Mavilde da Luz Gonçalves Pedreira, Universidade Federal de São Paulo-Unifesp, São Paulo-SP, Brazil
Paulina Kurczant, Universidade de São Paulo-USP, São Paulo-SP, Brazil
Raquel Rapone Gaidzinski, Universidade de São Paulo-USP, São Paulo-SP, Brazil
Rosalina Aparecida Partezani Rodrigues, Universidade de São Paulo-USP, Ribeirão Preto-SP, Brazil
Silvia Helena De Bortoli Cassiani, Universidade de São Paulo-USP, Ribeirão Preto-SP, Brazil
Telma Ribeiro Garcia, Universidade Federal da Paraíba-UFPB, João Pessoa-PB, Brazil
Valéria Lerch Garcia, Universidade Federal do Rio Grande-UFRGS, Rio Grande-RS, Brazil

International
Barbara Bates, University of Pennsylvania School of Nursing - Philadelphia, Pennsylvania, USA
Donna K. Hathaway, The University of Tennessee Health Science Center College of Nursing; Memphis, Tennessee, USA
Dorothy A. Jones, Boston College, Chestnut Hill, MA, USA
Ester Christine Gallegos-Cabriales, Universidad Autónoma de Nuevo León, Monterrey, Mexico
Geraldyn Lyte, University of Manchester, Manchester, United Kingdom, USA
Helen M. Castillo, College of Health and Human Development, California State University, Northbridge, California, USA
Jane Brokel, The University of Iowa, Iowa, USA
Joanne McCloskey Dotcherman, The University of Iowa, Iowa, USA
Kay Avant, University of Texas, Austin, Texas, USA
Luz Angelica Muñoz Gonzales, Universidad Nacional Andrés Bello, Santiago, Chile
Margaret Lunney, Staten Island University, Staten Island, New York, USA
María Consuelo Castrillón Agudelo, Universidad de Antioquia, Medellín, Colombia
María Müller Staub, Institute of Nursing, ZHAW University, Winterthur, Switzerland
Martha Curley, Children Hospital Boston, Boston, New York, USA
Patricia Marck, University of Alberta Faculty of Nursing, Edmonton Alberta, Canada
Shigemi Kamitsuru, Shigemi Kamitsuru, Kangolabo, Tokyo, Japan
Sue Ann P. Moorhead, The University of Iowa, Iowa, USA

Editorial Office
Bruno Henrique Sena Ferreira
Maria Aparecida Nascimento

Graphic Design
Adriano Aguina

Acta Paulista de Enfermagem – (Acta Paul Enferm.), has as its mission the dissemination of scientific knowledge generated in the rigor of the methodology, research and ethics. The objective of this Journal is to publish original research results to advance the practice of clinical, surgical, management, education, research and information technology and communication.
Member of the Brazilian Association of Scientific Editors
Clinical reasoning is an analytical approach, based on disciplinary knowledge, which clusters and integrates data to arrive at the most accurate diagnosis and best therapeutic plan for patients/families/communities. Thus, nursing diagnosis is the outcome of a nurse’s clinical reasoning – just as medical diagnosis is the outcome of a physician’s clinical reasoning. We cannot accurately diagnose without applying clinical reasoning and domain-specific knowledge.

When we focus primarily on medical diagnosis and intervention in lectures and course work, what are we teaching students? If we expect nurses to primarily manage medication administration and perform medical interventions, what are we emphasizing as important for nursing practice? If we focus research solely on intervention or symptom management, what are we saying about nurses’ ability to diagnose and claim responsibility for their practice? And if we have no time to assess or diagnose patients because we have too few nurses, too many patients, too many medical orders – who is truly caring for the whole patient and his/her family?

This is nursing’s role – a holistic view of patient/family/community – assessment and diagnosis (clinical judgments) concerning human responses to health conditions/life processes, or a vulnerability for that response, by individuals/families/groups/communities. Our diagnoses should provide the basis for evidence-based nursing interventions to achieve outcomes for which we have accountability. Are we teaching and valuing nursing concepts/phenomena of concern to our discipline? Are we standing strong in our role of advocacy for the whole person – which goes beyond tasks related to medical diagnoses? Does our research reflect our knowledge base?

