nursing Care, Varicose Ulcer, Prevention & Control; Risk Factors. Full articles were considered, published between 2013 and 2017 in Portuguese, Spanish and English.

Next, the experts responded to a questionnaire formatted in Google Forms, which covered aspects related to their professional characteristics, as well as the conceptual and operational definitions developed. Through the alternatives (I fully agree, I partially agree, I neither disagree nor agree, I disagree, I strongly disagree), the relevance and clarity were assessed and corrections were suggested to refine the definitions.

Finally, there was an additional face-to-face meeting between the specialists and the researchers to reach a final consensus on the selection of the indicators and the conceptual and operational definitions of each of the validated clinical indicators.

For the final consensus among the experts, a 100% agreement was considered.

The study complied with National Health Council Resolution 466 from 2012. All participants signed the Free and Informed Consent Form and the project received approval from the Ethics and Research Committee of the institution (Certificate of Presentation for Ethical Appreciation: 53362816.1.0000.5327/Opinion: 1.904.412).

**Results**

Ten nurse experts participated in the study, being four Ph.D.’s who work in nursing care, teaching and research in wound care and use nursing classifications, three wound specialists who provide care to VU patients with one, five and 18 years of experience, respectively. One M.Sc. active in research and teaching for five years, and two nursing graduates, one with five and one with 10 years of experience in the field of study. All the specialists had already participated in courses, congresses and training in the area of chronic wound treatment.

The outcome Knowledge: Chronic Disease Management (1847) has 30 indicators, nine of which were pre-selected by the researchers and later validated by expert consensus. For all of them, conceptual and operational definitions were elaborated, which were also validated by consensus. These outcomes are presented in chart 1.

It is highlighted that the outcome “Chronic Disease Management (1847)” has 21 other indicators, namely “Correct use of the prescribed medication”, “Medication therapeutic effects”, “Medication side effects”, “Medication adverse effects”, “Potential medication interactions”, “Usual course of disease”, “Signs and symptoms of disease progression”, “Signs and symptoms of complications”, “Actions to take in an emergency”, “Strategies to cope with adverse effects of disease”, “Available treatment options”, “Reputable sources of chronic disease information related to disease”, “When to obtain assistance from a health professional”, “Available
## Chart 1. Indicators, conceptual and operational definitions and magnitude of operational definition of outcome “Knowledge: Chronic Disease Management (1847)” in the Nursing Outcomes Classification

<table>
<thead>
<tr>
<th>Indicator, numerical code and conceptual definition</th>
<th>Operational definition of indicator</th>
<th>Magnitude on Likert scale for application of indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cause and contributing factors (184701): Patient knows the causes and factors that contribute to the development and relapse of VU.</strong></td>
<td>Ask the patient if he knows the causes and factors contributing to the development and relapse of VU. The patient is expected to answer: - Report genetic factors, overweight, multiple pregnancies, female sex, decompensated chronic conditions; - Be a smoker; - Suffer from diseases with circulatory problems; - Present failure of the calf muscle due to age and sedentariness; Include: not using compression therapy after healing / not performing skin hydration and avoiding traumas / not performing ankle flexion and extension exercises / not raising lower limbs - Not performing compression therapy, skin hydration, lower limb raising, isometric lower limb exercises. Include: not using compression therapy after healing / not performing skin hydration and avoiding traumas / not performing ankle flexion and extension exercises / not raising lower limbs</td>
<td>1. Patient is unable to report the causes and factors contributing to the development and relapse of VU; 2. Patient reports one cause and/or factor contributing to the development and relapse of VU; 3. Patient reports two causes and/or factors contributing to the development and relapse of VU; 4. Patient reports three causes contributing to the development and relapse of VU; 5. Patient reports more than three causes and/or factors contributing to the development and relapse of VU and describes them properly.</td>
</tr>
<tr>
<td><strong>Benefits of disease management (184703): Patient knows the benefits of chronic disease – CVI management in his daily and social life.</strong></td>
<td>Ask the patient if he knows the benefits of CVI management. The patient is expected to answer: - Perform self-care without constraints; - Perform habitual and social activities; - Walk unrestrictedly; - Achieve wound healing and prevent relapse; - Reduce pain; - Prevent circulatory complications such as thrombosis.</td>
<td>1. Patient is unable to report the benefits of CVI management; 2. Patient reports one benefit of CVI control; 3. Patient reports two benefits of CVI control; 4. Patient reports three benefits of CVI control; 5. Patient reports more than three benefits of CVI control and describes them properly.</td>
</tr>
<tr>
<td><strong>Signs and symptoms of chronic disease (184704): Patient knows the signs and/or symptoms of CVI.</strong></td>
<td>Ask the patient if he knows the signs and symptoms of CVI. The patient is expected to answer: - Present varicose veins; telangiectasia; edema; hyperpigmentation; eczema; venous ulcer; - Feeling pain in lower limbs: feeling of fatigue and weight in the lower limbs; pruritus and heat in the lower limbs.</td>
<td>1. Patient does not know any sign and/or symptom of CVI; 2. Patient knows at least one sign and/or symptom of CVI; 3. Patient knows two signs and/or symptoms of CVI; 4. Patient knows three signs and/or symptoms of CVI; 5. Patient knows more than three signs and/or symptom of CVI and describes them properly.</td>
</tr>
<tr>
<td><strong>Strategies to prevent complications (184705): Patient knows the care to prevent the complications of CVI, VU and relapse.</strong></td>
<td>Ask the patient if he knows the strategies to prevent complications of CVI, VU and relapse. The patient is expected to answer: - Avoid long periods sitting or standing.; - Mix physical activities with rest; - Raise lower limbs above the level of the heart; - Walk periodically.</td>
<td>1. Patient does not know the strategies to prevent complications of CVI, VU and relapse; 2. Patient mentions knowing one strategy to prevent complications of CVI, VU and relapse; 3. Patient mentions knowing one strategy to prevent complications of CVI, VU and relapse; 4. Patient knows three strategies to prevent complications of CVI, VU and relapse; 5. Patient clearly describes and knows more than three strategies to prevent the complications of CVI, VU and relapse.</td>
</tr>
<tr>
<td><strong>Strategies to balance activity and rest (184708): Patient knows the strategies to balance activity and rest in CVI management.</strong></td>
<td>Ask the patient if he knows the strategies to balance activity and rest in CVI control. The patient is expected to answer: - Perform isometric exercises of the lower limbs; - Walk regularly using compression therapy as indicated; - Mix physical activities with rest; - Avoid long periods sitting or standing..</td>
<td>1. Patient does not know the strategies to balance activity and rest in CVI control; 2. Patient knows one strategy to balance activity and rest in CVI control; 3. Patient knows two strategies to balance activity and rest in CVI control; 4. Patient knows three strategies to balance activity and rest in CVI control; 5. Patient knows more than three strategies to balance activity and rest in CVI control and describes them properly.</td>
</tr>
<tr>
<td><strong>Strategies to manage pain (184709): Patient knows pharmacological and non-pharmacological actions for pain management.</strong></td>
<td>Ask the patient if he knows the pain management strategies. The patient is expected to answer: - Follow analgesic therapeutic plan; - Use music therapy and relaxation; - Perform effective distraction technique; - Provide a calm environment; - Perform breathing exercises; - Perform massage, movements and stretching of the limb; - Raise lower limbs; - Take a comfortable position; - Maintain the dressing occluded using anti-adhesive and moist material on the VU.</td>
<td>1. Patient does not know pain management strategies; 2. Patient knows and describes one pain management strategy; 3. Patient knows and describes two pain management strategies; 4. Patient knows and describes three pain management strategies; 5. Patient knows and properly describes more than three pain management strategies;</td>
</tr>
</tbody>
</table>
community resources”, “Cultural influences on compliance to treatment regimen”, “Importance of compliance with treatment regimen”, “Prescribed diet”, “Strategies for tobacco cessation”, “Available support groups”, “Recommended immunizations” and “Required laboratory tests”. These indicators were not selected for application in clinical practice because, according to the specialists’ expertise and the literature in the area, they would not be the most appropriate for the study population.

**Discussion**

The limitation of the study is related to the fact that the specialists were selected from a single institution, although the criteria to define the selection and achieve the study objective were rigorously applied.

The results obtained in this study can contribute to the use of a standardized nursing language, reducing the subjectivity in the evaluation of the VU patients’ knowledge on their disease. In addition, they will guide the nurse in the planning of the interventions, which will be based on individual needs.

The identification of individual needs should include the evaluation of the patient’s level of knowledge about his/her chronic illness, so that the teaching and learning process is truly effective. Thus, validated clinical indicators will ensure the identification of the patient’s baseline level of knowledge and subsequent follow-up by the nursing professional, with the possibility of demonstrating an evolution according to the suitability of the implemented nursing interventions.

The validated clinical indicator “Cause and contributing factors for the development of chronic
Clinical indicators for knowledge assessment of venous ulcer patients

disease (184701)” is related to internal and external factors that favor the development of CVI and/or VU such as hereditariness, decompensated chronic diseases, age, number of pregnancies, standing or sitting for long periods and lower limb traumas.(1-22)

Another validated clinical indicator is “Signs and Symptoms of Chronic Disease (184704)”, which assesses whether the patient identifies changes in the lower limbs. The recognition of signs and symptoms is relevant for the patient to seek help from a health professional in order to prevent complications such as dilated veins, edema, cellulitis, leg pain, hyperpigmented skin, dermatitis, lipodermatosclerosis and the final stage of CVI, which is VU.(1)

The management of venous hypertension and VU care are essential for therapeutic success and require daily and quality actions performed by the patient. These actions include the use of compression therapy and its periodic replacement, the application of dressings according to specific guidelines, the management of chronic diseases such as hypertension and diabetes to re-establish the circulation and wound healing. Based on these data, the indicator “Procedures involved in treatment regimen (184717)” was validated. In addition to these actions, studies point to the need for weight control, proper diet and hydration, a healthy lifestyle, as well as the follow-up by trained health professionals. This care can be evaluated in the validated indicator “Strategies to prevent complications (184707).”(16,23)

Research indicates that specific care is needed in the treatment of VU to enhance venous return and re-establish effective circulation, which includes compression therapy, walking, regular calf exercises and lower limb elevation.(17,18) The patients’ knowledge on these actions is necessary, as it facilitates the understanding and development of this care. To account for these aspects, the indicator “Strategies to balance activity and rest (184708)” was selected and validated.

The VU and CVI can trigger pain, so the indicator “Strategies to manage pain (184709)” becomes necessary to evaluate the patient’s knowledge on the actions practiced to reduce this discomfort, in search of a better quality of life. A Canadian study monitored pain in the healing process of patients with venous or mixed ulcers, and found that 82% of participants reported pain ranging from moderate to severe but without medication. Thus, medical follow-up with an analgesic regimen would facilitate pain control.(19) Nevertheless, it should be highlighted that non-pharmacological actions, such as music therapy, relaxation and breathing, also support pain management.

The clinical indicator “Financial resources for assistance (184725)” collaborates to evaluate the knowledge on the acquisition of resources in the control of CVI and in the healing of VU. A Brazilian study involving 51 patients with VU, 66.7% of whom were women, 58.8% lived in houses without basic sanitation network, 56.9% had never studied or had less than five years of study and 88.2% gained a family income of three minimum wages. It was also identified that 78.4% spent an average R$ 150.00 per month on dressing materials and only 29.45% received material from the public service.(20) The use of medication, as well as material for dressings, transportation and food may interfere in the treatment when financial resources are limited or inaccessible. In these situations, knowing the benefits that public entities can offer will support the therapeutic follow-up without harm to the patient.

The indicator “Personal Responsibilities for Treatment Regimen (184718)” assesses the patient’s responsibility for the treatment. The daily, continuous follow-up and educational guidelines of the professionals result in independent patients who are knowledgeable on the necessary care for healing and prevention of relapse.(21)

The patients’ quality of life is also affected by VU, due to the chronic healing process and the consequent physical and social restrictions arising from the disease process.(22) Thus, the indicator “Benefits of disease management (184703)” helps the patient to identify the gains from following the therapeutic regimen and taking control over their treatment and prevention of VU.

Studies indicate that the effective management of chronic disease, control of risk factors, and aware-
ness of prevention are associated with the patients’ knowledge and attitude to perform care in relation to their illness.\(^{24,25}\) In identifying the patients’ knowledge needs about their illness, the nurse can develop intervention strategies that can help in the success of the therapeutic plan. Based on the validated clinical indicators, it can be inferred that the patients’ knowledge on their illness can contribute to qualify the health care.

**Conclusion**

The expert validation of the clinical indicators of the NOC outcome “Knowledge: Chronic Disease Management (1847)” will aggregate scientific knowledge to nursing and can provide greater accuracy to clinical practice. The use of the NOC classification in the evaluation of knowledge on the treatment and prevention of VU allows nurses to measure the patients’ progress and intervene in their health education process, favoring care. The use of validated indicators can help to determine how each of them will be evaluated in clinical practice, aiming for greater reliability in the applicability of the NOC, with less subjectivity in the understanding of their meanings.

**Collaborations**

Osmarin VM, Bavaresco T, Lucena AF and Echer IC contributed to the project design, data analysis and interpretation, writing of the article, relevant critical review of the intellectual content and approval of the final version for publication.

**References**

Clinical indicators for knowledge assessment of venous ulcer patients


Absenteeism in the nursing team in emergency services: implications in care

Objective: In this study, the objective was to analyze how the nursing team perceives the conditions that lead to absenteeism and its implications for care at emergency medical services.

Methods: Qualitative study, developed through individual, semistructured interviews based on a script composed of the dimensions: Human Resource Management Process, Teamwork Condition and Quality of Care Provided, involving 30 nursing team professionals, including baccalaureate nurse, auxiliary nurses and nursing technicians working at five emergency services in the city of Ribeirão Preto, São Paulo. To analyze the data, thematic content analysis was used.

Results: The participants reported that the inappropriate physical structure and bad-quality equipment and material, salary issues, lack of human resources and ineffective communication are potential conditions leading to absenteeism and influence the quality of care provided.

Conclusion: The managers play a fundamental role in creating conditions that guarantee professional growth and job satisfaction to the nursing workers, leading to less absenteeism and strengthening their commitment to care quality for the population attended in the Unified Health System. Therefore, this study is considered as a tool to understand the nursing team’s perception of the conditions leading to absenteeism in emergency services.

Resumen

Objetivo: Este estudio tuvo por objeto analizar la percepción de la guía del personal de enfermería sobre las condiciones que generan el absentismo y sus implicaciones para la asistencia en unidades de urgencia y emergencia.

Métodos: Estudio cualitativo, realizado por medio de entrevistas individuales, semiestructuradas, conduzidas a partir de un roteiro norteador compuesto por las dimensiones Proceso de Gestión de Recursos Humanos; Condiciones de Trabajo en Equipo y Calidad de la Asistencia Prestada, con 30 profesionales del equipo de enfermería, siendo estos enfermeros, auxiliares y técnicos de enfermería asignados en cinco unidades de urgencia y emergencia en el municipio de Ribeirão Preto, São Paulo. Para el análisis de los datos, se utilizó el análisis de contenido, modalidad temática.

Resultados: Los participantes relataron que la estructura física inadecuada, equipos y materiales de mala calidad, cuestiones salariales, déficit de recursos humanos y comunicación ineficaz son potenciales condiciones generadoras de absentismo e influyen a la calidad de la asistencia prestada.

Conclusion: Los gestores tienen papel fundamental de crear condiciones que aseguren al trabajador de enfermería su crecimiento profesional, satisfacción con el trabajo, generando un menor absentismo y fortaleciendo su compromiso con la atención de calidad a la población atendida por el Sistema Único de Salud. Por lo tanto, considera-se este estudio una herramienta para comprender la percepción del equipo de enfermería sobre las condiciones generadoras de absentismo en servicios de urgencia y emergencia.

How to cite:


Conflicts of interest: nothing to declare.
Introduction

The absence of nursing professionals is a severe and common problem in Brazilian health services as well as internationally. To give an example, the annual cost of absenteeism for the UK national economy was estimated at about £ 1.5 billion in 2013.\(^1\) Absenteeism interferes directly in the quality of care provided and overloads the other members of the team, however, this issue becomes more delicate in Emergency Medical Services (EMS), given their specificities and the few publications on the subject involving secondary health care and EMS.

The ECS services act as “open doors”, and face serious functional problems, such as: poor physical structure, insufficient technology, shortage of equipment and materials, scarce Human Resources (HR), in addition to situations related to the work routine, interpersonal relationship and competitive climate, which can cause occupational stress and interfere in the work performance.\(^2,3\)

Absenteeism can be defined as non-attendance at the workplace by an employee previously scheduled to work and can be classified as voluntary - that is, for private reasons - and involuntary - when the worker is unable to attend -, the former referring to a decision of the employee and the second implying the employee’s incapacity to be present.\(^4\)

Thus, in this study, the proposal was to analyze the perception of the nursing team about the conditions leading to absenteeism and its implications for care in EMS.

Methods

This is a descriptive study with a qualitative approach. Qualitative research is understood as research in which one seeks to understand the meaning or to interpret the social aspects of the phenomena under study, considering the broad universe of beliefs, values, aspirations, meanings, motives and attitudes that are inserted in the world of human relations and which are not perceptible in mean and statistical variables.\(^5\)

The study was carried out in the city of Ribeirão Preto, SP, which is located in the Northeast of the state of São Paulo, Brazil. In 2014, the population of the city was estimated at 658,059 inhabitants, which turned it into the city with the highest growth among the largest cities in the state of São Paulo, with a population growth rate of 1.3%. Its Human Development Index (HDI) is 0.800, thus being considered high in relation to the country, ranking 22nd in the state.\(^6\)

The research scenarios were the EMS regionalized in five health districts located in the city of Ribeirão Preto, which provide 24-hour care for the users, attending, in addition to emergency cases, occurrences that require non-urgent care, but which the users consider as priorities.

The nursing staff, at the time of the study, consisted of 53 baccalaureate nurses and 255 auxiliary nurses and nursing technicians who worked in the EMS of the five health districts in the city. The study participants were 30 nursing team professionals (baccalaureate nurses, auxiliary nurses and nursing technicians), who were intentionally selected as key informants and were receptive and open to dialogue during the initial approach. It was understood that these would be the best informants to respond to the study theme,\(^7\) totaling two professionals from each category per EMS.

The criteria to include the participants were: belong to the permanent staff of the nursing team (baccalaureate nurse, auxiliary nurse and nursing technician) of one of the five EMS in the city; more than one year of experience at the service and not on vacation or leave of any kind during the data collection period.

Initial contact was established in the field of research at the five EMS, which the researcher visited, who held a B.Sc. in nursing at the time of data collection and was knowledgeable on qualitative methods - to discover the physical structure and the activities executed at these services, in addition to meeting with managers responsible for each service to present the project.

The data were collected from March to June 2014 through semi-structured individual interviews, lasting approximately 20 minutes each,
which were conducted and recorded by the researcher based on a guiding script, which is not a strict script as it follows a conversation mode, which aims to provide for a form of social relationship, valuing each participant’s individual participation. (8) And in order to guarantee privacy and the minimum of discomfort, the interviews were conducted in a private and reserved place, at the participant’s workplace, according to the availability of the consultation rooms at the time of the interviews. At the end of the 30 interviews, data saturation was observed, so that no further collection was necessary. (9) During these interviews, questions were asked on the HR management process, the teamwork condition and the quality of care provided, in accordance with the dimensions presented in chart 1.

Chart 1. Dimensions, their concepts and the potential conditions generating absenteeism

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Definition</th>
<th>Potential generating conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>HR management process: political and organizational dimensions and their repercussions in nursing care</td>
<td>Set of basic practices, norms and policies to conduct HR management through recruitment, selection, training, benefits and performance assessment.</td>
<td>- Number of HR - Hour load - Work schedule - Turnover at the service - Communication - Continuing education</td>
</tr>
<tr>
<td>Teamwork condition: ambience, work process, interpersonal relationships, communication flow, motivation, autonomy, health/disease, professional status</td>
<td>Set of characteristics including environment, safety, education and preparation, regulation and management, which in combination will determine the circumstances in which the workers will develop their tasks and the level of motivation to comply with the demands the service imposes.</td>
<td>- Appropriate facilities - Equipment - Available material - Employment contract - Career plan - Remuneration - Conflicts in the team</td>
</tr>
<tr>
<td>Quality of care provided (user dissatisfaction, care quality assessment indicators)</td>
<td>Level of compliance with standards and targets set by the service, in view of guiding protocols and norms for actions and practices, besides current scientific-theoretical-practical knowledge.</td>
<td>- Self-assessment - Professional satisfaction - Perceived user satisfaction</td>
</tr>
</tbody>
</table>

There was a pre-test with three professionals (two nursing technicians and one baccalaureate nurse), and these participants were not part of the study, keeping in mind that the pretesting of interview scripts may lead to modifications in the way of asking about certain subjects, and it is often necessary to give clearer explanations to the respondents about the contents that raise doubt. (13)

The interviews were transcribed and the data generated through a database using the software Atlas ti, version 7.0, through the creation of the Hermeneutic unit, which the interviews were inserted in. After a thorough reading of the interviews, the empirical material was coded, identifying the elements integrated in the object of study and creating categories.