Will we meet the challenge of clinical reasoning from a nursing perspective, or will we maintain the status quo - teaching medical concepts and diagnoses, which we are not licensed to diagnose, relegating our role to the fulfillment of physician-ordered interventions? We must work with our physician colleagues to provide care that integrates the best of both disciplines, rather than emphasizing one discipline over the other.

T. Heather Herdman
RN, PhD, FNI
University of Wisconsin (Green Bay) and CEO/Executive Director, NANDA International, Inc

DOI: http://dx.doi.org/10.1590/1982-0194201400065
Functional capability and violence situations against the elderly
Capacidade funcional e situações de violência em idosos
Andréa Mathes Faustino, Lenora Gandolfi, Leides Barroso de Azevedo Moura ................................. 392

Quality of life of frail elderly users of the primary care
Qualidade de vida de idoso fragilizado da atenção primária
Maria Helena Lenardt, Nathalia Hammerschmidt Kolb Carneiro, Jéssica Albino, Mariluci Hautsch Willig ................................. 399

Cultural adaptation to Brazil and psychometric performance
of the “Evidence-Based Practice Questionnaire”
Adaptação cultural para o Brasil e desempenho psicométrico do “Evidence-based Practice Questionnaire”
Karina Rospendowiski, Neusa Maria Costa Alexandre, Marília Estevam Cornéllo ................................. 405

Effectiveness of antiemetics in control of antineoplastic
chemotherapy-induced emesis at home
Efetividade de antieméticos no controle da emese induzida pela quimioterapia antineoplásica, em domicílio
Marielly Cunha Castro, Suely Amorim de Araújo, Thaís Rezende Mendes, Glauciane Silva Vilarinho, Maria Angélica Oliveira Mendonça ................................................................. 412

Cross-cultural adaptation of the primary health care satisfaction questionnaire
Adaptação transcultural do questionário de satisfação com os cuidados primários de saúde
Elisabete Pimenta Araújo Paz, Pedro Miguel Santos Dinis Parreira, Alexandra de Jesus Serra, Lobo Rosilene Rocha Palasson, Sheila Nascimento Pereira de Farias ................................................................. 419

Biopsychosocial aspects and the complexity of care of hospitalized elderly
Aspectos biopsicossociais e a complexidade assistencial de idosos hospitalizados
Beatriz Aparecida Ozello Gutierrez, Henrique Salmazo da Silva, Helena Eri Shimizu ................................. 427

Expression of domestic violence against older people
Expressão da violência intrafamiliar contra idosos
Luana Araújo dos Reis, Nadirlene Pereira Gomes, Luciana Araújo dos Reis, Tânia Maria de Oliva Menezes, Jordana Brock Carneiro ................................................................. 434

Assessment of attributes for family and community
guidance in the child health
Avaliação dos atributos de orientação familiar e comunitária na saúde da criança
Juliane Pagliari Araújo, Cláudia Sílvia Viera, Beatriz Rosana Gonçalves de Oliveira Toso, Neusa Collet, Patrícia Oehlmeyer Nassar ................................................................. 440

Validity of instruments used in nursing care for people with skin lesions
Validade de instrumentos sobre o cuidado de enfermagem à pessoa com lesão cutânea
Roberta Kaliny de Souza Costa, Gislon de Vasconcelos Torres, Marina de Góes Salvetti, Isabelle Campos de Azevedo, Maria Antônia Teixeira da Costa ................................................................. 447
Violence against women and its consequences
Violência contra a mulher e suas consequências
Leônidas de Albuquerque Netto, Maria Aparecida Vasconcelos Moura, Ana Beatriz Azevedo Queiroz, Maria Antonieta Rubio Tyrrell, Maria del Mar Pastor Bravo

Breastfeeding self-efficacy: a cohort study
Autoeficácia na amamentação: um estudo de coorte
Erdnaxela Fernandes do Carmo Souza, Rosa Áurea Quintella Fernandes

Risks related to drug use among male construction workers
Risco relacionado ao consumo de drogas em homens trabalhadores da construção civil
Aroldo Gavioli, Thais Aidar de Freitas Mathias, Robson Marcelo Rossi, Magda Lúcia Félix de Oliveira

The effect of Reiki on blood hypertension
Efeito do Reiki na hipertensão arterial
Léia Fortes Salles, Luciana Vannucci, Amanda Salles, Maria Júlia Paes da Silva

Craniocerebral trauma in motorcyclists: relation of helmet use and trauma severity
Traumatismos craniocerebrais em motociclistas: relação do uso do capacete e gravidade
Viviane da Cunha Dutra, Rita Catalina Aquino Caregnato, Maria Renita Burg Figueiredo, Daniela da Silva Schneider

Nursing actions in homecare to extremely low birth weight infant
Ações de enfermagem na assistência domiciliar ao recém-nascido de muito baixo peso
Anelize Helena Sassá, Maria Aparecida Munhoz Gaíva, Ieda Harumi Higarashi, Sonia Silva Marcon
Functional capability and violence situations against the elderly

Andréa Mathes Faustino¹
Lenora Gandolfi¹
Leides Barroso de Azevedo Moura¹

Abstract
Objective: To verify whether there is a connection between the functional capacity of the elderly and the presence of violent situations in their daily lives.
Methods: A population-based cross-sectional study developed with 237 elderly individuals. Standard and validated research instruments were used.
Results: Mean age of 70.25 years (standard deviation of 6.94), 69% were female, 76% were independent in basic activities of daily living and 54% had a partial dependence on at least one instrumental activity. The most prevalent violence was psychological and the relation between being dependent on basic activities of daily living and suffering physical violence was statistically significant.
Conclusion: When the elderly needs assistance to perform self-care activities, there is a greater chance of exposure to a situation of abuse, such as physical violence.

Keywords
Geriatrics nursing; Nursing care; Activities of daily living; Elder abuse; Violence

Resumo
Objetivo: Verificar se há relação entre a capacidade funcional do idoso e a presença de situações de violência em seu cotidiano.
Métodos: Trata-se de estudo transversal de base populacional com 237 idosos. Foram utilizados instrumentos de pesquisa validados e padronizados.
Resultados: A média de idade de 70,25 anos (desvio padrão de 6,94), 69% eram do gênero feminino, 76% eram independentes nas Atividades Básicas de Vida Diária e 54% possuíam dependência parcial em pelo menos uma atividade instrumental. A violência mais prevalente foi a psicológica e foi estatisticamente significativa a relação entre ser dependente em Atividades Básicas de Vida Diária e sofrer violência física.
Conclusão: Quando o idoso necessita de ajuda para realizar atividades de autocuidado, maior é a chance de exposição à situação de maus-tratos do tipo violência física.

Keywords
Enfermagem geriátrica; Cuidados de enfermagem; Atividades cotidianas; Maus-tratos ao idoso; Violência

Submitted
February 8, 2014
Accepted
June 26, 2014

DOI
http://dx.doi.org/10.1590/1982-0194201400066

¹Universidade de Brasília, Brasília, DF, Brazil.
Conflicts of interest: there are no conflicts of interest to declare
Introduction

The natural process of aging, associated to chronic diseases, can favor functional disability. This will lead to an increased vulnerability of the elderly, which makes them more susceptible to suffering abuse.\(^{(1)}\)

The definition for functional disability is the inability or difficulty in performing everyday tasks of human beings, which are usually necessary for an independent life in the social environment. The functional capability would be the potential to perform the activities of daily living or a certain action without needing the help of others, which is determinant to maintain quality of life and independence.\(^{(2)}\)

The results obtained in evaluating functional capability allow to learn the profile of the elderly, regarding their functionality in everyday activities, which allows to identify situations that need an intervention for health promotion, in order to postpone the disabilities inherent to aging.\(^{(3)}\)

Violence and abuse against the elderly can be defined as a single and repeated act, or the lack of appropriate measures in abuse situations, which occur in any relationship where there is an expectation of trust and causes harm or distress to an elder person.\(^{(4)}\)

Regarding the nature of violence, there is a basic typology of violence committed against an elderly individual, consisting of psychological violence (verbal or gestural aggression), physical violence (use of physical force with the intention of harm and the inappropriate use of chemical and physical restrictions), sexual violence (sexual game or act against the will or without consent), abandonment (lack of care by the legal responsible individual), neglect (refusal of care by the responsible individual), material and/or financial exploitation (non-consensual use of material and/or financial assets) and self-neglect (any kind of behavior from the elderly that endangers their health and safety).\(^{(5)}\)