The data were analyzed using thematic content analysis, with the following steps: data organization, considering the research objective and organizing the material to answer the validity questions regarding the completeness, representativeness, homogeneity and relevance; exploration of the empirical material, with skimming and scanning of the records, coding of the data, separation of fragments according to the convergences, divergences and unusual; and the classification and aggregation of data into thematic categories. (5)

In the analysis of the statements, the participants are presented as N (Nurse), NT (Nursing Technician) and AN (Auxiliary Nurse), identifying each participant with the initials in capital letters, followed by numbers considering the interview sequence. In relation to the services these professionals are allocated to, these will be presented as EMS1, EMS2, EMS3, EMS4 and EMS5, representing each of the districts in the city.

The Research Project received approval from the Research Ethics Committee of the University of São Paulo at Ribeirão Preto College of Nursing, on 2/12/2014 (CAAE Protocol: 20588813.0.0000.5393), in compliance with the Regulatory Guidelines and Standards for Research Involving Human Beings, approved by CNS Resolution 466/12.

Results

Thirty nursing professionals were interviewed, 10 of whom were nurses (100% of the interviewees were female); 15 ANs, 14 (86.66%) female and one (13.33%) male; and five NTs, being three (60%) female and two (40%) male. The discrepancy between the number of interviewees in categories AN and TN is due to the fact that the Municipal Health Department (SMS) and the Nursing Division (DE) in the city hire more AN when compared to the category of nursing technicians assigned to the services where the study was performed.
Of the 30 professionals interviewed, six (20%) were hired and outsourced from a private institution in the city under the Consolidated Labor Laws (CLT), while the other 24 (80%) were tenured workers affiliated with SMS. This distinction of the employment relationship among the interviewees occurs because, among the five EMS in the city, one is the Emergency Care Unit (UPA), with outsourced HR.

In addition, of the participants interviewed, one (3.33%) was between 20 and 30 years old; 14 (46.66%) were between 31 and 40 years of age; six (20%) were between 41 and 50 years old; and nine (30%) were older than 50 years.

As for the length of experience at the service, 12 (40%) were working less than five years; 13 (43.33%) had between five and ten years of experience; and five (16.66%) had been working for more than ten years.

Within the proposed objective and after the analysis and interpretation of the data, four thematic categories were obtained: 1) communication as a tool to develop teamwork, manage conflicts and minimize absenteeism; 2) career plan and salary as stimulants for the development of nursing team work; 3) employment relationship - advantages and disadvantages for the reduction of absenteeism in the nursing team; and 4) influence of facilities, materials and equipment on care provided and absenteeism.

**Communication as a tool to develop teamwork, manage conflicts and minimize absenteeism**

In the interviews, the tenured nurses pointed out that the absence of or deficiency in communication can generate an unfavorable climate among the staff and, consequently, lead the professionals to absenteeism, due to the discouragement related to the work process. Participants admitted that, sometimes, communication failures are present in the service, but always seek to solve them by managing conflicts, with the goal of providing qualified care, minimizing absenteeism and re-establishing the team’s relationship.

"Communication is essential in teamwork. [...] I think that, for him [employee] to be absent, it’s a communication error, because if he’s absent, he’s taking it to the other side [...] I think there should be more effective communication, because there needs to exist responsibility here at the service. [...] but, about the existence of error [in communication], yes there is [...] We often get into conflict with staff, but we need to aim for what’s best for the patient (N1–EMS1)."

For the tenured ANs and NTs, communication is also essential for the proper development of the work and some employees admit that they have already been absent due to unmanaged conflicts in the team.

"I have already been absent after an employee had verbally assaulted me. I got depressed and remained absent from work for two weeks [...]. Today, I talk to that person normally but, of course, this [conflicts] does make you take leave (AN1–EMS1)."

As regards the outsourced nurses’ opinion, the communication problems can influence the work environment, making the employee feel dissatisfied, but they reported good communication with the team. In those cases where conflicts occur, these are managed rapidly so as not to entail harm for the user.

"When there truly exists some disagreement, the person ends up feeling dissatisfied in the [work] environment... the disagreements are never positive aspects and do end up influencing care. I think that’s where the hierarchy should enter, in terms of nursing coordination [...]. Some disagreements have happened, except that, before things get bigger, we sit down and try to solve it. We do not let things get better (N10–EMS5)."

The NTs hired at EMS5 strengthened the nurses’ opinion on the existence of effective communication and reported that, often, conflicts occur that are not taken further and, despite the existence of conflicts, these do not interfere in the work process or in absenteeism.
I think that conflicts do not influence the absence because work is work and we are here to work [...]. Because work is work and colleague is colleague (NT4–NT5).

Career and wage plan as stimulants in the development of nursing teamwork

The absence of a career and salary plan was evidenced as a potential generator of absenteeism, due to the fact that, when asked about the existence of the plan, the interviewees referred to its absence, resulting in discouragement to develop the work.

To this day we are awaiting a career plan. [...] it is very sad because we get discouraged (AN6-EMS2).

There is none [career and wage plan]. [...] you have no incentive to take a course, to get a master’s degree. Here, people who hold a doctoral degree earn exactly like me, so what’s the difference of me doing a doctorate? (N6-EMS3).

In relation to the salary, the tenured workers considered that this was high in relation to other institutions in the city. Nevertheless, it represents a potential generator of absenteeism, considering that a lag remains in relation to the professional category. For CLT professionals, there was a feeling of injustice regarding the benefits given to tenured workers.

I see a certain injustice towards us because it is an outsourced service, but we end up working for the network. And we do not get so much recognition, we have no benefit ... it's our salary and that's it [...] (N9-EMS5).

 [...] is reasonable [the salary]. It’s even a bit better than the hospital. Even our ticket is good, then, adding up the salary and the meal coupons it’s quite reasonable actually, it’s not so bad compared to the other hospitals, although I still think we are rather neglected. It’s a lot of responsibility for little money (AN9-EMS3).

Employment bond - advantages and disadvantages for the reduction of absenteeism in the nursing team

Concerning the employment relationship for the nursing team, there are advantages and disadvantages in reducing absenteeism. For tenured employees, the benefits lie in the fact that they have a number of benefits, mainly stability, but the disadvantages are related to the difficulty of nurses to manage a team of employees considered “stable”, being supported by a statute, and the process of conduct in cases of absence or failure becomes bureaucratic. That way, many servers end up missing work without justification and this results in overworking other employees.

There are people who are one [act in a way] and work in a private hospital and there they are other completely different people [have another conduct]. Here, they are completely sloppy, uncommitted and at work outside is completely compromised (AN15-EMS4).

Being statutory and having stability is very legal [...]. At the same time, [...] I have an employee here who enters the time that wants and leaves the time that wants and when you position yourself, you say that it is not so, we have time to enter, to leave, that we take care of patient, that we have a responsibility ... “I am a civil servant, I do what I want”. This is very bad, very negative (N4-EMS2).

Influence of physical structure, materials and equipment on care provided and absenteeism

When questioned about the influence of physical structure, materials and equipment on the care provided and absenteeism, it was evidenced that such factors directly influence the quality of care and are potential conditions generating absenteeism, being positive when the institution has appropriate facilities, good equipment and quality material; and negative when the physical structure is precarious or unplanned, the equipment is scarce and/or requires a lot of maintenance and the inputs are not of good quality and/or are insufficient.
For the nursing team allocated to EMS1, the facilities are considered good but need important adaptations, such as the installation of air conditioning. Regarding the available materials, they considered that most of the inputs are of poor quality and negatively affect the care.

They influence 100% [facilities, materials and equipment], for example, a UBDS of this size and without air conditioning [...]. Punctured port ... it happens that we get lots of horrific materials, or expensive material, good brand, but it is a syringe that, as soon as you push the plunger, then it no longer aspirates, it is lost ... (AN1-EMS1).

Equipment, sometimes we see difficulty in quality. We have material difficulties ... (N1-EMS1).

For the participants allocated to EMS2, the infrastructure of the unit is good, however, it is organized in a way that makes it difficult to perform the care. Regarding materials, furniture and equipment, the participants converged with the EMS1 team, referring to low-quality products and, when they are good-quality products, no training for their use.

[…] we have to work with bad material […] [the facilities] are not bad, no. Some rooms are badly organized, then it hinders. [...] the equipment may even be good, but when we don’t know how to use them… and there’s bad-quality equipment too, like the serum supports, which are horrible, the beds are very bad... (AN5-EMS2)

Regarding the potential generators of absenteeism, the findings of EMS1 and EMS2 corroborate the statements of the interviewees from EMS3, where recent changes in the service structure were reported, although the modifications did not address the workers needs. In addition, the poor conditions and the lack of maintenance for equipment and furniture were mentioned, as well as the insufficient staff to provide care to the population.

There has been a change recently, there is a place for nursing notes, medical prescription, at the observation room, that you do not see the patient, you cannot work in the emergency area. [...] We had a lack of energy here, during the night, and there was no generator to turn on, it was broken. I mean, how is the equipment? And pressure apparatus, when was the last check? There is no date ... electrocardiogram, monitor ... not even serum support, wheelchair, stretcher ... (N6-EMS3).

If you have large facilities where patients circulate in the middle of your work, it bothers. It should be all separated. They circulate among us ... you are preparing medication, they are talking to you, asking questions, asking for information ... of course it bothers. It takes away your attention ... (AN9-EMS3).

At EMS4, the respondents reported that the service facilities of the unit have undergone several reforms over time and, like at the others, lack of motivation and dissatisfaction as potential generators of absenteeism are related to these modifications, referring to the lack of safety to work, because there are many entrance doors in the service, in addition to not having appropriate infrastructure and flowchart for the service, patients end up influencing and interfering in the care.

I think there are points at the service that could be improved. First, we are a very open service, we have three inputs, so anyone can enter here ... thinking about our safety as professionals .... This issue of the flow in here, I think it is a bit complicated […] (N8-EMS4).

On the other hand, for the interviewees from EMS5, the potential generators of absenteeism were not very present in the discourse, showed satisfaction with the work and considered that care is of quality. Small problems were mentioned.

noting that we are differentiated, that the service is punctually different from other places and then we get very satisfied, that is where we get the return of
our work. We have been able to visualize customer satisfaction (N10-EMS5).

[...] I think the physical structure is well organized. If [the equipment] breaks, it goes to maintenance, we have equipment for replacement .... Very difficult some situation in which it broke and there’s no other [...] I think what could improve here is the structure of the medication, which is small for the demand of patients that we have (NT3-EMS5).

Discussion

Effective communication was pointed out as essential for the development of teamwork, and its absence can lead professionals to absenteeism, due to the discouragement related to the work process. In the same sense, in studies developed in hospitals in Brazil, it was evidenced that communication can have effects in the interpersonal relationship process, being positive when present or negative when absent; in addition, effective communication contributes to caring, permitting the creation of bonding between the user and the service. (14,15)

In public services, in addition to problems related to impaired physical structure and technology, limited HR, long workdays and a turbulent environment, each day, the nursing professionals experience problems related to the absence of communication, bonding difficulties, non-cooperation among workers, hierarchical organizations, resulting in the rupture of continuity and quality of care. These problems have to be addressed in such a way that access to health is guaranteed to users. (14,16)

Nurses play a leading role in health care, management and education and this leading role needs to be very clear inside the nursing team with a view to high-quality care for the users. (17) One of the essential characteristics to lead a team is having good communication. Some authors consider that a good leader can influence his or her staff with thoughts and values through communication, in order to achieve goals and objectives effectively. (18) In addition, supervision of this communication and its effectiveness is necessary. Otherwise, the work becomes disjointed and valuating the care provided becomes unfeasible, thus increasing professional dissatisfaction and absenteeism. (19)

The absence of a career and wage plan and the salary, as compensation, were evidenced as potential generators of absenteeism in the nursing team. In a study developed in Brazil to assess the impact of compensation on people's motivation to perform at work, it was evidenced that the best remuneration can contribute for the workers to perform their function better, and also serves as an incentive to achieve or overcome the organizational targets. (20)

Nowadays, one cannot discuss quality of working life and work management in the Unified Health System (SUS) without relating them with the Career, Function and Wage Plans (PCCS). In that sense, in 2004, the Health Department (MS) created the guidelines of the PCCS-SUS (Decree GM 626, issued April 8th, 2004), recommending the elaboration of career plans for states and cities, advancement and promotion, qualification and professional assessment. It is also observed that the existence of the PCCS was a condition for the establishment of the Health Covenant in 2006.

In relation to the city of Ribeirão Preto, the function and wage plan of the municipal service was set up in 2012, for the tenured health professionals, characterized by universal access, public examination being the only form of access for all the workers; the continuing education policy, with a vocational qualification program under the Municipal Health Department’s control; the existence of an institutional performance evaluation program; the advancement every two years in cases where the server has no penalties and obtained average scores over 70% on performance and bonus assessments for some workers. (21)

The PCCS-SUS excels at valuing the professional career, however, although the city of Ribeirão Preto legally possessed a Function and Wage Plan, the study participants pointed out that it is not effective, existing only “on paper”; in addition, productivity and performance were not mentioned and bonuses were considered as not comprehensive to all employees, demonstrating that the plan is not
Absenteeism in the nursing team in emergency services: implications in care

The participants appointed the facilities, materials and equipment as potential generators of absenteeism and demonstrated direct influence on the quality of care provided. These findings corroborate studies in which physical structure, materials and equipment of good quality, together with qualified and motivated professionals, produce health and are capable of transforming inputs into results, optimizing work and providing a better quality of life.\(^{(27)}\) In other studies in which inappropriate physical structure, absence of materials and equipment, lack of HR and lack of institutional stimulus were also found, these factors lead to improvisations and reduce the quality of care provided.\(^{(23,28)}\)

The results of this research converge with a study developed in South Africa, in which the authors also showed that the reasons for absenteeism in nursing are related to professional (long working hours, low pay, insufficient number of professionals, etc.), personal (family reasons, disease, etc.) and organizational aspects (lack of materials, equipment, etc.) and, in this process, the managers play an important role in the reduction of absenteeism.\(^{(29)}\)

These data were collected in a transition period as, after the ANs and NTs conquered the 30-hour working week, outsourcing was announced in the hiring of professionals for the EMS with tenure. Thus, the tenured professionals working at those services would be reallocated to other services in the network. This situation is considered a limitation in this research, as this announcement caused frustration among the employees, which may have influenced the interviews.

**Conclusion**

Considering the objective of this study, which was to analyze the perception of the nursing team about the conditions generating absenteeism and its implications for care in EMS, the research reveals the importance of effective communication for conflict management and improvement of the care provided and the need to consolidate the function and wage plan, aiming

consolidated yet, and that management needs to seek strategies for its effective application and revision of the regulatory document, with a view to the inclusion of rights not addressed, aiming to stimulate and qualify these workers.

The salary becomes a motivating factor in the performance of the work performed. It is fundamental that the services have structured function and wage plan policies because their absence interferes negatively in the efficiency and effectiveness of the activities developed.\(^{(22)}\) Within this logic, in research, it is verified that lagged wages generate dissatisfaction and, considering the contemporary reality, lead workers to engage in more than one employment bond, causing work overload, stress and impact on quality of life, as well as, in many cases, illness and leave from professional functions.\(^{(23,24)}\)

After the creation of the Secretariat of Health Work and Education Management (SGTES) in 2003, the MS is active in the creation and execution of the Basic Operational Standard of Human Resources (NOB / RH-SUS), which guides the development of HR policies in the SUS, in the three (municipal, state and federal) management spheres; and is divided into four dimensions, namely: Work Management in SUS, SUS Worker Development, SUS Occupational Health and Social Control of Work Management in SUS. In a study, it is reported that the Work Management dimension has three indicators and that, in one of these indicators, Quality of the Bond, tenured workers have greater guarantees and job benefits, being exposed to less job insecurity.

By virtue of the constitution, stability is guaranteed to the public servant and he can only be made redundant through an administrative or judicial proceeding. It is proven in research that public servants feel safe when they enter the career, and stability is considered one of the main attractions to become a public servant, as it generates tranquility in financial and social life,\(^{(26)}\) favoring absenteeism due to bureaucratic penalties. In this same perspective, auxiliary nurses and nursing technicians reported that these unjustified absences result in a work overload for the other servants.

The participants appointed the facilities, materials and equipment as potential generators of absenteeism and demonstrated direct influence on the quality of care provided. These findings corroborate studies in which physical structure, materials and equipment of good quality, together with qualified and motivated professionals, produce health and are capable of transforming inputs into results, optimizing work and providing a better quality of life.\(^{(27)}\) In other studies in which inappropriate physical structure, absence of materials and equipment, lack of HR and lack of institutional stimulus were also found, these factors lead to improvisations and reduce the quality of care provided.\(^{(23,28)}\)

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Considering the objective of this study, which was to analyze the perception of the nursing team about the conditions generating absenteeism and its implications for care in EMS, the research reveals the importance of effective communication for conflict management and improvement of the care provided and the need to consolidate the function and wage plan, aiming
at the valuation of the worker, because, in this way, they would feel motivated to specialize and seek new knowledge, resulting in improvements in the care provided and reducing associations to other employment bonds. As for the infrastructure and inputs available, the city needs to invest further, these being fundamental elements in care, which interfere in occupational health and safety. It is also important to emphasize the importance of institutional investments in the performance evaluation of these workers, which would serve as an instrument to evaluate the professional performance in terms of the proposed institutional objectives, to identify the need for new training courses and to prevent factors that may cause absenteeism. Thus, managers have the fundamental role of creating conditions that guarantee the nursing workers’ professional growth, permitting their satisfaction with the work and strengthening their commitment to quality care for the population attended by the SUS.

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Collaborations

Ferro D, Zacharias FCM, Fabriz LA, Schonholzer TE, Valente SH, Barbosa SM, Viola CG and Pinto IC declare that they contributed to the study design, data analysis and interpretation, writing of the article and approval of the final version for publication.

References


Absenteeism in the nursing team in emergency services: implications in care


Assessment of the patient safety culture in primary health care

Avaliação da cultura de segurança do paciente na atenção primária à saúde

Evaluación de la cultura de seguridad del paciente en la atención primaria a la salud

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Conflicts of interest: Taken from the thesis “Assessment of the patient safety culture in primary health care” Graduate Nursing Program - Universidade Federal de São Carlos, year of defense 2017.

Keywords
Patient safety; Organizational culture; Quality of health care; Primary health care

Descritores
Segurança do paciente; Cultura organizacional; Qualidade da assistência à saúde; Atenção primária à saúde

Abstract
Objective: Assess the professionals’ perception on the patient safety culture in primary health care.

Methods: quantitative, cross-sectional, descriptive survey, using the questionnaire “Pesquisa sobre Cultura de Segurança do Paciente para Atenção Primária”, which assesses 12 dimensions of the patient safety culture. Dimensions scoring 75% or higher were considered positive.

Results: The dimensions “information exchange with other institutions” (79%), “teamwork” (79%), “patient care tracking/follow-up” (80%), “patient safety and quality problems” (83%), while “leadership support for patient safety” (47%) showed to be a weak area. A significant difference was found when comparing the variables length of experience and professional category with the average percentages of positive answers.

Conclusion: The results showed that the Primary Health Care professional perceived the dimensions of the patient safety culture positively, and only “leadership support for patient safety” was considered as a weak area.

Resumo
Objetivo: Avaliar a percepção dos profissionais acerca da cultura de segurança do paciente na atenção primária à saúde.

Métodos: pesquisa quantitativa, transversal, descritiva do tipo survey, utilizando o questionário “Pesquisa sobre Cultura de Segurança do Paciente para Atenção Primária”, que avalia 12 dimensões da cultura de segurança do paciente. Foram consideradas positivas as com escores maior ou igual a 75%.

Resultados: As dimensões “trocamento de informações com outras instituições” (79%), “trabalho em equipe” (79%), “acompanhamento do cuidado do paciente” (80%), “segurança do paciente e problemas de qualidade” (83%) foram consideradas positivas para a cultura de segurança do paciente, enquanto “suporte da liderança” (47%) demonstrou-se como área fraca. Houve diferença significativa na comparação das variáveis tempo de serviço e categoria profissional com a média das porcentagens de respostas positivas.

Conclusão: Os resultados mostraram que os profissionais da Atenção Primária à Saúde tiveram percepções positivas quanto às dimensões da cultura de segurança do paciente, e apenas “suporte da liderança” foi considerada como área frágil.

Resumen
Objetivo: Evaluar la percepción de los profesionales sobre la cultura de seguridad del paciente en la atención primaria a la salud.

Métodos: Investigación Cuantitativa, transversal, descriptiva del tipo survey, utilizando el cuestionario “Encuesta sobre Cultura de Seguridad del Paciente de Atención Primaria”, el cual evalúa 12 dimensiones de la cultura de seguridad del paciente. Foran consideradas positivas las puntuaciones superiores o igual al 75%.

Resultados: Las dimensiones de “intercambio de información con otras instituciones” (79%), “trabajo en equipo” (79%), “monitoreo de la atención al paciente” (80%), “seguridad del paciente y problemas de calidad” (83 %) fueron consideradas positivas para la cultura de seguridad del paciente, mientras que el “soporte del liderazgo” (47%) se demostró como área débil. Hubo una diferencia significativa en la comparación de las variables tiempo de servicio y categoría profesional con el promedio de los porcentajes de respuestas positivas.

Conclusión: Los resultados mostraron que los profesionales de Atención Primaria a la Salud tuvieron una percepción positiva sobre las dimensiones de la cultura de seguridad del paciente, y solo el “apoyo del liderazgo” se consideró como zona frágil.

How to cite:
Introduction

Patient safety, defined as the reduction of unnecessary damage to an acceptable minimum in health care, is acknowledged as a fundamental dimension of quality in health.\(^{(1)}\)

Primary Health Care (PHC) is considered a key component of the Health Care Network, which proposes actions and health services of different technological densities in order to guarantee the integrality of care, through technical, logistic and management support systems.\(^{(2)}\)

As it is not directly linked to high-tech procedures, PHC may be thought of as a safe and secure environment. It is known that Adverse Events (AEs), defined as incidents that result in some harm to the patient, occur in this health setting though. There are still many knowledge gaps regarding this issue and difficulty to measure the types of incidents that occurred. The studies are still incipient in this field, despite the greater visibility of the subject in Brazil, after the initiative to create the National Patient Safety Program (PNSP).\(^{(3,4)}\)

We emphasize this scenario, based on a study carried out in Brazil, at a Family Health Strategy service (ESF), which evaluated the occurrence of incidents in the patient in relation to the severity, type and the factors contributing to this occurrence. It was concluded that, although PHC attends to patients with less technical complexity, 82% of the incidents caused damage to the patient, many of them with very high severity - permanent damage (25%) or death (7%).\(^{(3)}\)

It is understood that it is necessary to invest in the recognition of the patient safety culture, so that it is possible to examine to what extent the perceptions, behaviors and competences of individuals and groups influence the patient safety outcomes and the quality of care.\(^{(5)}\)

Therefore, evaluating the patient safety culture in PHC is an important step towards improving the quality and safety of care, considering the scope of this scenario in the health care network. The objective of this study, therefore, is to evaluate the professionals’ perception about the patient safety culture in the PHC environment, considering that this evaluation may point out new guidelines for strengthening patient safety in this health care setting.

Methods

This is a quantitative, cross-sectional, descriptive survey carried out in PHC, in a city with an estimated population of 298,701 inhabitants, in the interior of the State of São Paulo.

The PHC network of the city consists of 32 Family Health Centers (CSF), of which 17 are mixed services, i.e. they serve as Basic Health Services (UBS) and Family Health Strategy (ESF).

Of the 564 professionals performing care functions in these CSFs, 106 were excluded because they were on vacation and/or leave for health treatment or maternity during the data collection period (from December 2016 to March 2017). In total, 458 professionals were invited, and 240 accepted to participate in the process. Approval for the study was obtained from the Research Ethics Committee of the Federal University of São Carlos (Opinion No. 1.818.070), and resolution 466/12 was fully complied with.

To do this, the questionnaire “Pesquisa sobre Cultura de Segurança do Paciente para Atenção Primária” was applied,\(^{(6)}\) Brazilian version of the Medical Office Survey on Patient Safety Culture, created by the Agency for Healthcare Research and Quality. The authors authorized the use of the instrument adapted and validated for Brazil.\(^{(6)}\)

The professionals were mostly approached in group, except those who were attending at that moment, later invited individually. This permitted inviting the largest number of people with minimal interference in the service routine. The delivery of the questionnaire and the Free and Informed Consent Term occurred on a date agreed with the team.

The instrument is composed of 52 items, with alternative answers on a Likert scale that permits evaluating twelve dimensions of the patient safety culture: open communication, communication about the error, information exchange with other institutions, office process and standardization, or-
ganizational learning, overall perception of patient safety and quality, leadership support for patient safety, patient care tracking/follow-up, patient safety and quality problems, staff training, teamwork and work pressure and pace.\(^{(6)}\)

Data was organized and stored in Microsoft Excel\(^{®}\) spreadsheets. For treatment and analysis, the Statistical Package for the Social Sciences (SPSS) version 22.0 was used.

For the descriptive analysis of the data, the response frequency of each item and the average for each dimension were calculated. Following the recommendation of the original instrument,\(^{(7)}\) these dimensions were rated as strong, when 75% or more of participants answered I totally agree/I agree or frequently/always to positive questions; and I totally disagree/I disagree or never/rarely for negative questions. Dimensions were classified as weak when 50% or more of the participants answered negatively, choosing I totally disagree/I disagree or never/rarely for positive questions, or I totally agree/I agree, always/frequently for negatively questions.\(^{(7)}\)

To test the reliability of the answers, Cronbach’s alpha was calculated for each dimension and for the survey as a whole. Results equal or superior to 0.7 were considered satisfactory.\(^{(8)}\)

The Kolmogorov-Smirnov test was executed, which indicated absence of normality of the data. Therefore, the Kruskal-Wallis Test was applied to assess the comparison of means of the positive answer percentages related to the variables “professional category” and “length of experience”. For the statistical test, significance was set at 5% (\(p \leq 0.05\)).

### Results

Fifty-two percent (240) of the professionals participated, including: physician (18), nurse (14), dentist (6), social worker (2), psychologist (2), pharmacist (4), physiotherapist (1), manager (15), administrative staff (20), Community Health Agent (83), nursing auxiliary (9), pharmacy aide (6) and oral health aide (1).

As for the length of experience at the service, the results varied, with 87 professionals working from two months to less than three years; 80 from three to less than 11 years and 41, for 11 years or more; only three had been working less than two months and 21 did not respond. Of these, 158 (76%) have a workload of 33 to 40 hours a week.

Regarding the reliability of the answers, the general Cronbach’s Alpha coefficient obtained was 0.93. Thus, the following dimensions were excluded: “open communication” (\(\alpha = -0.17\), “communication about the error” (\(\alpha = 0.48\)), “process standardization” (0.55), “team training” (\(\alpha = 0.56\)) and “work pressure and rhythm” (\(\alpha = 0.59\)).

The analyzed dimensions are represented in table 1, which indicates the dimensions that obtained a satisfactory Cronbach’s alpha coefficient by positive perception percentage.

**Table 1.** Positive perception associated with the items of the patient safety culture dimensions

<table>
<thead>
<tr>
<th>Table 1. Positive perception associated with the items of the patient safety culture dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Items per patient safety culture dimension</td>
</tr>
<tr>
<td>1. Teamwork (x=0.670)</td>
</tr>
<tr>
<td>C1: When someone gets really busy, others help out</td>
</tr>
<tr>
<td>C2: There is a good relationship between the physicians and other professionals</td>
</tr>
<tr>
<td>C5: We treat each other with respect</td>
</tr>
<tr>
<td>C13: We value teamwork in patient care</td>
</tr>
<tr>
<td>2. Patient care tracking/follow-up (x=0.754)</td>
</tr>
<tr>
<td>D3: The patients are reminded when they need to schedule a routine appointment</td>
</tr>
<tr>
<td>D5: We document how the chronic patients follow the treatment</td>
</tr>
<tr>
<td>D6: The service follows up when it does not receive a report from another service</td>
</tr>
<tr>
<td>D9: We follow up with patients who need monitoring</td>
</tr>
<tr>
<td>3. Leadership support for patient safety (x=0.712)</td>
</tr>
<tr>
<td>E1R: They are not investing enough resources to improve the quality</td>
</tr>
<tr>
<td>E2R: They overlook patient care mistakes that happen over and over</td>
</tr>
<tr>
<td>E3: They place priority on improving patient care processes</td>
</tr>
<tr>
<td>E4R: Decisions are made based on what is best for the service rather than for the patient</td>
</tr>
<tr>
<td>4. Organizational learning (x=0.702)</td>
</tr>
<tr>
<td>F1: When there is a problem, we see if we need to make any change</td>
</tr>
<tr>
<td>F6: The service is efficient at changing processes and preventing the same problems.</td>
</tr>
<tr>
<td>F7: After making changes, we check to see if they work</td>
</tr>
<tr>
<td>5. Overall perception of patient safety and quality (x=0.724)</td>
</tr>
<tr>
<td>F2: Our work processes are good at preventing mistakes</td>
</tr>
<tr>
<td>F3R: Mistakes happen more than they should</td>
</tr>
<tr>
<td>F4R: It is just by chance that we don’t make more mistakes</td>
</tr>
<tr>
<td>F6R: Getting more activities done is more important than the quality of care</td>
</tr>
<tr>
<td>6. Patient safety and quality problems (x=0.842)</td>
</tr>
<tr>
<td>A1: A patient was unable to get an appointment within 48 hours for a serious problem</td>
</tr>
<tr>
<td>A2: Another patient’s chart was used when attending to a patient</td>
</tr>
<tr>
<td>A3: A patient’s chart wasn’t available when needed</td>
</tr>
<tr>
<td>A4: A patient’s information was filed into the wrong patient’s chart</td>
</tr>
<tr>
<td>A5: Medical equipment was not working properly</td>
</tr>
<tr>
<td>A6: The patient returned to the service to clarify/correct the prescription</td>
</tr>
<tr>
<td>A7: A patient’s medication was not reviewed during the appointment</td>
</tr>
<tr>
<td>A8: The laboratory/imaging tests were not done when necessary</td>
</tr>
<tr>
<td>A9: The laboratory test results were not available</td>
</tr>
<tr>
<td>A10: An abnormal result from a test was not assessed in due time</td>
</tr>
<tr>
<td>7. Information exchange with other institutions (x=0.901)</td>
</tr>
<tr>
<td>B1: Problem with imaging/laboratory centers in the network</td>
</tr>
<tr>
<td>B2: Problems with other health services in the care network</td>
</tr>
<tr>
<td>B3: Problems with pharmacies</td>
</tr>
<tr>
<td>B4: Problems with hospitals</td>
</tr>
</tbody>
</table>

(\% - percentage)
The general average percentages of positive answers in the dimensions that obtained a satisfactory Cronbach’s alpha coefficient are displayed in table 2.

Table 2. Dimension of patient safety culture associated with general average percentage of positive answers

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>General average positive answers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient safety and quality problems</td>
<td>83*</td>
</tr>
<tr>
<td>Patient care tracking/follow-up</td>
<td>80*</td>
</tr>
<tr>
<td>Teamwork</td>
<td>79*</td>
</tr>
<tr>
<td>Information exchange with other institutions</td>
<td>79*</td>
</tr>
<tr>
<td>Organizational learning</td>
<td>74</td>
</tr>
<tr>
<td>Overall perception of patient safety and quality</td>
<td>70</td>
</tr>
<tr>
<td>Leadership support for patient safety</td>
<td>47†</td>
</tr>
</tbody>
</table>

*Strong dimensions for patient safety culture; †Weak dimension

For the variable “length of experience”, “organizational learning” and “leadership support” presented a significant difference. The shorter the length of experience, the higher the positive perception (Table 3). What the professional category is concerned, physicians scored the highest for positive perception in the “patient safety and quality problems” and “teamwork” dimensions (Table 3).

Table 3. Positive answers in each dimension of the patient safety culture

<table>
<thead>
<tr>
<th>Variables</th>
<th>Organizational learning n(%)</th>
<th>Leadership support n(%)</th>
<th>Patient safety n(%)</th>
<th>Teamwork n(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Length of experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 2 months</td>
<td>2(100)</td>
<td>2(87)</td>
<td>120(50)</td>
<td>221(92)</td>
</tr>
<tr>
<td>2 months to 3 years</td>
<td>87(84)</td>
<td>87(59)</td>
<td>163(68)</td>
<td>194(81)</td>
</tr>
<tr>
<td>3 to 11 years</td>
<td>166(69)</td>
<td>144(60)</td>
<td>151(63)</td>
<td>187(78)</td>
</tr>
<tr>
<td>11 years or more</td>
<td>198(83)</td>
<td>108(45)</td>
<td>168(70)</td>
<td>202(84)</td>
</tr>
<tr>
<td>p-value*</td>
<td>0.031</td>
<td>0.033</td>
<td>0.535</td>
<td>0.643</td>
</tr>
<tr>
<td>2. Professional category</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physician</td>
<td>18(85)</td>
<td>16(61)</td>
<td>17(80)</td>
<td>18(100)</td>
</tr>
<tr>
<td>Nursing team</td>
<td>38(76)</td>
<td>37(47)</td>
<td>40(72)</td>
<td>40(81)</td>
</tr>
<tr>
<td>Manager</td>
<td>15(80)</td>
<td>1(75)</td>
<td>14(74)</td>
<td>15(72)</td>
</tr>
<tr>
<td>Administrative team</td>
<td>14(75)</td>
<td>11(66)</td>
<td>16(56)</td>
<td>18(71)</td>
</tr>
<tr>
<td>CHA†</td>
<td>64(80)</td>
<td>65(63)</td>
<td>79(68)</td>
<td>81(77)</td>
</tr>
<tr>
<td>Others</td>
<td>15(76)</td>
<td>11(58)</td>
<td>22(48)</td>
<td>23(84)</td>
</tr>
<tr>
<td>p-value*</td>
<td>0.831</td>
<td>0.169</td>
<td>0.028</td>
<td>0.001</td>
</tr>
</tbody>
</table>

*Kruskal-Wallis test; CHA – Community Health Agent; Others – dentist, social worker, psychologist, pharmacist, physiotherapist, speech therapist, nursing auxiliary, pharmacy aide, oral health aide

Discussion

Creating a positive culture that promotes patient safety is one of the main challenges health organizations face.(5) To this end, it is important to emphasize the participation of all health staff in promoting a positive safety culture.

Considering the lack of tradition in Brazil in evaluating the safety culture, particularly in PHC, the 52% response rate obtained can be considered satisfactory. Another favorable point was the participation of 15 different professional categories, ensuring a broad evaluation of the safety culture. In this sense, the importance of the engagement of all is affirmed, because the organizational culture influences the management style adopted and, consequently, it determines organizational changes.(9)

Due to the scarcity of publications related to the subject in Brazil, the comparisons of this research were based on international publications. Although the format of PHC is very diverse around the world, a standardized tool was used, permitting comparisons of similar aspects, reinforcing the importance of using tools validated for the Brazilian reality.

Like this research, a study carried out in Turkey compared the variable “professional category” and the positive responses, showing that the medical professional perceives the dimensions “open communication” (p <0.01) and “communication about the error” (p<0.01) more positively.(10) In parallel, an Iranian research showed that the manager presented the highest scores for all dimensions (p <0.001).(11)

On the other hand, a Brazilian study found no difference among the categories: nursing technicians, nurses and community health agents regarding safety attitudes.(12)

As for the comparison of the dimensions related to length of experience, unlike our study, an Iranian study found no relation between them.(11)

On the other hand, a Spanish study that evaluated residents in family and community medicine found that first-year residents had the highest positive scores for “information exchange with other institutions” (p = 0.007), “open communication” (p = 0.01), “staff training” (p = 0.009) and “overall perception of patient safety and quality” (p = 0.02).(13)

On the low reliability of the responses for the dimensions “open communication”, “communication about the error”, “office process and standardization”, “staff training” and “work pressure and pace”, it is worth noting that all these dimensions are interrelated and linked to aspects of communication, education and the work process,
suggesting possible weaknesses in these aspects of the work environment.

Of the other dimensions evaluated, teamwork is the collective work modality that opposes the independent and isolated way in which health professionals usually carry out their work.\cite{14} It is considered essential for the proper functioning of the work process in PHC, in which the dialogue should favor the approximation among the different actors, clearly realizing that all partial knowledge only gains meaning when shared in the group.\cite{15}

In this study, the “teamwork” dimension was evaluated as strong for the patient safety culture, reaching an average 79% of positive responses. Other investigations, which evaluated teamwork within and among services, also obtained high positive scores.\cite{10,13,16} A Brazilian study on safety attitudes also identified teamwork as a strong element for the patient safety culture.\cite{12}

These studies suggest that teamwork is recognized as a strong element in the safety culture, in pursuit of changes and improvements in the quality of patient safety.

According to the literature,\cite{17} there are four modes of learning within organizations: learning from others, from the mistakes, from the data obtained and through unexpected responses.

Learning from others occurs through experiences revealed in conversations or in publications. In turn, learning from mistakes happens in the identification and analysis of one’s own mistakes. Learning from the use of the data obtained, then, means using the results to provide feedback and to drive the organizational performance. Finally, learning from unexpected responses happens when there is constant vigilance and prevention of events. Thus, by looking at the less developed modes of organizational learning, faster progress in patient safety can be promoted.\cite{17}

Despite the positive perception of the “organizational learning” dimension, when the theme is not guilt for the error, studies show low positive scores for non-punitive response to error, showing weakness in this aspect.\cite{10,13,16}

Although the dimension “communication about the error” did not reach satisfactory reliability in this study, the item “the team at this service believes that errors can be used against them” stands out, as 49% of the participants agreed with the statement, revealing that the culture of fear is present. A similar situation was found in a study on safety attitudes, in which the “error” variable was the least relevant for the professionals, demonstrating the weakness of this aspect.\cite{12}

Thus, it can be identified that the learning mode from errors needs improvements. The professionals need to be aware that the occurrence of error and guilt can be alternatives to transform it into a new chance to discuss, improve care and prevent new events related to the same cause from happening.\cite{12}

The “patient care tracking/follow-up” dimension should be understood as a prominent area for PHC. In a longitudinal conceptual review, the authors affirm that patient monitoring over time by PHC professionals is a central feature of this care level.\cite{18}

In this research, this dimension obtained a score of 80% of positive responses, being classified as a strong area for the safety culture. The results were similar to those of the Spanish study, in which the rate of positive responses was 71%.\cite{13} Only a different result was found in the city of Al-Mukala, Yemen, which identified fragility in this dimension and concluded that patients were not followed up/monitored when necessary.\cite{19}

Fragilities in patient follow-up/monitoring may lead to visits to other health facilities for routine care and problems in the quality of documents that make it difficult to service the longitudinal bond.\cite{18}

Another important feature to ensure the proper functioning of care in PHC is the exchange of information among institutions in a complete, precise and timely manner. This was considered a strong area in this study but, in two other studies\cite{13,16}, they were classified as fragilities, reaching only 47% of positive responses.

Regarding the situations that affect patient safety, 83% of the professionals had a positive perception and believe that there are few problems related to access, patient identification, medical records, charts, equipment, medication and diagnoses.
Contrary to the professionals’ perception in this research, however, a Brazilian study identified that the most common types of PHC incidents were associated with medication and diagnostic errors.\(^{(20)}\)

Regarding access, in a study carried out in a large city in the State of São Paulo, users describe it as something bureaucratic and time-consuming, both for scheduling and for care in the service, relating it to the lack of medical professionals and their high turnover in the UBS.\(^{(21)}\)

Another study about the perception of the ESF professionals in relation to the quality of the services provided, in a city in the state of Espírito Santo - Brazil, showed that these professionals perceive that the care is offered positively, contributing to the strengthening and humanization of PHC.\(^{(22)}\)

In this respect, although the compared studies were conducted in different ways, reflections emerge on the extent to which the user’s perception may differ from the health professional’s perception, in relation to the quality of the service provided, and how much this can influence the quality of patient safety.

Therefore, it is considered that the positive results obtained in this study may be related to the low rates of event reporting. Studies that asked about the frequency of event reporting identified that only 12% to 32% of the professionals mentioned that the errors were reported.\(^{(10,11,16)}\)

As strategies to address the knowledge gap, in view of the fear of punishment and informal communication that leads to underreporting of AEs, there is communication and educational practice, which improves the interaction between leaders and professionals,\(^{(23)}\) corroborating the present findings, in which the dimension “leadership support” for the patient safety culture was considered critical. Improvements are urgently needed, as only 47% of the participants perceived the subject positively.

Leadership in PHC is seen as a key competency for the development of change, given its potential to drive the teamwork process. In addition, it was observed that, in the current reality, nurses are mainly acting as supervisors, assuming this position.\(^{(24)}\) This fact is similar to the city studied, where most of the service coordinators were nurses.

When relating organizational culture, leadership behavior and job satisfaction, there is a significant positive correlation among these elements, suggesting that good interaction between leaders and professionals contributes to the stimulus towards the achievement of the objectives the institution defined.\(^{(25)}\)

Thus, the result found in this study reveals the weakness of leadership support for the patient’s safety culture, which may arouse the reflection that this may influence attitudes and behaviors related to the subject, demonstrating the importance of leaders in identifying the aspects pointed out and implementing actions for the purpose of patient safety.

In view of the above, it is worth highlighting the importance of involving all professionals in the process of improving patient safety. Effective, attitude-based actions need to be developed, where the attitude and culture of front-line health professionals should induce desirable behavioral changes to improve patient safety.\(^{(26)}\)

Regarding the limitations of the study, only the perception of the professionals involved was used, without incorporating other aspects such as document analysis, observations of professional practice, users’ perception, among others. Also due to the sharing of physical space between UBS and USF, comparing the data between these services was not possible. In addition, due to the incipient nature of this kind of research in PHC, the answers may have been provided with little reflection on the subject.

### Conclusion

The results showed that PHC professionals had positive perceptions on the dimensions of the patient safety culture and the quality of the service. It was revealed, however, that the “leadership support” dimension needs improvement, so that aspects pertaining to the patient safety culture occur effectively, based on educational and non-punitive practices. In order to identify the professionals’ perceptions about the patient’s culture, it is important to point out that, when the different categories present in these health services were observed, the medical
staff showed a more positive perception in the dimensions “overall perception of patient safety and quality” and “teamwork” and that, the shorter the length of experience, the more positive the perception for “organizational learning” and “leadership support for patient safety”. Therefore, it should be noted that, although incipient, assessing the professionals’ perception about the patient safety culture in PHC is necessary to allow services to identify domains and variables that need attention, through an individual situational diagnosis, so that strategies can be outlined to put these components in practice in this care network.

Acknowledgements

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Collaborations

Figueiredo RM contributed to the project design, data analysis and interpretation, writing of the article, critical review of the intellectual content and final approval of the version for publication. Roseira CE, Orlandi FS contributed to the interpretation of the data, relevant critical review of the intellectual content and final approval of the version for publication.

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Galhardi NM, Roseira CE, Orlandi FS, Figueiredo RM


Weight regain after bariatric surgery: a phenomenological approach

Reganho de peso após a cirurgia bariátrica: um enfoque da fenomenologia social

Recuperación del peso después de la cirugía bariátrica: un enfoque de la fenomenología social

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Abstract
Objective: To understand the experience of weight regain after bariatric surgery.

Methods: Qualitative study conducted in a public hospital in the city of São Paulo. Data were collected between March and May 2017 through interviews with 17 participants and ended when the content of reports fulfilled the goal of the investigation. Analysis of meanings was guided by the theoretical-philosophical framework by Alfred Schütz and experts from the social phenomenology field.

Results: The adopted framework revealed four categories that express the existential reasons of people who regain weight after bariatric surgery: “feeling of failure emerges with weight regain”, “emotional aspects that contribute to weight regain”, “impact of weight regain on physical and mental health”, and “expectations regarding weight regain”.

Conclusion: The results of the present study allow to emphasize the importance of qualified listening and embracement of subjective issues which take into account the relationship that each patient establishes with obesity and bariatric surgery. The aspects of the weight regain experience emphasized in the examined social group may support the improvement of professional practices and add to health teaching, research, and knowledge.

Resumo
Objetivo: Compreender a experiência de reganho de peso após a cirurgia bariátrica.

Métodos: Pesquisa qualitativa realizada em um Hospital Público da cidade de São Paulo. A coleta de dados foi realizada entre março e maio de 2017, por meio de entrevistas com dezenove participantes e encerrada quando o conteúdo dos depoimentos responderam ao objetivo do estudo. A análise dos significados foi norteada pelo referencial teórico-filosófico de Alfred Schütz e estudosos da fenomenologia social.

Resultados: O referencial adotado possibilitou desenvolver quatro categorias que traduzem os motivos existenciais do agir de pessoas com reganho de peso após cirurgia bariátrica: “sentimento de fracasso frente ao reganho de peso”, “aspectos emocionais que contribuem para o reganho de peso”, “impacto do reganho de peso na saúde física e mental” e “expectativas frente ao reganho de peso”.

Conclusão: Os resultados deste estudo permitem ressaltar a importância da escuta qualificada e o acolhimento das questões subjetivas que levam em conta a relação que cada paciente estabelece com a obesidade e com a cirurgia bariátrica. Os aspectos da experiência de reganho de peso destacados no grupo social estudado podem subsidiar a melhoria das práticas profissionais, o incremento do ensino, pesquisa e do conhecimento em saúde.

Resumen
Objetivo: Comprender la experiencia de reganho de peso después de la cirugía bariátrica.

Métodos: Investigación cualitativa realizada en un hospital público de la ciudad de São Paulo. La recolección de datos fue realizada entre marzo y mayo de 2017, por medio de entrevistas con diecisiete participantes y finalizada cuando el contenido de los testimonios respondió al objetivo del estudio. El análisis de los significados fue guiado por el referencial teórico-epistemológico de Alfred Schütz y expertos de la fenomenología social.

Resultados: El referencial adoptado permitió revelar cuatro categorías que reflejan las razones existenciales de actuar de las personas con reganho de peso después de la cirugía bariátrica: “sensación de fracaso contra el peso recuperado”, “aspectos emocionales que contribuyen al peso recuperado”, “impacto de la recuperación de peso en la salud física y mental” y “expectativas frente a la recuperación de peso”.

Conclusión: Los resultados de dicho estudio permiten demostrar la importancia de la audiencia calificada y la recepción de preguntas subjetivas que tienen en cuenta la relación que cada paciente establece con la obesidad y con la cirugía bariátrica. Los aspectos de la experiencia de reganho de peso destacados en el grupo social estudiado pueden subsidiar la mejora de las práticas profesionales, el incremento de la enseñanza, la investigación y el conocimiento en salud.

How to cite:
Introduction

According to estimates by the World Health Organization, over 1.9 billion adults present overweight, among whom at least 650 million are obese. (1) In Brazil, the number of obese people has also increased: in 2006, 42.6% of the population were considered overweight, and in 2016 this rate grew to 53.8%. (2)

Obesity is a public health problem and bariatric surgery has been considered an important strategy in the treatment of severely obese patients and is currently the most effective and long-lasting treatment in the control of associated diseases. (3,4) Nevertheless, some patients do not experience significant weight losses or present weight regain some time after the surgery. (5)

Brazilian and international studies seek to discuss weight regain after bariatric surgery using a quantitative approach. (6,7) However, questions related to the subjectivity of the people who experience this phenomenon are little explored, which calls for the development of investigations that emphasize the standpoint of patients who underwent weight regain in the late follow-up for the surgery. This approach may contribute to a better understanding of their needs and expectations.

Methods

This is a qualitative study based on the Social Phenomenology by Alfred Schütz, which allows researchers to access the consciousness of the people who experience the examined phenomenon, emphasizing the social relationship as a fundamental element in the interpretation of human meanings. (8)

Some theoretical assumptions were used to ground the findings: the life-world consists of the sociocultural space of the individual – it is in it that human beings live together and develop bonds in different social relationships. This perspective includes intersubjectivity, which enables the exchange of experiences in an intersubjective and social way.

(8) The “reasons why” (present and past experiences) and the “reasons for” (projects to be carried out) are the driving force of human actions in the social world. The set of these reasons culminate in the typical characteristics of a certain social group. (8)

Data collection occurred from March to May 2017 at the Hospital das Clínicas of the University of São Paulo, School of Medicine in private rooms of the outpatient clinic. Inclusion criteria were people who had undergone bariatric surgery more than one year before data collection and presented weight regain of more than 10% of the lost weight, from both genders, 18 years old or older, living in the metropolitan area of São Paulo.

The contact with participants happened through phone calls, from a list with the names of the patients provided by the institution. To recruit new participants who met the inclusion criteria, weekly visits were paid to the obesity and bariatric surgery clinic to approach patients who waited in the service queue. After a previous approach and explanations about the study, venue, date, and time were set according to the patients’ convenience for the execution of interviews.

Reports were obtained after the signature of free and informed consent forms. Interviews were recorded and transcribed by researcher and lasted 60 minutes on average. The protocol for the present study was registered with and approved by the Research Ethics Committee of the Escola de Enfermagem da Universidade de São Paulo and the Research Ethics Committee of the Federal University of São Paulo – Hospital São Paulo. Confidentiality and anonymity were guaranteed to participants, in accordance with the guidelines that rule human research.

The following questions guided the interviews: How does it feel to see yourself putting on weight again? What do you think is contributing to you putting on weight? How do you deal with weight regain? How do they see themselves in the future regarding their weight? The objective of the present investigation was to understand the weight regain experience after bariatric surgery.
regain? How do you see yourself in a few years regarding your weight?

When the reports showed convergence concerning meanings and revealed no new contents, it was considered that the data saturation predicted for qualitative research had been reached, and data collection was ended. With this procedure, 17 people with weight regain after bariatric surgery were interviewed, and all the reports were included in the study.

The organization and analysis of the meanings originating from the reports followed the steps recommended by social phenomenological researchers. The transcriptions were read and excerpts of each report were selected. These extracts were rewritten and grouped according to the meaning convergence, allowing the determination of categories which revealed the “reasons why” and “reasons for” of social action.

Results

The sample was 11 women and six men. Their ages ranged from 35 to 69 years, and most underwent bariatric surgery between 2002 and 2012. The weight loss after the surgery varied from 52 to 82 kg, and most patients had a weight regain between 22 and 40 kg.

Alfred Schütz’s social phenomenology allowed to identify four categories that express the existential reasons of the attitudes of people with weight regain after bariatric surgery: “feeling of failure emerges with weight regain”, “emotional aspects that contribute to weight regain”, and “impact of weight regain on physical and mental health”, which correspond to the “reasons why”. The category “expectations regarding weight regain” revealed the participants’ projects, indicating the “reasons for”.

Feeling of failure emerges with weight regain
Taking into account failure feelings before weight regain, the participants expressed defeat, shame, guilt, sadness, and despair:

[...] today I feel really embarrassed [...] I’ve gotten my share of guilt [...]. I1 [...] Putting on weight bothers me, makes me very sad and upset, depressed, because my dream was to be between 55 and 60 kg. I6 [...] It is a feeling of despair [...] it is depressing, because it is unachieved goals. So I get frustrated because I step on a scale and see that I put on weight again or kept that weight [...]. I15

Emotional aspects that contribute to weight regain
The reports showed that anxiety affects the emotional stability of the interviewees and makes them seek comfort in the ingestion of food:

[...] I get nervous, anxious, I feel like eating. It seems that eating satisfies me [...] I2. [...] when I feel lonely I feel like eating everything around, grazing. [...] I nibble something that I think that fills this emptiness [...] I8 [...] I take it out on alcohol. [...] what makes me put on weight is alcohol. I am not going to have a beer and order lettuce and tomato, unfortunately appetizers seem to come together. I9 [...] I am anxious because I live by myself. [...] It is an emptiness that nothing fulfills. [...] I eat a lot [...] one thing leads to another, I get upset, lonely, and what satiates me is eating [...]. I11

Impact of weight regain on physical health
Other reports emphasized the impact of weight regain on physical health and the consequences of putting on weight:

[...] my legs cannot bear my weight anymore. I am already having serious problems with my knees [...]. I4 With the increase in weight, the daily routine gets very complicated, because I do not leave home, I do not move, I feel a lot a pain. [...] some time ago I went out, danced, even fat and with some limitations. Now I cannot see myself leaving home to go anywhere. I6 [...] I care because of the health issues, because all the problems I used to have are back [...]. I14

Expectations regarding weight regain
The interviewees declared that they wish to lose and control weight to impact on their quality of life positively, but need professional support to achieve this goal, mostly to deal with emotional issues:

[...] I want to travel, do what I like, be free and thinner. I3 [...] I do not want to be fat. I want
to be much more cheerful, do everything I like. I would like to lose weight and be well again. Everything I learned about losing weight I will apply again.

Some participants long for a new bariatric surgical procedure and plastic surgery to improve their self-esteem:

[...] plastic surgery in the belly is something I want to do to stir up my life, my self-esteem. I want to lose around 50 kg and have the plastic surgery. [...] because there is a lot of skin left, it impairs hygiene, appearance, and sex life. I liked the idea of having another surgery, but we always think of the suffering it is [...] I confess that I was excited when they said: “you are going to lose weight”. [...] the perspective is to lose weight, join the plastic surgery program, get the skin cut off, and have a life.

**Discussion**

The experiences resulting from weight regain after bariatric surgery make up the knowledge background acquired by obese people in the social reality in which they are inserted. This background reflects on the way they deal with the weight regain (“reasons why”). What these people live in the social world grounds the projects they aim to develop to reach the initial goal, the weight loss of the physical body (“reasons for”). The set of specificities of people who gain weight after bariatric surgery (“reasons why and for”) constitutes the typical characteristics of this social group (typification).

The interviewees expressed feelings of frustration and failure and reported the need to eat when they feel anxious, nervous, or depressed for not having achieved the goal of keeping the target weight. These results corroborate the findings reported in a study carried out in Norway in which participants referred to fear to lose control and put on weight again, associating weight regain with feelings of defeat and shame. An investigation with women submitted to bariatric surgery revealed that those who reached the mark of one year of surgery or more began to have difficulties to keep their weight. From that moment, these patients had to live with uncertainties and fears related to weight gain as a consequence of resuming inadequate eating habits. As time passes by, these people get back to their previous experiences regarding obesity in the life-world.

The life-world, also known as the world of social relationships, is the setting of experiences lived in the daily routine, which represent intersubjective actions that allow exchanges and interactions which promote the understanding of the experienced questions.

The interviewees reported difficulty to manage their emotional balance and consequently use food as an outlet for stress and anxiety. Loneliness and sadness were also mentioned as driving forces to consume high-calorie foods excessively. The results of an integrative review show that binge eating is a frequent behavior, and that bulimia, the grazing behavior, and night eating syndrome stand out among these people. The authors observed that dysfunctional eating behaviors are frequent among candidates for bariatric surgery and may emerge or worsen after the surgical intervention.

Bariatric surgery resulted in a significant weight loss of the interviewees. Nevertheless, these changes did not guarantee existential satisfaction to them, who are constantly tested by the emotional instability they reported. Food seems to be a factor that controls and organizes their lives and everything revolves around it. It plays an important mediation role, regulating negative feelings and working as a coping strategy to face the difficulties that come up. This pattern is described as “emotional eating” and refers to the habit of resorting to food to obtain comfort and stress relief or to get a reward.

The patients interviewed in the present study declared that they eat incorrectly, nibbling too much and ingesting high-calorie foods such as...
sweets, cookies, and chocolate. One of the patients pointed out the consumption of alcohol as a factor that contributes to weight regain. A study carried out in Brazil with people who were submitted to bariatric surgery and had weight regain showed that the main causes of this phenomenon were the resumption of previous eating habits, the increase in alcohol consumption, and a sedentary lifestyle.\(^{(14)}\)

The experienced beliefs, values, and eating habits reflect the way the participants of the present investigation perceive the relapse of obesity and associate it with the factors that contribute to weight regain. These factors are directly related to the biographical situation and natural attitude, that is, the way human beings act in the social world.\(^{(8)}\)

The reports revealed that physical limitations, frequent pain, and impaired social relationships were perceived as a consequence of weight regain. It is common that obese people have chronic pain, and the weight loss caused by bariatric surgery may be an important aspect of pain rehabilitation. However, when weight regain occurs, the pain episodes resume.\(^{(15)}\) The physical limitation regarding work activities, pain, psychological problems, and obstacles to developing social roles are also stressed as a consequence of obesity.\(^{(18)}\)

Obtaining professional support that helps people deal with emotional issues was an expectation which stood out as a “reason for” in the action of bariatric patients before weight regain. In the examined group, emotional support was cited as necessary in the treatment, and some interviewees showed the need for professional follow-up to assist them to cope with the situations resulting from the surgery and weight regain.

A systematic literature review identified studies on the effectiveness of bariatric surgery to improve the quality of life of operated patients in the long run. The review reinforced how persistent psychosocial factors that affect obesity are and emphasized the need for psychological support after the surgery to work on the patients’ quality of life.\(^{(17)}\)

The demand for plastic surgeries was an expectation of the interviewees to fix the impacts of weight loss and increase self-esteem. Plastic surgeries must be performed when the weight stabilizes after bariatric surgery or when the remaining skin and fat excess hinder patients’ locomotion or cause additional complications.\(^{(18)}\)

The main limitation of the present study is the fact that it was carried out with a specific group of people who were assisted in a single public healthcare service, inserted in a certain social reality. It is noteworthy that the development of other investigations with people from different contexts will not necessarily converge to similar results. However, the findings of the present study may enrich the understanding of weight regain after bariatric surgery, in addition to encourage new investigations on the subject.

**Conclusion**

The present study indicates how complex and little understood the weight regain phenomenon is regarding its biopsychosocial aspects. The experience of weight regain after bariatric surgery is attributed to emotional instability and reveals the disappointment caused by putting on weight and the expectation of losing weight again. The discussion confirms the need to improve healthcare professional practices and health teaching and knowledge. Multiprofessional healthcare teams must invest in meetings with patients after bariatric surgery, sharing decisions and promoting their autonomy aiming to keep their weight. It is important that professionals broaden their knowledge, exchange experiences, and seek training constantly on the several aspects involved in bariatric surgery, giving special attention to the subjective nature of the topics associated with weight regain.

**Collaborations**

Kortchmar E, Merighi MAB, Conz CA, Jesus MCP, and Oliveira DM contributed to the study conception, choice of the used theoretical framework, data analysis and interpretation, writing of the manuscript, and final approval of the version to be published.
Weight regain after bariatric surgery: a phenomenological approach

References

Intrafamilial abuse in the childhood of men criminally prosecuted for domestic violence
Abuso intrafamiliar na infância de homens em processo criminal por violência conjugal
Abuso intrafamiliar en la infancia de los hombres en proceso penal por violencia conyugal

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Abstract
Objective: Unveil the intrafamilial abuse experienced in the childhood of men criminally prosecuted for domestic violence.
Methods: A qualitative study was undertaken, based on the theoretical framework proposed by Walter Benjamin. The data were collected through interviews with 23 men who were being criminally prosecuted for domestic violence in a Court for Domestic and Family Violence against Women in the city of Salvador, Bahia, Brazil, which were categorized with the help of Nvivo-11 and organized by means of the Collective Subject Discourse.
Results: The statements evidenced a childhood marked by lack of affection, experiences of physical and psychological violence, expressed through body marks, false imprisonment and fear, as well as witnessing domestic violence between the parents. While appointing the trauma of this experience, the study alerts that the collective subject finds himself reproducing the same paternal attitudes in his marital relationship.
Conclusion: The experience of a childhood marked by intrafamilial violence signals the intergenerational nature of domestic violence, reflected in the abusive marital relationships.

Resumo
Objetivo: Desvendar o abuso intrafamiliar vivenciado na infância de homens em processo criminal por violência conjugal.
Métodos: Trata-se de um estudo qualitativo, fundamentado no referencial teórico proposto por Walter Benjamin. A coleta de dados ocorreu por meio de entrevistas com 23 homens que estavam respondendo judicialmente por violência conjugal em uma Vara de Violência Doméstica e Familiar contra Mulher da cidade de Salvador, Bahia, Brasil, as quais foram categorizadas com o apoio do Software Nvivo-11 e organizadas através do Discurso do Sujeto Coletivo.
Resultados: As falas evidenciaram uma infância marcada pela falta de afeto, vivência de violência física e psicológica, expressa pelas marcas corporais, cárcere privado e amedrontamento, bem como o testemunho da violência conjugal entre os pais. Ao mesmo tempo que aponta para o trauma dessa vivência, o estudo alerta que o sujeito coletivo percebe-se reproduzindo, em sua relação conjugal, as mesmas atitudes paternas.
Conclusão: A experiência de uma infância marcada por violência intrafamiliar sinaliza o caráter intergeracional da violência doméstica, refletida nas relações conjugas abusivas.

Resumen
Objetivo: Desvelar el abuso intrafamiliar experimentado en la infancia de los hombres en un proceso penal por violencia conyugal.
Métodos: Se trata de un estudio cualitativo, basado en el marco teórico propuesto por Walter Benjamin. La recolección de datos ocurrió por medio de entrevistas con 23 hombres que respondían judicialmente por violencia conyugal en una Vara de Violencia Doméstica y Familiar contra la Mujer de la ciudad de Salvador, Bahía, Brasil, las cuales fueron categorizadas con el apoyo del Software Nvivo-11 y organizadas a través del Discurso del Sujeto Colectivo.
Resultados: Las declaraciones mostraron una infancia marcada por la falta de afecto, la vivencia de la violencia física y psicológica, expresada por las marcas corporales, detención ilegal e intimidación, así como el testimonio de la violencia conyugal entre los padres. Al mismo tiempo que apunta el trauma de dicha experiencia, el estudio advierte que el sujeto colectivo se percibe reproduciendo, en su relación conyugal, las mismas actitudes paternas.
Conclusión: La experiencia de una infancia marcada por la violencia intrafamiliar señala el carácter intergeneracional de la violencia doméstica, la cual se refleja en las relaciones de pareja abusivas.

Keywords
Domestic violence; Child; Men’s health; Nursing; Family relations

Descritores
Violência doméstica; Crianças; Saúde do homem; Enfermagem, Relações familiares

Descritores
Violencia doméstica; Niño; Salud del hombre; Enfermería; Relaciones familiares

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Intrafamilial abuse in the childhood of men criminally prosecuted for domestic violence

Introduction

Domestic violence has severe repercussions for the health of all concerned, especially for children and adolescents. Any means of abuse directed at children or adolescents by people who are considered a family nucleus even if they do not have a blood relation is called intrafamilial.\(^1\) When they witness or experience the problem, they can assimilate this type of behavior as natural, reproducing it in adult life.\(^2\)

This context further undermines these children because they remain in violent family relationships. In addition, living in an environment permeated by this problem entails serious damage to the construction of the children's personality, as this upbringing that starts from birth is often delineated based on what one sees in the parents.\(^3,4\)

Studies reveal the magnitude of violence against children and adolescents. The United Nations Children's Fund estimates that every seven minutes, a child or adolescent dies as a result of this affront.\(^5\) In Brazil, statistics show that, in 2015, more than 56,000 violent deaths were reported, 18.4\% of which involved people under the age of 19.\(^6\) Regarding morbidity, data show that, in 2014, more than 97 thousand cases of child/adolescent victims of violence were attended in the Unified Health System (SUS), the large majority of which were domestic abuses.\(^7\)

Despite the high rates, the actual number of children and adolescents living in domestic violence is not known. This under-registration is related to the silence that permeates the domestic space,\(^9\) given the scarce resources children have to ask for help. There are also feelings of fear and guilt in denouncing their parents, who are the main perpetrators sometimes.\(^5,9\)

This reality leads to the adults’ demoralization of children’s speech, becoming even more pronounced the younger they are. Even if children are able to verbalize the aggressive daily life, their story may be met with disbelief, making the experience long-lasting or naturalized and reproduced in future relationships.\(^2\)

Research across the world demonstrates the transgenerational character of domestic violence.\(^10,11\) Nevertheless, the vast majority of studies focus on the female perspective.\(^11,12\) Understanding the importance of research that may favor the unveiling of the transgenerational characteristic of domestic violence from the viewpoint of men, the following question is raised: how was the experience of intrafamilial abuse in the childhood of men criminally prosecuted for domestic violence? Thus, this article aimed to unveil the intrafamilial abuse experienced in the childhood of men criminally prosecuted for domestic violence.

Methods

This study with a qualitative approach was based on the theoretical framework proposed by Benjamin, which rests on the conception that the life trajectory of people is influenced by their social relations and renewed daily through human actions.\(^13\) Thus, one assumes that the past can influence future perspectives.

The place of study was a Court of Domestic and Family Violence against Women in Salvador, Bahia, Brazil. The study collaborators were 23 male defendants criminally prosecuted for domestic violence, who were already linked to the parent project, and this was the means used to approach the participants. During the hearings, the social worker of the institution mentioned invited them to join the umbrella project and, afterward, made available to the researchers the list with the names and telephone numbers of the men who accepted to participate in the project. The following inclusion criteria were adopted: responding to criminal prosecution at the court in question; having been arrested as a result of domestic violence; being in good emotional conditions to report their life stories.

After being informed about what it was, two of the possible participants did not agree to the survey, justifying that they did not like to talk about it. The study complied with other ethical precepts of research involving human beings, also recommend-
such as the signing of the Free and Informed Consent Form by those who accepted to participate in the study. The research received approval from the Research Ethics Committee of the School of Nursing at the Federal University of Bahia, under opinion 877.905/2014.

For the data collection, we used the interview technique, guided by a semi-structured form. The meeting was conducted by a nurse researcher who was a doctoral student at the time of data collection, who was already engaged in research on domestic violence and was already developing community outreach activities with men in the same situation as the interviewees. The interview was guided by the following questions: Talk about the marital relationship of your parents; Talk about your relationship as a child with your parents. The questions were asked in a pilot before being asked to the collaborators. Thus, the discourse was based on what was most significant for the men, as Benjamin proposes. (13)

In order to preserve the participants’ anonymity, the interviews were conducted in a private room at the place of study, with only the researcher and the collaborator present. Each interview took between 30 and 60 minutes and the saturation of the information determined the number of interviewees.

The statements of the collaborators were recorded on a portable recorder, fully transcribed and identified through the letter I and the interview order number. The collection period was between July and December 2015. The interviews were fully transcribed and stored in the Nvivo-11 database, at the same time as their systematization began, based on the separation of the thematic nuclei. After inserting the data into the software, the organization of the material started through the Collective Subject Discourse method, through which synthesis statements could be constructed that represent the collectivity. To elaborate the discourse, the following methodological figures are used: 1) Central Idea (CI): it is a name or expression that permits understanding and synthesizing the essence of what was said; 2) Key expression (KE): it is the exact clipping of the participant’s statement. (14)

The study participants were between 25 and 62 years of age. Regarding race/color, 15 participants self-declared black and eight were mulattoes. In terms of education, two were illiterate, seven had not finished elementary education, three had completed elementary education, four had not finished high school, six had completed high school and only one attended higher education. With regard to the marital status, 20 lived together in a stable union and 18 had children as a result of this relationship. The time they had lived with their spouse ranged from four to 40 years.

Results
The collective discourse on the childhood of men being criminally prosecuted for domestic violence is represented by the “word cloud” (Figure 1), whose words express the essence of the central ideas in the study.

Figure 1. Word cloud based on NVIVO® version 11- Frequency of words in the collective discourse

The collective discourse of the interviewed men unveiled how their childhood took place, illustrated by the following Central Ideas:

Central idea 1 – Experiencing the lack of parental affection
The discourse of the men criminally prosecuted for domestic violence evidences a childhood marked by lack of affection, in a context of paternal non-adoption, besides maternal disdain and hostility.

I've never had the love of a father and mother. My father did not assume his fatherhood. I was raised
by my mother and she scorned us and was aggressive every day. That marked my childhood very much! (I5, I8, I16, I20).

Central idea 2 – Experiencing the physical and psychological violence
The men’s childhood was also permeated by the experience of physical and psychological violence, expressed by the corporal marks, false imprisonment and fear. The discourse also denotes the association between alcohol and aggressive behavior, as well as the male understanding that it consists of a way of educating.

I was very mistreated in my childhood. My parents educated my brothers and me very severely. My father stepped on our heads, beat with wood and a belt to the extent of leaving physical marks on the body. I have marks on my body to this day. He drank a lot, then beat me up, left me locked up in the wardrobe. I was so nervous that I did my physiological needs right there. When my father came near me, I trembled with fear. [...] he liked it, he was happy to do that! (I1, I4, I3, I7, I15, I18, I19).

Central idea 3 – Witnessing the domestic violence between the parents
The discourse reveals that the interviewees’ childhood was marked by constant marital violence between the parents, with repercussions, like the abortion and the woman’s (mother) death. While appointing the trauma of this experience, the study alerts that the collective subject finds himself reproducing the same paternal attitudes in his marital relationship. Alcohol again appears as an element associated with aggressive conduct.

My parents’ life together was complicated because my father used to be drunk and very violent. He assaulted my mother a lot. My brothers and I witnessed everything, we saw a lot of her suffering. I saw my mother having an abortion because of my father’s physical aggression, and it was not just once. One day, they were fighting in the street over another woman and she threw herself under a car. They say he pushed her but, as I was small, I have no recollection. Seeing her under the car was the most striking moment of my life. My mother died out of love for him. All this traumatized me, but there are times that I keep thinking because I did the same: I also mistreated my wife. I think I learned to be like him (I1, I2, I3, I4, I5, I7, I10, I11, I13, I15, I19, I21).

Discussion
The discourse of criminally prosecuted men unveiled a childhood marked by domestic violations. This is so because, from an early age, they witnessed daily violence between their parents and experienced physical and psychological aggression and neglect. Those negative experiences in childhood have subjective and particular meanings, based on what each man experienced and how it affected him. The lack of affection associated with omission and/or parental hostility, revealed in the study, represented a behavior of emotional neglect and strongly marked these men’s lives. Parental omission represents a violation of the fundamental rights of the child, including family life, as recommended in art. 19 of the Statute of the Child and the Adolescent; and to know their own paternity, in accordance with art. 226, subsection 7 of the Brazilian Federal Constitution. The right to healthy parenting is also advocated in other countries, such as the United Kingdom, which established legislation to strengthen the responsibility of parents to meet the needs of their children. It is believed that, having their rights attended to, children develop their emotional needs in a positive way. Whether committed by the father or mother, the failure to meet the affective demands of the child,
considered a severe expression of psychological violence, generates painful feelings of abandonment, insecurity, loneliness, as well as low self-esteem and difficulty to relate, behaviors perceived since childhood and which interfere in adult life, in view of the cognitive and mental harm\cite{18,19}.

Following Benjamin’s point of view, the situations of violence experienced in childhood had a singular effect on the lives of the interviewed men\cite{13}. Some actions of psychological abuse can be evidenced in the collective discourse, such as the father’s cruel intention to frighten him with his presence and arbitrary imprisonment in the wardrobe, where he came to do his physiological needs. In this case, the father’s dominance over his children triggered negative feelings and anxiety, as well as fear of the paternal figure, often understood as respect\cite{20,21}.

Respect for the father-man is related to the patriarchal model of society in which he is considered the head of the household, the highest authority of the home, and therefore has the right to impose his wishes on the other members of his family, especially his wife and children\cite{22,23}. In the absence of the father, the mother occupies the second place in this strict hierarchy, exercising her domination over the children\cite{24,25}. This scenario favors the perpetuation of violence, in view of the culturally sustained belief that, in the private environment, the authority of the parents is unquestionable\cite{26}.

According to Benjamin, the fundamental issue when discussing violence is its justification as a means\cite{13}. That is the context for the social permission to use physical aggression and punishment, reinforced by the social belief that the children are the parents’ properties\cite{22,26}, which was also revealed in the discourse of this study. These aggressive behaviors are used and justified as a pedagogical resource for educating the children, and these acts are naturalized and therefore socially accepted\cite{27,28}. This thought, shared in different parts of the world, was revealed in research developed in nine countries that also consider that physical aggression by the parents is necessary for the educational process\cite{29}.

It is noteworthy that one collective discourse addresses this conception, when it suggests that the violent acts he experienced were a ‘severe’ form of education, also pointing to the acceptance of those who experience it. This understanding can be explained in the perspective Benjamin put forward, who defends the human capacity to reinvent his existence, pointing to each stage of life as a unique moment to be overcome\cite{13}. From this point of view, man would rationalize the negative experience of the violence in his childhood, starting to understand it as a necessary and pertinent educational strategy. Thus, a supposed overcoming of the abuse experienced would occur.

Because of the naturalization of the behavior learned, when they become adults, men use the same means to discipline their children, because having been educated by coercive force makes it the only way they have learned\cite{28}. Similarly, they also internalize and reproduce the way of relating to one another when adults.

Thus, while the men’s discourse reveals a childhood of suffering through their own experience and because they witness the violence between their parents, they also refer to the perception that these acts are reproduced in adult life. The reproduction of violence, in turn, can also be glimpsed from Benjamin’s perspective. In this case, contrary to what the theoretician proposes, man would not be able to reinvent his existence, perpetuating the vicious cycle of abuse.

Considering that several generations reproduce the violent behavior in family relationships, research corroborates the intergenerational cyclical nature of domestic and marital violence\cite{10,11,30}. International studies have revealed that children who experience and/or witness their parents’ violence become aggressive adults, which reaffirms the transgenerational nature of violence\cite{25,31}.

It is important to emphasize that a family routine governed by violent attitudes, sometimes motivated by the father’s alcohol use, is revealed to be detrimental to the growth and development of children and adolescents. Based on the discourse, as children, the men did not only experience domestic abuse but also witnessed marital violence, including drastic scenes such as abortion associated with physical assault and the death of their own mother after a public fight with their father. This entire ex-
Intrafamilial abuse in the childhood of men criminally prosecuted for domestic violence

experience marked their lives, the trauma being evidenced as an emotional repercussion.

It is emphasized that it is impossible to isolate any family member from the impacts of the marital violence, as it leads to a continuous and progressive process of loss of health, with serious consequences for all those involved, especially the children. Researchers from different parts of the world have concluded that growing up in a home filled with violence damages the children’s emotional, social and cognitive development. The repercussions include the following signs: hostile attitudes, aggressiveness, neurosis, anxiety, depression, attention deficit hyperactivity disorder (ADHD) and low school performance. In addition, they are more likely to develop childhood morbidities such as obesity.\(^{(32,33)}\)

Considering all the damage related to the existence of intrafamilial violence, the Statute of the Child and Adolescent provides for the punishment by law, for any action or omission to fundamental rights, including: the right of the child or adolescent to a life free from neglect, violence, discrimination, exploitation, cruelty, and oppression.\(^{(34)}\)

Understanding that the family is the main responsible for the children’s upbringing and that the legacy of violence has been transferred from generation to generation, Benjamin\(^{(13)}\) argues that it a family education that seeks non-violent forms of conflict resolution is certainly possible. Children should be included in this process so they can act differently in their future relationships, thus breaking the intergenerational cycle of family and domestic violence.

## Conclusion

The childhood of men criminally prosecuted for domestic violence was permeated by the lack of parental affection; by the experience of physical and psychological violence; and by witnessing violence between the parents. Although the men’s discourse reveals suffering due to this experience, it also signals the perception that many behaviors adopted in adult life reproduced what had been experienced in childhood, such as aggression as an educational method and domestic violence. In view of the intergenerational characteristic of marital violence, it is essential to develop strategies that enable both the re-signification of the experiences of men with a history of childhood violence, as proposed by Benjamin, and the deconstruction of the inequality between men and women, preferably while still in childhood and adolescence. He hoped that, thus, as adults, they would be able to reproduce harmonious and respectful relations and use peaceful means of conflict solving. For the adult population, it is believed that actions are needed that encourage re-signification about the marital relationship, the role of the woman and of the conduct itself in the family relationship. This is because it cannot be denied how deeply rooted the formation of these men’s gender identity is, as well as of the women. Therefore, the re-education process is slow to deconstruct the masculine belief of power over the woman and the latter’s belief in subservience to the husband. The education sector is a favorable place to develop these actions. The health sector is also highlighted, whose actions can be isolated or integrated with other spaces, such as the school, in order to recognize the problem early and prevent it. This can start, for example, with the approach of alcohol use/abuse, considered a precipitator of violence, and the identification of the background history of family violence, given the intergenerational nature of the phenomenon. The study is limited because it represents the discourse of a group of men inserted in a certain cultural context of the Brazilian Northeast. Therefore, the findings cannot be generalized.

## Acknowledgment

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## Collaborations

Lírio JGS, Gomes NP, Paixão GPN, Pereira A, Magalhães JRF, Cruz MA, and Sousa AR declare that they contributed to the study design, data analysis and interpretation, writing of the article, relev-
vant critical review of the intellectual content and approval of the final version for publication.

References


Breastfeeding difficulties: analysis of a service specialized in breastfeeding

Dificuldades relacionadas ao aleitamento materno: análise de um serviço especializado em amamentação

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Keywords
Breast feeding; Weaning; Milk banks; Health promotion; Public policy

Descritores
Aleitamento materno; Desmame; Banco de leite humano; Promoção da saúde; Políticas públicas

Descritores
Lactancia maternas; Destete; Bancos de leche; Promoción de la salud; Política pública

Abstract
Objective: To analyze the association between the type of breastfeeding and the difficulties related to this practice among women and children assisted in a clinic specialized in breastfeeding.

Methods: Cross-sectional retrospective study based on the analysis of medical records of women and children assisted in a clinic specialized in breastfeeding from 2004 to 2016. Medical records of women with multiple pregnancies and documents registered as nonstandard forms were excluded, which resulted in a sample with 1,608 records. The chi-square, nonparametric Mann-Whitney, and nonparametric Kruskal-Wallis tests were applied to compare the type of breastfeeding with categorical variables, frequency of exclusive breastfeeding, and days of life and maternal age, respectively.

Results: Exclusive breastfeeding was practiced by 72.6% of the assisted women in the first 30 days after childbirth. There was a significant association between this practice and the following difficulties: maternal perception regarding the volume of produced milk, full breasts before breastfeeding, milk leakage, and easy manual milk extraction; proper positioning of mother and child, latch, suction, and swallowing by the child; in addition to the following characteristics: higher level of education; stable marital status; previous experience with breastfeeding; protruding nipples; early skin-to-skin contact with the child; and children with a lower average number of days of life and who used pacifiers.

Conclusion: Exclusive breastfeeding prevailed in the first 30 days after childbirth and several maternal and neonatal variables were associated with this practice in the first appointment in the specialized clinic.

Resumo
Objetivo: Analisar a associação entre o tipo de aleitamento e as dificuldades relacionadas à essa prática entre mulheres e crianças assistidas em um ambulatório especializado em amamentação.

Métodos: Estudo transversal retrospectivo realizado por meio da análise de prontuários de crianças e mulheres atendidas entre 2004 e 2016 em um ambulatório especializado em aleitamento materno. Foram excluídos os registros referentes às mulheres com gestação múltipla e aqueles não realizados em formulário padrão, totalizando 1.608 prontuários. Utilizaram-se os testes Qui-Quadrado e Kruskal-Wallis para comparar o tipo de aleitamento materno com variáveis categóricas; e com os dias de vida e idade materna, respectivamente. O teste Mann-Whitney utilizou-se para comparar a frequência de aleitamento materno exclusivo.

Resultados: O aleitamento materno exclusivo foi praticado por 72,6% das mulheres atendidas, nos primeiros 30 dias após o parto. Houve associação significativa entre esta prática e as dificuldades: percepção materna quanto à quantidade de leite produzida, de mamas cheias antes das mamadas, de vazamento de leite e extracção manual de leite com facilidade; posicionamento materno e da criança, presilha, sucção e deglutição da criança adequados; além das variáveis: maior escolaridade, situação conjugal estável; ter tido experiência prévia com aleitamento materno, ter mamilos protusos, ter realizado contato precoce pele a pele, ter filhos com menor média de dias de idade e que faziam uso de chupeta.

Conclusão: O aleitamento materno exclusivo foi o mais prevalente nos primeiros 30 dias pós-parto e diversas variáveis maternas e neonatais estiveram associadas à essa prática no primeiro atendimento em ambulatório especializado.

Resumen
Objetivo: Analizar la asociación entre el tipo de amamantamiento y las dificultades relacionadas con esta práctica entre las mujeres y los niños atendidos en una clínica especializada en la lactancia materna.

Métodos: Estudio transversal retrospectivo llevado a cabo por medio del análisis de expedientes de mujeres y niños atendidos entre 2004 y 2016, en una clínica especializada en lactancia materna. Se excluyeron los registros referentes a las mujeres con gestación múltiple y a los no realizados de forma estándar, totalizando 1.608 expedientes. Se utilizaron las pruebas Qui-cuadrado y Kruskal-Wallis para comparar el tipo de lactancia materna con variables categóricas; y con los días de vida y edad materna, respectivamente. La prueba Mann-Whitney fue utilizada para comparar la frecuencia de la lactancia materna exclusiva.

Resultados: La lactancia exclusiva fue practicada por el 72,6% de las mujeres atendidas en los primeros 30 días después del parto. Se observó una asociación significativa entre esta práctica y las dificultades: percepción materna en cuanto a la cantidad de leche producida, de mamas llenas antes de las tomas, de fuga de leche y extracción manual de leche con facilidad; posicionamiento materno y del niño, succión y deglución del niño adecuados; además de las variables: mayor escolaridad, situación conjugal estable; haber tenido experiencia previa con la lactancia materna, tener pezones sobresalientes, haber realizado contacto precoz piel a piel, tener hijos con menor promedio de días de edad y que hacían uso de chupeta.

Conclusión: La lactancia materna exclusiva fue lo más prevalente en los primeros 30 días después del parto y diversas variables maternas y neonatales fueron asociadas con esta práctica en la primera atención en clínicas especializadas.

Como citar:
Introduction

The World Health Organization (WHO) recommends that breastfeeding be the exclusive source of food in the first six months of life and a dietary complement until children turn two years old. This practice is considered the best choice for newborn nutrition, because it provides immunological protection against respiratory diseases and gastrointestinal infections, in addition to inducing an emotional bond between mother and child.

Despite this recommendation and the benefits of this practice, breastfeeding rates worldwide are much lower than expected, a fact that can be explained by several reasons. Women may wish to breastfeed, but face social, cultural, and political barriers during the pregnancy-postpartum cycle, which interfere in its beginning and continuity.

In the individual sphere, mothers and children experience a learning period that may impact positively or negatively on the duration and choice of type of breastfeeding. Difficulties in the beginning of the breastfeeding process are common and pose a risk of early weaning. Factors that influence the continuity of breastfeeding relate to milk production, psychosocial aspects, the nutritional and satiety situation of children, women's lifestyle and health conditions, the presence of pain during breastfeeding, and problems associated with the positioning and latching on to the breast.

Regarding performance and incentive from health professionals, lack of support for early breastfeeding and mother-child contact, and the use of artificial milk and nipples are frequent after childbirth.

Brazil stands out in the international scenario for having a set of coordinated breastfeeding incentive policies: Iniciativa Hospital Amigo da Criança, Método Canguru, paid maternity leaves for four to six months, Unidade Básica Amiga da Amamentação, breastfeeding support rooms, a law that addresses the commercialization of foods for infants, and the largest network of human milk banks in the world. Strategies to promote breastfeeding helped Brazil reach one of the highest exclusive breastfeeding rates for children younger than six months (41%) and a breastfeeding prevalence of 58.7% for children between nine and 12 months old. These numbers, however, are lower than those established in official recommendations.

Despite some positive numbers, the short Brazilian maternity leave and lack of a proper structure in workplaces for the correct pumping and storage of breast milk may explain rates lower than those recommended by the WHO.

Specialized breastfeeding outpatient follow-up allowed healthcare professionals who provide postpartum women with care to notice that many of these patients report to use infant formulas in the first appointment. To understand this reality and improve the professional practice oriented toward promoting breastfeeding, the present study had the objective to analyze the association between the type of breastfeeding and the difficulties related to this practice among women and children assisted in a clinic specialized in breastfeeding.

Methods

This was a cross-sectional retrospective study developed at the Ana Abrão Center – Care, Teaching, and Research on Breastfeeding and Human Milk Bank of the Federal University of São Paulo. The service, created in 2003, offers care to women who deliver their children at the teaching hospital of the same institution and those who seek the service spontaneously. Appointments are scheduled at the hospital and occur between seven and ten days after childbirth. Follow-up is carried out monthly by specialized nurses, nutritionists, and psychologists during the children’s first six months of life, or more frequently depending on the professionals’ evaluation. After this period, children are referred to the nutrition laboratory for guidance, follow-up of complementary food introduction, and nutritional evaluation.

Data collection happened from June to October 2017. The sample included all the medical records of the first appointment of women and children who went through the mentioned center between January 2004 and December 2016 to seek breastfeeding assistance. Records of women with a current multiple pregnancy and records presented in a format that did not match the institution’s standard were excluded.

The dependent variable was set as the type of breastfeeding. Independent variables were: sociode-
mographic characteristics (age, level of education, occupation, and marital status), obstetric characteristics (number of pregnancies and miscarriages, parity, and type of childbirth in the last pregnancy), and neonatal characteristics (days of life, sex, birth weight, and Apgar scores at one and five minutes).

The variables related to breastfeeding and difficulties were: previous experience, skin-to-skin contact, use of a pacifier, type of nipple of the postpartum women, presence of nipple injury and breast engorgement, time interval between consecutive breastfeeding sessions, maternal perception regarding the volume of milk produced and consistency of breasts before and after breastfeeding, report of milk leakage, easiness to extract milk manually, position of mother and child, and latch, suction, and swallowing of the child during breastfeeding. The variables related to the observation of breastfeeding were classified as adequate and inadequate, in accordance with the standard evaluation procedure of the institution. For the descriptive analysis of the categorical variables, absolute and relative frequencies were calculated, whereas mean, standard deviation, and minimum and maximum values were obtained for continuous variables. The chi-square, nonparametric Mann-Whitney, and nonparametric Kruskal-Wallis tests were applied to compare the type of breastfeeding with categorical variables, the frequency of exclusive breastfeeding, and days of life and maternal age, respectively. A level of significance of 5% (p-value < 0.05) was considered in all tests.

In agreement with Brazilian Resolution 466, issued on December 8, 2012, the proposal of the present study was approved by the Research Ethics Committee of the Federal University of São Paulo as per protocol 2.362.050. Consent forms were not necessary given that only secondary data were analyzed.

**Results**

There were 1,673 medical records of women assisted in the first appointment in the service between January 2004 and December 2016, of which 65 were excluded (46 because data were registered in a form that did not meet the standards of the institution and 19 because they referred to women who had a multiple pregnancy). Consequently, the sample was 1,608 forms.

Regarding the women’s sociodemographic characteristics, women presented an average age of 29 years (standard deviation or SD = 7.1), most studied up to eight years (83.4%), developed paid activities (62%), and lived with their partners (69.9%). Analysis of the women’s obstetric characteristics revealed that they had, on average, two pregnancies (SD = 1.56; minimum = 1 and maximum = 13) and two childbirths (SD = 1.18; minimum = 1 and maximum = 11). Around one quarter (27.6%) of the women had a history of miscarriage (minimum = 0 and maximum = 7), and more than half (51.9%) had undergone a cesarean in the last pregnancy (Table 1).

**Table 1.** Characterization of women and children in the first appointment at a clinic specialized in breastfeeding incentive and support

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Women’s characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td>29.03(7.13)</td>
</tr>
<tr>
<td>Level of education (years of education) (n = 1,590) n(%)</td>
<td>1,327(83.5)</td>
</tr>
<tr>
<td>Up to 6</td>
<td></td>
</tr>
<tr>
<td>≥ 9</td>
<td>263(16.5)</td>
</tr>
<tr>
<td>Paid activity (n = 1,570) n(%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>973(62)</td>
</tr>
<tr>
<td>No</td>
<td>597(38)</td>
</tr>
<tr>
<td>Marital status (n = 1,594) n(%)</td>
<td></td>
</tr>
<tr>
<td>Has a partner</td>
<td>1,114(69.9)</td>
</tr>
<tr>
<td>Does not have a partner</td>
<td>480(30.1)</td>
</tr>
<tr>
<td>Number of pregnancies (n = 1,605) Mean(SD)</td>
<td>2.34(1.56)</td>
</tr>
<tr>
<td>Number of childbirths (n = 1,605) Mean(SD)</td>
<td>1.93(1.18)</td>
</tr>
<tr>
<td>Miscarriages (n = 1,601) n(%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>442(27.6)</td>
</tr>
<tr>
<td>No</td>
<td>1,159(72.4)</td>
</tr>
<tr>
<td>Type of childbirth (n = 1,604) n(%)</td>
<td></td>
</tr>
<tr>
<td>Vaginal</td>
<td>771(48.1)</td>
</tr>
<tr>
<td>Cesarean</td>
<td>833(51.9)</td>
</tr>
<tr>
<td><strong>Children’s characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Days of life (n = 1,608) Mean(SD)</td>
<td>20.59(16.13)</td>
</tr>
<tr>
<td>Sex (n = 1,604) n(%)</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>803(50.1)</td>
</tr>
<tr>
<td>Male</td>
<td>801(49.9)</td>
</tr>
<tr>
<td>Birth weight (g) (n = 1,597) Mean(SD)</td>
<td>3,083.05(510.86)</td>
</tr>
<tr>
<td>Apgar score at one minute (n = 1,518) n(%)</td>
<td></td>
</tr>
<tr>
<td>0-7</td>
<td>182(12)</td>
</tr>
<tr>
<td>8-10</td>
<td>1,336(88)</td>
</tr>
<tr>
<td>Apgar score at five minutes (n = 1,518) n(%)</td>
<td></td>
</tr>
<tr>
<td>0-7</td>
<td>17(1)</td>
</tr>
<tr>
<td>8-10</td>
<td>1,501(98.9)</td>
</tr>
<tr>
<td>Type of breastfeeding (n = 1,607) n(%)</td>
<td></td>
</tr>
<tr>
<td>No breastfeeding</td>
<td>402.5</td>
</tr>
<tr>
<td>EB*</td>
<td>1,167(72.6)</td>
</tr>
<tr>
<td>PB+CB+Mixed**</td>
<td>400(24.9)</td>
</tr>
</tbody>
</table>

*EB - exclusive breastfeeding; **PB - predominant breastfeeding; CB - complementary breastfeeding.
Regarding the children's characteristics, the average age in the first appointment was 20.6 days (SD = 16.1) and 50.1% were females. The average birth weight was 3,083.05 grams (SD = 510.86), and most babies presented Apgar scores at one and five minutes between eight and ten (88% and 98.9%, respectively). Most children (72.6%) were undergoing exclusive breastfeeding (Table 1).

Regarding breastfeeding-related variables, most women did not have a previous breastfeeding experience and did not carry out early skin-to-skin contact (54.4% and 58.5%, respectively), and most children (60.2%) did not use a pacifier. Around 80% of the patients considered the amount of produced milk as normal or excessive, more than 80% reported milk leakage, and more than 90% declared it was easy to extract milk manually. Most women perceived their breasts as being full before breastfeeding and sagging immediately after it. Nearly all postpartum women presented protruding nipples and had no breast engorgement. Around half the women had nipple injuries. Concerning the observation of mother and child during breastfeeding, most patients had no problems involving the maternal position and the position, latch, suction, and swallowing of the child (Tables 2 and 3).

There was a significant association between the type of breastfeeding registered in the first appointment and the variables: level of education, marital status, previous experience with breastfeeding, nipple type, early skin-to-skin contact, maternal perception regarding the volume of milk, maternal perception regarding the appearance of breasts before breastfeeding, report of milk leakage, easiness to extract milk manually, child's number of days of life, use of a pacifier, position of the mother during breastfeeding, position of the child during breastfeeding, latch of the child on to the breast, suction

<table>
<thead>
<tr>
<th>Table 2. Comparison between the types of breastfeeding in progress at the time of the first appointment and variables of postpartum women and children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Maternal age (n = 1,584) n(%)</td>
</tr>
<tr>
<td>Level of education (years) (n = 1,589) n(%)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Paid activity (n = 1,569) n(%)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Marital status (n = 1,593) n(%)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Previous breastfeeding experience (n = 1,581) n(%)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Type of nipple R (n = 1,421) n(%)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Type of nipple L (n = 1,417) n(%)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Days of life of the child (n = 1,607) n(%)</td>
</tr>
<tr>
<td>Early skin-to-skin contact (n = 1,502) n(%)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Use of a pacifier (n = 1,523) n(%)</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

*EB - exclusive breastfeeding; **PB - predominant breastfeeding; CB - complementary breastfeeding; *Chi-squared test; *Mann-Whitney test; *Kruskal-Wallis test
Breastfeeding difficulties: analysis of a service specialized in breastfeeding

Women who did not breastfeed presented a higher percentage of perception of low milk production, sagging breasts before breastfeeding, absence of milk leakage, difficulty in extracting milk manually, incorrect positioning of the mother and child during breastfeeding, and incorrect latch, suction, and swallowing of the child (Tables 2 and 3).

Most women who provided their child with exclusive breastfeeding had complete or incomplete high school, a stable marital status, previous experience with breastfeeding, and early skin-to-skin contact with the child. Additionally, these women showed a higher percentage of perception of the volume of milk they produced being normal or excessive, of having full breasts before breastfeeding, milk leakage, and easiness to extract milk manually, and a prevalence of protruding nipples. Children undergoing exclusive breastfeeding showed a lower average age and percentage of use of a pacifier. This group also had a higher percentage of correct positioning of the mother and child during breastfeeding and adequate latch, suction, and swallowing (Tables 2 and 3).

### Table 3. Comparison between the types of breastfeeding in progress at the time of the first appointment and breastfeeding-related variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Type of breastfeeding at the first appointment</th>
<th>No breastfeeding</th>
<th>EB*</th>
<th>PB+CB+Mixed**</th>
<th>Total</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time interval between consecutive breastfeeding sessions (hours) (n = 1,330) Mean(SD)</td>
<td></td>
<td>-</td>
<td>2.44(0.83)</td>
<td>2.52(1.23)</td>
<td>2.45(0.9)</td>
<td>0.6120*</td>
</tr>
<tr>
<td>Perception regarding the volume of milk produced (n = 1,559) n(%)</td>
<td></td>
<td></td>
<td>13(46.4)</td>
<td>984(86.5)</td>
<td>244(62.1)</td>
<td>1,241(79.6)</td>
</tr>
<tr>
<td>Normal/excessive</td>
<td></td>
<td></td>
<td>15(53.6)</td>
<td>154(13.5)</td>
<td>149(37.9)</td>
<td>318(20.4)</td>
</tr>
<tr>
<td>Perception regarding the appearance of breasts before breastfeeding (n = 1,515) n(%)</td>
<td></td>
<td></td>
<td>9(60)</td>
<td>83(7.4)</td>
<td>88(23.5)</td>
<td>180(11.9)</td>
</tr>
<tr>
<td>Sagging</td>
<td></td>
<td></td>
<td>6(40)</td>
<td>1,043(82.6)</td>
<td>286(76.5)</td>
<td>1,335(88.1)</td>
</tr>
<tr>
<td>Full/stiff</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perception regarding the appearance of breasts after breastfeeding (n = 1,512) n(%)</td>
<td></td>
<td></td>
<td>14(03.3)</td>
<td>1,014(89.9)</td>
<td>346(83.8)</td>
<td>1,374(90.9)</td>
</tr>
<tr>
<td>Sagging</td>
<td></td>
<td></td>
<td>1(6.7)</td>
<td>114(10.1)</td>
<td>23(6.2)</td>
<td>138(9.1)</td>
</tr>
<tr>
<td>Full/stiff</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Report of milk leakage (n = 1,516) n(%)</td>
<td></td>
<td></td>
<td>12(52.2)</td>
<td>968(86.8)</td>
<td>272(72)</td>
<td>1,252(82.6)</td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td>11(47.8)</td>
<td>147(13.2)</td>
<td>106(28)</td>
<td>264(17.4)</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
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<tr>
<td>Easiness to extract milk manually (n = 1,490) n(%)</td>
<td></td>
<td></td>
<td>13(56.5)</td>
<td>1,075(97.6)</td>
<td>324(88.9)</td>
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</tr>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td>10(43.5)</td>
<td>26(2.4)</td>
<td>42(11.5)</td>
<td>78(5.2)</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Nipple injury (n = 1,411) n(%)</td>
<td></td>
<td></td>
<td>18(54.5)</td>
<td>446(43.1)</td>
<td>148(43.1)</td>
<td>612(43.4)</td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td>15(45.5)</td>
<td>589(56.9)</td>
<td>195(56.9)</td>
<td>799(56.6)</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Engorged breasts (n = 1,500) n(%)</td>
<td></td>
<td></td>
<td>0(0)</td>
<td>32(2.9)</td>
<td>9(2.4)</td>
<td>41(2.7)</td>
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<td></td>
<td></td>
<td>39(100)</td>
<td>1,058(97.1)</td>
<td>362(97.6)</td>
<td>1,459(97.3)</td>
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<td></td>
<td></td>
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<tr>
<td>Position of the mother during breastfeeding (n = 1,502) n(%)</td>
<td></td>
<td></td>
<td>12(46.2)</td>
<td>802(72.1)</td>
<td>226(62.1)</td>
<td>1,040(69.2)</td>
</tr>
<tr>
<td>Adequate</td>
<td></td>
<td></td>
<td>14(51.8)</td>
<td>310(27.9)</td>
<td>138(37.9)</td>
<td>462(30.8)</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Position of the child during breastfeeding (n = 1,505) n(%)</td>
<td></td>
<td></td>
<td>8(30.8)</td>
<td>664(59.8)</td>
<td>187(50.8)</td>
<td>859(57.1)</td>
</tr>
<tr>
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<td></td>
<td></td>
<td>18(69.2)</td>
<td>447(40.2)</td>
<td>181(49.2)</td>
<td>646(42.9)</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Latch of the child (n = 1,486) n(%)</td>
<td></td>
<td></td>
<td>9(39.1)</td>
<td>768(69.6)</td>
<td>214(59)</td>
<td>989(66.6)</td>
</tr>
<tr>
<td>Adequate</td>
<td></td>
<td></td>
<td>14(60.9)</td>
<td>334(30.4)</td>
<td>149(41)</td>
<td>497(33.4)</td>
</tr>
<tr>
<td>Inadequate</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Suction of the child (n = 1,483) n(%)</td>
<td></td>
<td></td>
<td>7(30.4)</td>
<td>799(72.8)</td>
<td>225(62.2)</td>
<td>1,031(69.5)</td>
</tr>
<tr>
<td>Adequate</td>
<td></td>
<td></td>
<td>16(69.6)</td>
<td>299(27.2)</td>
<td>137(37.8)</td>
<td>452(30.5)</td>
</tr>
<tr>
<td>Inadequate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swallowing of the child (n = 1,470) n(%)</td>
<td></td>
<td></td>
<td>9(47.4)</td>
<td>801(73.2)</td>
<td>240(67.2)</td>
<td>1,050(71.4)</td>
</tr>
<tr>
<td>Adequate</td>
<td></td>
<td></td>
<td>10(56.2)</td>
<td>293(26.8)</td>
<td>117(32.8)</td>
<td>420(28.6)</td>
</tr>
<tr>
<td>Inadequate</td>
<td></td>
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</table>

*EB - exclusive breastfeeding; **PB - predominant breastfeeding; CB - complementary breastfeeding; *Chi-squared test; *Mann-Whitney test; *Kruskal-Wallis test
There was no association between the type of breastfeeding and the factors maternal age and occupation, presence of nipple injury, breast engorgement, perception regarding the appearance of the breasts after breastfeeding, and the time interval between consecutive breastfeeding sessions (Tables 2 and 3).

Discussion

The present study identified the association between the main difficulties experienced by mothers and children and the type of breastfeeding. The results pointed that some difficulties related to the perception regarding milk production (maternal perception of low milk production, sagging breasts before breastfeeding, lack of milk leakage, and difficulty to extract milk manually) were associated with nonexclusive breastfeeding. Regarding the difficulties during the practice, the incorrect positioning of mother and child and the latch, suction, and swallowing of the child were associated with early weaning. In addition to problems, maternal and neonatal sociodemographic variables (level of education, marital status, and age of the child) and obstetric characteristics (previous experience with breastfeeding, early skin-to-skin contact, use of a pacifier, and nipple type) were also associated with the type of breastfeeding.

The variables that contribute to early weaning according to the present study are the same indicated in the field literature. Low milk production is reported in investigations as a common difficulty in the beginning of the breastfeeding period. Women tend to associate this fact with the frequent crying of children and, because of a lack of knowledge, resort to dietary complementation through infant formulas, teas, and other items. This change may interfere with children’s food satiety and lead to insufficient suction, which may trigger other problems such as breast engorgement, nipple injury, and ultimately early weaning. These difficulties tend to sort themselves out over time in women who can keep the exclusive breastfeeding practice, given that the suction stimulus that newborns apply to breasts will progressively increase milk production. This can explain the positive perception regarding the volume of milk reported by women who kept the practice of exclusive breastfeeding.

The difficulties related to the positioning of mother and child during breastfeeding are more evident on the first days after childbirth. In this period, both mother and newborn are adapting to a new phase, and healthcare professionals can help and guide patients to prevent future insecurities. Inadequate positioning of one of them or both hinders proper latch, which affects the dynamics of suction and extraction of milk, potentially leading to difficulties in the emptying of the breasts and decreased milk production. These factors require intervention and amendment not to extend for long periods, thus preventing nipple injuries and pain during breastfeeding and consequently decreasing the chances of early weaning.

Contrarily to the findings of the present study, other problems such as breast engorgement and nipple injury are also risk factors for early weaning. These issues are directly related to incorrect positioning of the newborn in the breast, and the authors of the present investigation expected to obtain a different result, given that the field literature indicates breast-related complications as the most frequent difficulties regarding early weaning. Nevertheless, the specificities of the examined population, which was assisted by a technically trained team since childbirth until the first 20 days of the postpartum period, may explain the discrepancy between literature and results.

Concerning women’s characteristics, the present study revealed that there was no correlation between maternal age and the type of breastfeeding practiced, contradicting the recent literature on the subject. Studies reported that early weaning is more common among younger women (< 20 years) than among older women (> 30 years). This divergence may be explained by the higher number of women undergoing exclusive breastfeeding who had already had a breastfeeding experience.

The same disagreement occurred with the variable maternal occupation, frequently associated with early weaning, given that this practice can be related
Breastfeeding difficulties: analysis of a service specialized in breastfeeding to women's return to their work activities.\(^{[21]}\) The result described in the present study may be explained by the moment of the postpartum period in which women were assisted (around 20 days after childbirth) and the length of paid maternity leave (between four and six months) in Brazil.\(^{[8]}\)

Regarding level of education, most postpartum women who were performing exclusive breastfeeding studied up to eight years, that is, finished their education at elementary school. This result is compatible with studies which report a higher level of education as a precursor of greater access to information on breastfeeding and motivation to carry it out, which resulted in a longer breastfeeding period.\(^{[13,21]}\)

In addition to women's characteristics, previous experience has been considered one of the factors that contribute to prolonged breastfeeding,\(^{[25]}\) and may be more influential than maternal age. Previous experience proved significantly related to the maintenance of breastfeeding in the present investigation, reinforcing the findings of other studies.\(^{[21,26]}\)

Having breastfed other children helps women face the first days of adaptation with the newborn more easily, which favors a long-lasting breastfeeding.\(^{[20,21]}\)

Regarding women's physical aspects, the present study showed that most women had protruding nipples, a characteristic that was associated with the breastfeeding practice. This finding helps support the evidence that the nipple anatomy can influence the difficulties experienced in the beginning of the breastfeeding period, especially when it is malformed and/or underdeveloped, which usually hinders latch and its maintenance, influencing the practiced type of breastfeeding. Conversely, protruding nipples facilitate latch and decrease the chances of nipple injury.\(^{[16,27]}\)

Analysis of neonatal characteristics revealed that the practice of exclusive breastfeeding was associated with a lower age of the child. It is believed that this association is related to risk factors for early weaning, such as use of artificial nipples and formulas after the first month of life.\(^{[11,26]}\)

The early contact of the newborn with the breast after childbirth is pointed as a potential influencing factor of the beginning, maintenance, and duration of breastfeeding.\(^{[28,29]}\) which agrees with the data of the present study. A systematic review published by Cochrane\(^{[29]}\) and recently revised\(^{[28]}\) analyzed 38 randomized clinical trials with 3,472 healthy women and children carried out in 21 countries and demonstrated that mothers who established skin-to-skin contact had a higher probability of success in the first breastfeeding as well as of keeping exclusive breastfeeding for a longer period in comparison to women who did not perform this kind of contact. Although the examined studies have methodological limitations, the evidence supports the promotion of skin-to-skin contact to favor breastfeeding and the resulting guarantee of its various benefits to mother and child.\(^{[28]}\)

The use of artificial nipples and pacifiers is also considered one of the factors hindering breastfeeding and was cited in the ninth step of the WHO Ten Steps to Successful Breastfeeding, which recommends not to give artificial nipples and/or pacifiers to children who are undergoing breastfeeding. However, cultural habits are difficult to control. The justifications for offering pacifiers are almost always related to the objectives of calming down babies that cry constantly and increasing the time interval between consecutive breastfeeding sessions because of breast-related issues.\(^{[30]}\) The results of the present study agree with most data in the literature, which indicate a connection between the use of artificial nipples and pacifiers and the type of breastfeeding and early weaning. A metaanalysis of two studies which investigated 1,302 children to evaluate the influence of restricted versus free use of pacifiers on breastfeeding showed no significant impact on the breastfeeding rate.\(^{[31]}\) The difference between this result and the findings of the present study may have been caused by the sample size and methodology used in the cited investigations.

The offer of pacifiers, usually associated with children's constant crying, may lead to spacing of breastfeeding sessions, lack of coordination in the suction process, partial emptying of the breasts, and a higher risk of breast engorgement, nipple injury, and reduction of milk production.\(^{[21,30]}\) Consequently, the findings of the present study emphasize most evidence regarding the negative relationship between the use of artificial nipples and early weaning.
Concerning the presence of a partner, literature indicates the need for further investigation on the topic. Some authors suggest that the presence of a spouse, helping and supporting women in the care to newborns, favors breastfeeding.\(^{[13,22]}\) Contrarily, other studies point to the help of a partner as an unfavorable factor until children turn two years old, and attribute this result to beliefs and taboos related to breast esthetic and the resumption of the sexual activities of the couple.\(^{[23,24]}\)

Given the results reported in the present study, the authors stress the importance of new investigations to promote changes based on effective interventions in the care to postpartum women to achieve successful breastfeeding.

**Conclusion**

Exclusive breastfeeding was practiced by 72.6% of the women assisted in the 30 days after childbirth. There was a significant association between this practice and the following difficulties: maternal perception regarding the volume of milk produced, of full breasts before breastfeeding, of milk leakage, and of easy manual milk extraction; adequate positioning of mother and child, latch, suction, and swallowing of the child. There was also a relationship with the variables: higher level of education, stable marital status, previous experience with breastfeeding, protruding nipples, early skin-to-skin contact, and having a child with a lower average age who used pacifiers. The findings contribute to understanding the most frequent breastfeeding difficulties, so nurses can orient their care since hospital discharge, thus preventing early weaning.

**Collaborations**

Coca KP, Francisco AA, and Carreiro JA contributed to the study conception, data analysis and interpretation, writing of the manuscript, critical review of its intellectual content, and final approval of the version to be published. Marcacine KO, Abuchaim ESV, and Abrão ACFV contributed to the writing of the manuscript, critical review of its intellectual content, and final approval of the version to be published.

**References**

Breastfeeding difficulties: analysis of a service specialized in breastfeeding


Peripheral neuropathy in people with multiple myeloma
Neuropatía periférica en personas con mieloma múltiple

Maysa Mayran Chaves Moreira1 Andrea Bezerra Rodrigues2 Patrícia Peres de Oliveira3 Maria Isis Freire de Aguiar2 Gilmara Holanda da Cunha4 Roberta Marjorie Cunha Pinto1 Deborah Francilene Fonseca5 Luciana Regina Ferreira da Mata6

Abstract
Objective: To investigate the prevalence and incidence of peripheral neuropathy (PN) related to antineoplastic therapy in people with multiple myeloma and the association between chemotherapy regimens and peripheral neuropathy after treatment.

Method: This is a documentary and correlational study carried out in two reference sites for cancer treatment, located in the Brazilian states of Ceará and Minas Gerais, with an analysis of patients treated between January 2013 and January 2016. A descriptive and inferential analysis of data was carried out by means of chi-square and Fischer’s exact tests.

Results: The study assessed 100 medical records of people with multiple myeloma, who were aged 62.7 years on average and were mostly men (64%). The most used chemotherapy regimen (60%) was bortezomib, dexamethasone, and cyclophosphamide; 20% of patients had peripheral neuropathy before treatment, 66% had it during treatment and 56% at the end of treatment. There was no association between chemotherapy regimens and peripheral neuropathy after treatment.

Conclusion: Our study showed an increase in the incidence of PN in individuals undergoing treatment of multiple myeloma, 80% had symptoms of neuropathy before and/or during and/or after treatment with chemotherapy regimens. Predominance was of elderly retired men. The most common chemotherapy regimen was bortezomib/dexamethasone/cyclophosphamide and there was no association between regimens used and PN after treatment. The implications of these observations rest on the need for a permanent assessment of PN in people with multiple myeloma, in addition to the strict follow-up in this event in the course of treatment and after it, as well as the management of adverse events and alterations related to the disease. There was no association between chemotherapy regimens and peripheral neuropathy after treatment. It is expected that the results obtained help in the organization of a data record about PN in patients with cancer, with the main purpose of establishing targets of intervention, thus making care more efficient and comprehensive.

Resumo
Objetivo: Investigar a prevalência e incidência de neuropatia periférica relacionada ao tratamento com antineoplásicos de pessoas com mieloma múltiplo bem como a associação entre os esquemas quimioterápicos e a neuropatia periférica após o tratamento.

Método: Estudo documental, correlacional, realizado em dois sites de referência para tratamento oncológico, localizados nos estados do Ceará e Minas Gerais, com análise de pacientes atendidos entre janeiro/2013 e janeiro/2016. Os dados foram analisados utilizando-se análise descritiva e inferencial a partir dos testes qui-quadrado e exato de Fisher.

Resultados: Foram avaliados 100 prontuários de pessoas com mieloma múltiplo com média de idade de 62,7 anos, maioria de homens (64%). O esquema quimioterápico mais utilizado (60%) foi o bortezomibe, dexametasona e ciclofosfamida; 20% dos pacientes apresentavam neuropatia periférica antes do tratamento, 66% desenvolveram durante o tratamento e 56% ao finalizar o tratamento. Não houve associação entre os esquemas quimioterápicos e a neuropatia periférica após o tratamento.

Conclusão: O presente estudo mostrou um aumento da incidência de PN em indivíduos em tratamento para o MM, 80% apresentaram sintomas de neuropatia antes e/ou durante e/ou após o tratamento com esquemas quimioterápicos. A predominância foi de homens idosos aposentados. O esquema quimioterápico mais utilizado foi o VDC e não foi identificada associação entre os esquemas utilizados e a PN após término do tratamento. As implicações dessas observações recaem sobre a necessidade de avaliação contínua da PN em pessoas com MM, além da monitorização rigorosa desse evento no decorrer do tratamento e após o mesmo, bem como o manejo dos eventos adversos e alterações relacionadas a doença. Não houve associação entre os esquemas quimioterápicos e a neuropatia periférica após o tratamento. Espera-se que os resultados obtidos auxiliem na organização de um registro de dados sobre PN em pacientes com câncer, com o objetivo principal de determinar alvos de intervenção, tornando o cuidado mais eficiente e integral.

Resumen
Objetivo: Investigar la prevalencia e incidencia de neuropatía periférica relacionada al tratamiento con antineoplásicos de personas con mieloma múltiple, así como la asociación entre los regímenes de quimioterapia y neuropatía periférica después de tratamiento.

Método: Este estudio documental y correlacional se realizó en dos centros de referencia para tratamiento oncológico, localizados en los estados de Ceará y Minas Gerais, con análisis de pacientes atendidos entre enero/2013 y enero/2016. Los datos fueron analizados utilizando el análisis descriptivo e inferencial a partir de las pruebas qui-cuadrado y exacta de Fisher.

Resultados: Se evaluaron 100 expedientes de personas con mieloma múltiple con una edad media de 62,7 años, la mayoría hombres (64%). El esquema quimioterápico más utilizado (60%) fue el bortezomib, dexametasona y ciclofosfamida; 20% de los pacientes presentaban neuropatía periférica antes del tratamiento, 66% desarrollaron durante el tratamiento y 56% al finalizar el tratamiento. No hubo asociación entre los esquemas quimioterapéuticos y la neuropatía periférica después del tratamiento.

Conclusión: Este estudio mostró una mayor incidencia de PN en individuos que reciben tratamiento para MM, 80% presentaron síntomas de neuropatía antes y/o durante y/o después del tratamiento con regímenes de quimioterapia. La predominancia fue de hombres ancianos jubilados. El esquema quimioterápico más utilizado fue el VDC y no se identificó asociación entre los esquemas utilizados y la PN después de terminar el tratamiento. Las implicaciones de estas observaciones recaen sobre la necesidad de evaluación continua de la NP en personas con MM, más aún del manejo riguroso de dicho evento durante el tratamiento y después del mismo, así como el manejo de los eventos adversos y alteraciones relacionadas con la enfermedad. No hubo asociación entre los esquemas quimioterapéuticos y la neuropatía periférica después del tratamiento. Se espera que los resultados obtenidos ayuden en la organización de un registro de datos sobre PN en pacientes con cáncer, con el objetivo principal de determinar metas de intervención, obteniendo una atención más eficiente e integral.
Peripheral neuropathy in people with multiple myeloma

Introduction

Multiple myeloma (MM) refers to a malignant neoplasia of hematopoietic nature and corresponds to over 10% of hematologic cancer in the world, with an incidence of 2% in people aged under 40.\(^{(1,2)}\)

Progress in antineoplastic chemotherapy and hematopoietic stem cell transplantation (HSCT) improved survival rate, but MM remains incurable. People with MM usually develop bone lesions, hypercalcemia, anemia, immunosuppression and renal impairment, accompanied by fatigue, bone pain and peripheral neuropathy (PN). The objectives of these therapies are to control the disease, ensure remission and maximize quality of life.\(^{(2-4)}\)

Peripheral neuropathy is one of the most common complications in patients with MM who are undergoing treatment, and it may occur as an aspect of the disease in recently diagnosed individuals (1% to 20%) or as an adverse effect of the chosen treatment (37% to 83%).\(^{(5)}\) Risk factors for PN include treatment-specific characteristics, such as drugs, duration, cumulative dose, use of other drugs with a neurotoxic potential such as bortezomib, thalidomide, and cyclophosphamide, in addition to patient-specific factors such as age and comorbidities.\(^{(1,6-8)}\) It is worth highlighting that chemotherapy regimens to treat this disease are prescribed according to a staging system and more than half of them include bortezomib.\(^{(1,9-11)}\)

Peripheral neuropathy appears with sensory symptoms such as burning dysesthesia, paresthesia, hyperesthesia, and pain. Despite being less common, motor alterations may also occur.\(^{(11)}\) It can be scaled according to the sensory and motor neuropathy changes. In the first degree, patients are asymptomatic or lose deep reflexes or present paresthesia, which does not affect the function and, in motor neuropathy, it is asymptomatic; keeping the drug dosage is recommended. In the second degree, symptoms are moderate and affect activities of daily living (ADLs); reducing the drug dosage is recommended. In the third degree, symptoms are severe and hinder ADLs; suspending treatment until symptomatology is improved is recommended, and at the follow-up visit, the dosage is reduced. In the fourth degree, neuropathy is disabling, and treatment interruption is recommended.\(^{(12)}\)

The presence of PN has a great impact not only on quality of life, but also on the disease evolution and overall survival, since its treatment very often means reducing or interrupting the drug dosage.*\(^{(8)}\) Nurses play a key role in the care of patients with risk of PN, including carrying out an initial and continuous assessment, during and after treatment, teaching patients, and making a safe administration of antineoplastics, symptom management and timely consultation of other members of the interdisciplinary team.\(^{(8)}\)

There are great challenges in the confirmation and management of PN symptoms, which are associated with a lack of evidence-based practice for symptom management and little understanding of its pathogenesis.\(^{(13)}\) Consequently, the question is: What is the prevalence of PN and its incidence during and after treatment with chemotherapy drugs in people with MM? Is there an association between chemotherapy regimens and PN? What are the clinical/sociodemographic/therapeutic aspects of these individuals?

There are few international studies on the topic and in Brazil there are no publications which assess the association between chemotherapy regimens and PN in patients with MM, performed by nurses and whether these professionals evaluate, on a daily basis, signs and symptoms of neuropathic pain and/or sensory or motor PN, and perform a neurological examination.

Therefore, this study is relevant, since PN examination in people with MM in two reference cancer services located in different regions of Brazil will help to document outcomes and define targets for intervention, which will allow for the adoption of a new model to guide clinical practice.

In view of this, the objective of this study was to investigate the prevalence and incidence of peripheral neuropathy related to antineoplastic therapy in people with multiple myeloma and the association between chemotherapy regimens and peripheral neuropathy after therapy.

Methods

This is a quantitative study of documentary nature, carried out in a high-complexity cancer care center
(CACON) located in Ceará and in a large hospital defined as a high-complexity cancer care unit (UNACON), with hematology and teletherapy services in Minas Gerais.

Using convenience sampling, the selection criterion was: medical records of patients with MM confirmed by histopathological/cytological examination, cared for in one of the chosen institutions, from January 2013 to January 2016. This period corresponds to the time when a form based on Common Terminology Criteria for Adverse Events v 4.0\(^{14}\) was applied to all cancer patients with risk factors for neuropathy, in both institutions, in addition to a neurological examination and items for the assessment of signs and symptoms of neuropathic pain and/or sensory or motor PN.

The inclusion criteria were: patients aged over 18 years, who underwent chemotherapy, with medical records properly filled in, and from which essential information about PN could be obtained, such as: signs and symptoms of neurotoxicity, antineoplastic regimen, dosage used, treatment cycle, and PN degree. As for the exclusion criteria: medical records of MM patients without sociodemographic and clinical data, and PN assessment before, during and after treatment.

Medical records were excluded because they were not properly filled in (1), not found in the medical case file service (3) or whose patients had died (12). Therefore, the total sample had 100 medical records.

Data collection was carried out by means of an instrument created by the authors, which addressed sociodemographic variables (age, gender, marital status, origin, education, professional status, and religion); and clinical and therapeutic variables (comorbidities, main complaint at the first visit, staging, types of treatment, chemotherapy regimen performed, evaluation and PN degree).

It is worth noting that this instrument was assessed by six judges as to the relevance, clarity, and applicability of its topics. These professionals had to be experts in the field and their profiles had to meet the following criteria: being a nurse with proven work on Plataforma Lattes (a database of the National Council of Scientific and Technological Development) in the oncology field for at least ten years, having a graduate degree (\textit{strictu sensu}) and having published an oncology paper in the last three years. The judges were required to point out suggestions of items and changes they considered relevant.

Data were processed and analyzed by means of the Statistical Package for the Social Sciences, version 21.0 for Windows\textregistered. Double data entry was used for validation. Results obtained for explanatory variables (sociodemographic/clinical/therapeutic) were analyzed by descriptive statistics and; for the association between chemotherapy regimens and the development of PN after treatment, chi-square test and Fischer’s exact test were performed, with a significance level of 5%.

The ethical requirements established in Resolution 466/2012 of the National Health Council were met, and the study was approved by the Human Research Ethics Committee of both institutions, under protocol numbers 1.397.337 and 2.083.066.

**Results**

One hundred medical records were assessed, 25 from a reference cancer treatment institution and 75 from another cancer treatment institution. The average age of participants was 62.7 years (standard deviation of 9.5), ranging from 45 and 81 years, and 64% of them were men. Most of them were married or in an unmarried union (84%), followed by single (6%), widowed (5%) and separated/di vorced individuals (5%). With regard to their origin, 89% of individuals lived in an urban area and 11% in a rural area. As for religion, 98% of patients stated that they practiced a religion.

The average level of education of participants was 5.8 years (standard deviation of 4.3), ranging from zero to 17 years. Regarding their professional situation, 52% of patients were retired, 21% were active independent workers, 11% received a retirement pension and kept an informal job, 10% were homemakers and 6% received a disability benefit.

With regard to the presence of comorbidities, 72% of patients had some chronic disease such as
Peripheral neuropathy in people with multiple myeloma

systemic arterial hypertension (SAH) and diabetes mellitus (DM), 24% of which were undergoing a SAH treatment; 10% had some kind of heart disease; hypothyroidism (4%); sequelae of brain stroke (3%); chronic renal failure (2%); and prostate cancer (1%). Bone pain (76%) was the main complaint of patients during the first medical visit, followed by pathological fractures (12%) and asthenia (12%).

Staging of patients with MM, according to the International Staging System (ISS) (2) was 36% at stage I, 34% at stage II and 30% at stage III, at the time of diagnosis. Regarding the types of treatment performed for MM, 56% underwent teletherapy and chemotherapy simultaneously, 24% underwent chemotherapy only, and 20% had an autologous HSCT.

As for the chemotherapy regimen performed, VDC (bortezomib/dexamethasone/cyclophosphamide) was the most prevalent (60%); followed by MPT (melphalan/prednisone/thalidomide) (20%); CTD (cyclophosphamide/thalidomide/dexamethasone) (12%); and VMP (bortezomib/melphalan/prednisone) (8%).

Figure 1 shows the prevalence of PN before (20%) and the incidence during (68%) and at the end of treatment (56%), with chemotherapy regimens of people with MM.

Results of the chi-square test and Fischer’s exact test showed that there was no statistically significant difference between chemotherapy regimens and the presence of PN after treatment (Table 1).

**Table 1. Association between chemotherapy regimen and peripheral neuropathy after treatment of patients with multiple myeloma between 2013 and 2016 (n=100)**

<table>
<thead>
<tr>
<th>Chemotherapy regimen</th>
<th>Peripheral neuropathy n(%)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>VDC</td>
<td>25(41.5) 35(58.5)</td>
<td>0.478¶</td>
</tr>
<tr>
<td>MPT†</td>
<td>10(50.0) 10(50.0)</td>
<td>0.548¶</td>
</tr>
<tr>
<td>VMP‡</td>
<td>3(36.5) 5(63.5)</td>
<td>0.543§</td>
</tr>
<tr>
<td>CTD</td>
<td>5(42.5) 7(57.5)</td>
<td>0.593§</td>
</tr>
</tbody>
</table>

*CTD - cyclophosphamide/thalidomide/dexamethasone; †MPT - melphalan/prednisone/thalidomide; ‡VMP - bortezomib/melphalan/prednisone; ¶chi-square test; §Fischer’s exact test

**Discussion**

The medical records of individuals with MM treated with chemotherapy regimens were mostly from men who were retired, aged 62.7 years in average, which is in line with data found in the literature. (15-17) The best known epidemiological characteristics of MM include a higher incidence in elderly men over 60 years old. (15) Findings regarding marital status, employment status, level of education, and comorbidities are also in line with previous studies. (2,11,18)

In this study, 40% of individuals had been treated for SAH; a study carried out in the United States with 2,587 patients with advanced MM which aimed to analyze the risks of adverse effects associated with treatments of MM in elderly people found that patients with SAH, PN, thromboembolic events, and heart diseases had a significantly higher risk of developing some toxicity in 6 to 12 months after the beginning of treatment. (19) These data are worrying and confirm the results of this work, since the prevalence of PN before the begin-
ning of treatment (20%) and the incidence during and after treatment nearly tripled.

It is worth noting that discontinuation of drugs that trigger PN, due to the end of treatment protocol, results in the suppression of symptoms, however, toxicity indicators remain to be seen and the existence of permanent lesions must be checked.\(^{(4,6,8)}\)

Therefore, nurses need to carry out a comprehensive examination of individuals with MM in order to identify vulnerabilities and problems of patients/relatives and propose assertive and evidence-based interventions since this is the only way to effectively control symptoms, and consequently increase quality of life.\(^{(4)}\) Oncology nurses play a key role in the provision of information to patients/families aiming at reducing treatment abandonment, which requires communication skills, observation, counseling, teaching, and management of complex tasks.\(^{(20)}\)

Hematology/oncology nurses provide information, education, and support to patients/families with MM, and this has a significant effect on people’s experience regarding care; they are also responsible for the continuity of service within the multidisciplinary team and being the link between primary and secondary care services. It is worth noting that the continuous assessment of these individuals is essential for the management of toxicities related to treatment and maintenance of good quality of life.\(^{(4,20)}\)

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As for religion, 98% of patients stated that they practice a religion. Religious beliefs expressed by means of prayers, meditation and rituals are part of common mechanisms which individuals rely on when they are ill.\(^{(21)}\) The more severe the disease, the stronger the relationship with religion, being influenced by the individual’s beliefs and values.\(^{(22)}\) Faith/spirituality are usually coping strategies used by individuals with cancer. Belief in a superior strength and optimism are positive influences in the development of adaptive responses to difficult times resulting from sickness.\(^{(21,22)}\)

With regard to staging, most patients were in stage II and III (64%) in the first visit, which means the disease is advanced. The same finding was pointed out in a cohort study with Chinese patients, in which most of them were undergoing chemotherapy and were at stage II and III, according to the ISS system; a statistically significant association between staging and prognosis, which are inversely proportional, was also observed.\(^{(11)}\)

It should be added that when PN results from antineoplastic chemotherapy, it is called chemotherapy-induced peripheral neuropathy (CIPN).

In this study, 55% of individuals with MM had symptoms of motor and sensory neuropathy, and one-fourth of them was in degree 3 or 4, with manifestations that prevented them from performing ADL and immediate intervention was needed. A study carried out to assess the incidence, mortality rates, and trends of MM in 17 Latin American countries found that structures are fragmented, with a consequent uneven allocation of material and human resources all over this region. In addition, there are few hematologists in Latin America, with estimates of 0.9 hematologists/100,000 inhabitants, whereas the United States has 2.2 professionals/100,000.\(^{(16)}\) Hence, staging and scaling of PN symptoms are advanced regarding the disease diagnosis, as found in this work. Another study carried out in the Caribbean and Latin America suggests that delays in pathologic evaluation affect diagnosis and treatment significantly, reducing survival rates.\(^{(23)}\)

In view of this, symptoms associated with toxicity are often underestimated by people with cancer due to fear of treatment interruption or dosage reduction with a consequent decrease of its benefit in the control of malignant neoplasia.\(^{(12)}\) Moreover, health professionals themselves can underestimate the severity of these symptoms if there is not a reliable measuring method such as Semmes-Weinstein monofilaments, as well as instruments that help in the assessment of PN like the Chemotherapy Induced Neurotoxicity Questionnaire (CINQ), validated in Brazil and made up of questions about the presence of typical symptoms of neurotoxicity in patients.\(^{(13)}\)

As for the types of treatment performed for MM, the medical records showed that all patients followed some type of chemotherapy regimen, whether as HSCT pre-conditioning followed by teletherapy, or on its own, and the most used drugs (60%) were bortezomib, dexamethasone, and cy-
Peripheral neuropathy in people with multiple myeloma

clophosphamide. However, in the present sample, there was no statistically significant difference between chemotherapy regimens and PN after treatment. Another study that assessed the efficiency and tolerability of these drugs by individuals with MM stated that PN was observed in some cases and patients with pre-existing PN had their symptoms worsened.\(^{(24)}\) Another study which assessed bortezomib-induced PN found an incidence in 55% of participants after treatment was completed.\(^{(19)}\)

We can observe that chemotherapy regimens very often include neurotoxic drugs such as bortezomib, cyclophosphamide, and thalidomide. Although an association between the use of these drugs and the development of PN was not found, it is worth noting that 68% of participants used bortezomib, which can induce PN and it is explained by its action mechanism as a consequence of proteasome inhibition, where the back string of the spinal cord is the main target and can lead to a secondary deterioration of the peripheral nerve\(^{(19,24)}\), resulting in all the symptoms and risk factors that contribute to the development or maintenance of PN.\(^{(6,8,19,24)}\)

Based on these findings, some recommendations can be given to help identify and document PN in MM patients such as: permanent training of professionals who work with this population, creation of evidence-based protocols, assessment of neuropathies by means of validated questionnaires/scales, guidance of patients with regard to the possibility of side effects at the beginning of treatment and measures for vulnerability management to prevent health complications.

A limitation of this study regards its sample being made up of MM individuals cared for in two national institutions, which restricts the possibility of mainstreaming the results. However, this limitation does not invalidate the study and meets satisfactorily its proposals.

**Conclusion**

Our study showed an increase in the incidence of PN in individuals undergoing treatment of MM, 80% had symptoms of neuropathy before and/or during and/or after treatment with chemotherapy regimens. Predominance was of elderly retired men. The most common chemotherapy regimen was VDC and there was no association between regimens used and PN after treatment. The implications of these observations rest on the need for a permanent assessment of PN in people with MM, in addition to a strict follow-up to this event in the course of treatment and after it, as well as the management of adverse events and alterations related to the disease. There was no association between chemotherapy regimens and peripheral neuropathy after treatment. It is expected that the results obtained help in the organization of a data record about PN in patients with cancer, with the main purpose of establishing targets of intervention, thus making care more efficient and comprehensive.

**Collaboration**

Moreira MMC, Rodrigues AB, Oliveira PP, Aguiar MIF, Cunha GH, Pinto RMC, Fonseca DF and Mata LRF declare that they contributed to the project conception, data interpretation, relevant critical review of the intellectual content and approval of the final version to be published.

**References**


Integrative review

Educational interventions for the health promotion of the elderly: integrative review

Intervenções educativas para promoção da saúde do idoso: revisão integrativa

Intervenciones educativas para promover la salud de los ancianos: una revisión integradora

Khelyane Mesquita de Carvalho
Cynthia Roberta Dias Torres Silva
Maria do Livramento Fortes Figueiredo
Lidy Tolstenko Nogueira
Elaine Maria Leite Rangel Andrade

Abstract

Objective: To identify in the literature the scientific production on educational interventions carried out by nurses for the health promotion of the elderly. Methods: Integrative literature review performed in the LILACS, MEDLINE, CINAHL, and Web of Science databases between 2007 and 2017, in Portuguese, English, and Spanish, using the following descriptors: “aged,” “aging,” “aged, 80 and over,” “health services for the aged,” “nursing,” “clinical trial,” “technology/ED,” “educational technology,” “health education AND technology,” “health promotion,” which were combined with “AND” and “OR” Boolean operators. Results: Twenty-two studies were included. The educational interventions used by nurses for the health promotion of the elderly were: motivational guidelines during nursing consultations (50%), home monitoring (27.8%), counseling with motivational dynamics (11.1%) and educational sessions with ludic strategies (11.1%). Conclusion: Nurses play a fundamental role in health promotion by coordinating the care plan because of the bond established with users, family members, and caregivers from educational actions that can change attitudes and promote health. The educational actions promoted health by favoring the greater adoption of healthy habits, therapeutic monitoring, and well-being.

Keywords
Health education; Aged; Health promotion

Descritores
Educação em saúde; Idoso; Promoção da saúde

Descritores
Educación en salud; Anciano; Promoción de la salud

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Introduction

Technological and scientific growth has directly favored the demographic transition and the increase in average life expectancy at birth, which resulted in population aging. According to world statistics, the number of elderly people is expected to increase from 900 million in 2015 to 2 billion in 2050, which represents an increase of about 10%.(1)

This scenario implies new social demands in the provision of health services, and integral health care for the elderly stands out among them. It must include typical biopsychosocial modifications of aging as predictors of functional capacity and quality of life. Health promotion actions in this context are fundamental for active aging with the aim to mitigate the risk of fragility and vulnerability through participation, social control, and integrated and expanded actions before the elderly’s multidimensionality.(2)

The most important actions used for health promotion are educational interventions. They represent predisposing factors for adherence to treatment and rehabilitation, and stimulate users’ positive self-care attitudes. These facilitate the understanding of subjects involved by broadening the facets of formal education and facilitating the construction of new spaces of knowledge, whether internal or external to the care sphere through educational and dialogic relations, which in turn, transform the practice of professionals, who begin to see people and their relationship with the world, and not just with aging.(3)

In the Nursing context, the use of tools in educational care favor the mediation of teaching and learning processes in health education practice with the community and for continuing education of Nurses and Nursing students. However, the dominantly curative teaching model and approach still predominate. They diverge from the complexity of health promotion actions required for the elderly, which demand a wide range of information and multidisciplinary actions.(4)

This study emerges in face of the current epidemiological scenario that requires specific skills and abilities of nurses in order to deal with aging, and instrumentalize their role as educators and facilitators in the various health care settings. Furthermore, it comes from the need to find evidence for the construction of the doctoral thesis in Nursing titled ‘Effect of educational technology on the elderly’s quality of sleep: a randomized controlled study’, Universidade Federal do Piauí. It is based on nurses’ performance as educators and facilitators in the various health care settings.

Given the aforementioned considerations and the limited visibility of specific nursing interventions, the elderly population growth in the national and international context, and their vulnerability to chronic noncommunicable diseases (CND), the objective was to identify in the literature the scientific production on educational interventions used by nurses for the health promotion of the elderly.

Methods

Integrative literature review in six stages, namely: development of the guiding question; definition of databases and inclusion and exclusion criteria of primary studies of the sample; definition of information to be extracted from selected studies; evaluation of studies included in the integrative review; interpretation of results; and, presentation of the review/synthesis of knowledge produced.(5)

The PICo strategy (P-population/patient: elderly; I- Intervention: nursing intervention; Co-Context: health promotion) was used to develop the following guiding question: what are the educational interventions performed by nurses for the health promotion of the elderly?(6)

The articles were identified by bibliographic search conducted in June 2017 in the following databases: Latin American and Caribbean Literature in Health Sciences (LILACS) that was consulted by the Virtual Health Library (VHL); Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Medical Literature Analysis and Retrieval System Online (MEDLINE) that were consulted via PubMed; and Web of Science via the Main Collection (Thomson Reuters Scientific) that was accessed through the CAPES Portal.
The inclusion criteria for selection of primary studies were the following: studies made available as original articles in English, Spanish and/or Portuguese, published between January 2007 and June 2017 with people aged 60 years and over, on nursing educational interventions for health promotion. The limitation of the study period is justified by the Charter for Health Promotion adapted at the 6th World Conference on Health Promotion (2005) held in Bangkok, and the National Health Promotion Policy. They both emphasize the need for training and sustainable practices in the control of health determinants.\(^7\)

During the search were used the following descriptors of Medical Subject Headings (MeSH), CINAHL and Descriptors in Health Sciences (DeCS): “Aged”; “Aging”; “Aged, 80 and over”; “Health Services for the Aged”; “Nursing”; “Clinical Trial”; “Technology/ED”; “Educational Technology”; (Health Education AND Technology); “Health Promotion”. Uncontrolled descriptors and subject descriptors used to index articles in the databases were also used, as follows: “Elderly”; “Senescence”; “Technology, Educational”; “Elderly Health”; “Seniors’ Health”; “Health of the Elderly”; “Promotion of Health”. Descriptors were combined by using the Boolean operators “AND” and “OR”.

The initial search was performed by two independent reviewers with a standardized protocol for using descriptors and crossings in databases. The total of 2,255 publications was found. After identification of the pre-selected and selected studies, the titles and abstracts were read, and studies that did not meet the inclusion criteria and/or proposed theme were excluded. Of these, 137 articles were selected for reading in full and verification of interventions performed exclusively by nurses, hence defining the final sample of the review (Figure 1).
In order to favor the validation of the selection of publications for analysis and greater consistency, results were compared. Any disagreements were resolved by consensus among reviewers or by including a third reviewer when necessary. There were three disagreements (13.6%) among reviewers in the final selection of the sample. After reevaluation, these articles were excluded because the presented interventions were not exclusive of Nursing.

Publications were analyzed, data were interpreted in an organized way and synthesized by means of a synoptic chart describing the following aspects: year, country, design, level of evidence, strategy and educational interventions found. The quality of studies was evaluated based on the classification of the level of evidence, as follows: level I - evidence from meta-analysis results of controlled clinical trials with randomization; level II - evidence from experimental studies; level III - evidence from quasi-experimental studies; level IV - evidence from descriptive studies or with qualitative methodological approach; level V - evidence from case reports or experience reports; level VI - evidence based on expert opinions or on standards or legislation. 

Then, selected articles were read in depth for organizing data in thematic categories according to the similarity of objectives, results and conclusions through a descriptive approach. For the interpretation of results and presentation of the review, the choice was to discuss the findings from a critical evaluation of themes converging to the guiding question of the study.

Ethical aspects were taken into consideration throughout the development of the study by respecting the authorship of ideas, concepts and definitions present in the articles included in the review.

**Results**

Twenty-two articles were selected for this review, most of which were indexed in the Web of Science (50%) and CINAHL (31.8%) databases, and 90.9% were in English. The United States of America (USA) accounted for 36.4% of all articles, but there were studies from other countries too, namely Sweden, the Netherlands, Japan and Brazil.

There was a greater concentration of articles in the three previous years: 2015 (22.7%), 2016 (13.6%) and 2014 (13.6%). As for the study design, quasi-experimental studies (27.3%) stood out, followed by randomized controlled trials (22.7%), and randomized uncontrolled trials (18.2%) (Chart 1).

**Chart 1. Synthesis of articles according to educational interventions and outcome**

<table>
<thead>
<tr>
<th>Nr.</th>
<th>Year/Country</th>
<th>Design</th>
<th>Level of evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>2007/ USA</td>
<td>RCT</td>
<td>II</td>
</tr>
<tr>
<td>A2</td>
<td>2008/ England</td>
<td>RCT controlled</td>
<td>I</td>
</tr>
<tr>
<td>A3</td>
<td>2008/ Holland</td>
<td>RCT controlled</td>
<td>I</td>
</tr>
<tr>
<td>A4</td>
<td>2010/ USA</td>
<td>RCT</td>
<td>II</td>
</tr>
<tr>
<td>A5</td>
<td>2010/ Brazil</td>
<td>Descriptive</td>
<td>IV</td>
</tr>
<tr>
<td>A6</td>
<td>2012/ Switzerland</td>
<td>RCT</td>
<td>II</td>
</tr>
<tr>
<td>A7</td>
<td>2012/ Brazil</td>
<td>Action research</td>
<td>IV</td>
</tr>
<tr>
<td>A8</td>
<td>2013/ USA</td>
<td>Preclinical</td>
<td>III</td>
</tr>
<tr>
<td>A9</td>
<td>2014/ USA</td>
<td>Quasi-experiment</td>
<td>III</td>
</tr>
<tr>
<td>A10</td>
<td>2014/ Holland</td>
<td>Quasi-experiment</td>
<td>III</td>
</tr>
<tr>
<td>A11</td>
<td>2014/ China</td>
<td>Quasi-experiment</td>
<td>III</td>
</tr>
<tr>
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<td>2015/ USA</td>
<td>RCT</td>
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</tr>
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<td>2015/ Brazil</td>
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<td>V</td>
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<td>A21</td>
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<td>III</td>
</tr>
<tr>
<td>A22</td>
<td>2017/ Sweden</td>
<td>NRT</td>
<td>I</td>
</tr>
</tbody>
</table>

Interventions of pedagogical guidelines during nursing consultations accounted for 50%, followed by home monitoring (27.8%), counseling with motivational dynamics (11.1%), and educational sessions with ludic strategies (11.1%). Regarding interventions performed during home visits, 60% of studies presented subsequent telephone intervention for monitoring the educational action, as described in chart 2.
The growth of the elderly population and the magnitude of chronic noncommunicable diseases have gradually increased nurses’ need and concern with the adoption of dynamic, participatory and effective educational actions for promoting better health conditions and quality of life.

In the present study, educational interventions performed by nurses for the health promotion of the elderly in the international context stood out.9-12,14,16-30 This fact shows that Brazilian studies13,15,24 on this theme are scarce, have low level of scientific evidence and fragile theoretical background.31

The use of experimental design has been observed over the three previous years, with a growing trend also to 2017. This finding raises the most effective participation of nurses in studies with greater methodological rigor, such as the randomization, which was present in nine of the studies of this review.9-12,14,20,21,23,26 This favors the scientific rigor, accuracy of results and the establishment of the cause-effect relationship.32
In relation to places where educational interventions were performed, different spaces for provision of health care stood out, such as the elderly’s residences during assistance in home visits, hospitals, community centers for the elderly and primary care services in the community.

Regarding the intervention strategy, there were individual and group methodological interventions. Group education as an approach, enables the exchange of knowledge by favoring training and peer identification. Its aim is also the health promotion in aging for physical activity practice, healthy eating, improved cognitive pattern and self-efficacy of care in order to reduce modifiable cardiovascular risk factors. Groups formed by older people use strategies of empowerment and autonomy with positive changes for all actors involved in the educational process.

Likewise, individual interventions also had positive results. The educational actions promoted the dissemination of information, critical reflection and adoption of positive behaviors for improvement of the quality of life, which were observed in the results of articles explored.

Thus, there has been a paradigm shift in concepts of health and education in recent years that allows the expansion of actions of ‘education for health’ (where individuals learn to care for themselves and avoid diseases) for ‘education in health’, in which individuals exchange experiences and knowledge among themselves and with professionals in order to take care of their health.

Through the analysis of articles, was identified that educational activities performed by nurses help to break the paradigm of vertical transmission of information and generate participation in decision making, which is a necessary condition for developing reflexive awareness for promotion and protection of health. Therefore, nurses’ educational work is reinforced as a tool for the operationalization of scientific knowledge that subsidizes introspective thinking and motivates families regarding the possible risks to the elderly’s health.

Thus, for the complete disruption of this hierarchical paradigm of communication and health education, there must be a change of behavior and attitudes regarding individual and collective health, both of professionals and individuals.

In the work of Nursing there must be an understanding on the basic premise of individualized care, which is the view of elderly as active subjects in all caring processes by favoring the construction of bonds with the community and the strengthening of favorable interpersonal relationships. These will allow the identification of the needs, demands and unpredictability of the different environmental, cultural and social contexts.

In the analysis of studies, nurses’ performance is configured in the articulation of technical and popular knowledge that provides reflection and healthy life habits in favor of active aging. In this context, the reflexive practice and use of educational strategies in health provide motivation, understanding and assistance before different cognitive, social, psychological and behavioral demands needed in elderly care.

The actions developed by nurses in their different contexts are shaped in the use of different educational approaches, namely: pedagogical guidelines during nursing consultations, home monitoring, counseling with motivational dynamics and educational sessions with ludic strategies.

In the present review, educational guidelines provided during nursing consultations were the most used. Nursing consultations can be considered as a milestone in individualized care and assistance in the Basic Health Care Program of the Ministry of Health of Brazil, and an effective, dignified and humanized care strategy for the population.

Home monitoring also stands out as a growing educational strategy given the possibility of patient-family interaction in an understandable and singular way. The analysis of articles in which this approach was used allowed the identification of particularized characteristics in nurses’ role in home care. Consequently, the work process is influenced by patients’ profile, and by the arrangement of the family and structure at home.

Interventions within the domicile constitute a different opportunity of care that minimizes the
disease process with technical-scientific support in an extra-health space. Therefore, home care has gained importance as a complementary care model. Its aims are patients’ autonomy, self-care and the strengthening of nursing as a science. Thus, nurses’ work in home care service goes beyond the organization of nursing care, and also includes articulations with support services and other professionals of the multiprofessional health team. Furthermore, nurses play the role of potentializing the construction autonomy in the home context by involving both patient and family.\(^{(37)}\)

The incorporation of telephone follow-up calls as a complementary modality of intervention for effective and productive home visits stands out.\(^{(38,39)}\) In this regard, combined interventions are also therapeutic moments for the elderly, and serve as support and social strengthening by enabling the improvement and development of skills and knowledge for decision making with long-term effects.\(^{(40)}\)

In addition, components of the counseling practice involve exchanging information, vulnerability/risk assessment and emotional support as counseling strategies with motivational dynamics.\(^{(10,12,23)}\) Therefore, if counseling is based on the interaction and trust relationship established between professionals and users, motivational dynamics facilitates the reflection, overcoming of difficulties, the adoption of safe practices and the promotion of quality of life.\(^{(41)}\)

However, with regard to educational sessions with ludic strategies\(^{(13,15)}\) the feasibility of health promotion by using theater, hypermedia, dramatizations, games and media stands out.\(^{(19,42,43)}\) There is need for association with a follow-up intervention strategy, such as using the telephone intervention for resolving doubts and raising different thoughts.

In this context, all interventions were focused on the use of communication through educational sessions and counseling. As a process of understanding and sharing information, communication influences the behavior of people involved.\(^{(44)}\) Moreover, in studies included in the present review, there were interventions bringing patients and their essence to the center of orientations as a way of promoting self-care as a viable option compared to the traditional schedule of consultations and exams.

This evidence calls the reflection that health promotion guided by orientation derives from individuals’ needs and preferences, and not from professionals’ perceptions. In other words, it is a practice of people for themselves and developed by themselves. In this line, the improvement of the elderly’s living and health conditions through educational interventions will only become reality when educational actions are directed to subjects’ cultural reality, since problems are worked out from the collective thought and analysis of cultural beliefs and values.\(^{(45)}\)

The study also evidences an increasing interest in breaking the authoritarian and normative tradition in the provision of elderly care by nurses, who assume a shared construction of knowledge based on the convergence between knowledge accumulated from sciences and knowledge of popular classes through their experiences. Thus, educational interventions in health should be seen as a stimulus for the elderly’s participation in the educational process, and health actions should focus on their freedom, autonomy and independence.

The present review made it possible to identify the educational interventions used by nurses for the health promotion of the elderly. Twenty-two articles fulfilled the inclusion criteria, in which the following nursing actions were identified: pedagogical guidelines during nursing consultations (50%), home monitoring (27.8%), counseling with motivational dynamics (11.1%) and educational sessions with ludic strategies (11.1%).

### Conclusion

Regarding knowledge gaps, in Brazil and Latin America, there was a low production of studies with strong evidence levels, which reflects nurses’ low articulation in research scenarios. In addition, there is a small number of intervention strategies aligned with primary health care services, which shows disarticulation between health care sectors, and decreases the integration between professionals and the effectiveness of interventions used. In relation to nurses, these professionals play a fundamental role in health promotion by coordinating the care plan because of the bond...
established with users, family and caregivers from educational actions capable of modifying attitudes and providing health. Note that these characteristics can also be seen in health work in different contexts. Educational actions performed by nurses were considered effective given the positive results presented in the provision of nursing care and for promoting the health, empowerment and quality of life of people by offering a safe and human environment. In addition, they promote the elderly’s reflection for increasing their knowledge and capacity for self-care.

Collaborations

Carvalho KM, Silva CRDT, Figueiredo MLF, Nogueira LT and Andrade EMLR participated in the project design, data analysis and interpretation, article writing, critical review of the intellectual content and final approval of the version to be published.

References


Erratum

In the article published in Acta Paul Enferm. 2018; 31(2):144-52, Duarte ED, Tavares TS, Nishimoto CL, Azevedo VM, Noelly e Silva BC, Silva JB; “Questionnaire for identifying children with chronic conditions (QuICCC-R): translation and adaptation”, the authors requested to publish the following errata: The author Vivian Mara Gonçalves De Oliveira Azevedo has institutional affiliation at Universidade Federal de Uberlândia, Uberlândia, MG, Brazil.

DOI: http://dx.doi.org/10.1590/1982-0194201800063