Some risk factors in the elderly involved in violence situations have already been described by several authors; among which: having some type of dementia, physical disability, depression, loneliness or lack of social support; using alcohol or illicit drugs; living in conflict situations with the caregiver; and presenting signs of reduced cognitive and functional capacity. The presence of these factors may favor the increase of dependency for self-care in instrumental and basic activities of daily living and, therefore, increase the possibility of suffering abuse in their community environment.\(^{(6-8)}\)

The objective of this study is to verify the relation between the functional capacity of the elderly and the presence of violence situations in their daily lives.

Methods

A population-based cross-sectional study, with a descriptive observational design, was developed with the elderly population assisted at a primary health care service, in Brasília, Distrito Federal, midwest region of Brazil.

The criteria for inclusion in the sample were: being 60 years old or over, of both genders, attending a health care service during the data collection period, not having a diagnosis of dementia and agreeing to participate in the study.

The elderly were individually approached after a medical consultation and in a private room, where face-to-face interviews were conducted, with an average duration of 50 minutes. Data were collected between July 2012 and November 2013.

The instrument used to assess the performance in basic activities of daily living was the scale proposed by Katz, which assesses the level of dependency of the individual to perform a set of six self-care activities: bathing, dressing, personal hygiene, transferring, continence and feeding.\(^{(9)}\)

The result of the Katz score may vary from 6 to 18 points and, for analysis purposes, the following classification for the interpretation of the scores was used, with the following response options: does not receive any assistance, 3 points; receives partial assistance, 2 points; and does not perform the activity, 1 point.\(^{(10)}\)
The Lawton scale was chosen to assess the instrumental activities of daily living. This instrument assesses functional performance in more complex activities, such as using the telephone, going to distant locations using a means of transportation, shopping, preparing meals, cleaning the house, doing domestic manual work, washing and ironing clothes, taking medications correctly and taking care of finances. The scores may vary between 9 and 27 points and, in terms of the classification on the level of dependence, there are 27 points for independence, from 26 to 18 points to partial dependence and ≤18 points for total dependence. (11)

A data collection instrument was created to approach the violence situations, consisting of semi-structured questions validated by a group of experts in the gerontology field, comprising personal and socio-demographic information, as well as information in terms of the nature of the violence (psychological, physical, sexual, abandonment, neglect, financial abuse and self-neglect).

The results were processed and tabulated on the Bioestat program, version 5.3. Descriptive statistics and percentage and absolute frequency tables were used for treatment data. The associations between the categorical variables were studied by means of the Chi-square test and significance was set at 0.05.

The development of this study complied with national and international ethical guidelines for research involving human beings.

Results

The sample consisted of 237 elderly individuals, of which 69.9% were female. The mean age was of 70.25 years (standard deviation of 6.94), ranging between 60 and 93 years. The most predominant age group was between 60 and 69 years (50.2%). The majority was white (48.1%), 38% of the elderly were married, 44.3% did not have any school education, 62% were Catholics, 46% had an income up to one minimum wage, 89% lived with at least one family member and 94.1% had children, as described in table 1.

Regarding the health situation of the elderly, most had, at least, one non-transmissible chronic disease, namely, 81% had hypertension, followed by type 2 diabetes mellitus (29%), chronic pain (21%), osteoporosis (18.5%) and osteoarthritis (14%).

Regarding the functional capacity measured by Katz and Lawton scales for the basic activities of daily living, partial dependency for one or two activities reached only 22% of the elderly, with a functional independent majority (76%) for those activities. For the instrumental activities, 54% had a partial dependency assessment in at least one activity performed and 6% were totally dependent to use transportation, take their medications, take care of their finances, among other activities (Table 2).

Regarding violence, about 60% reported having suffered some form of violence at some point of life, after the age of 60, even with the highest scores of independence, both in Katz and Lawton scale. As for the scores of greater functional dependence, i.e., greater need of help in performing self-care activities and more complex everyday activities, more than 70% of the elderly reported some situation of abuse after becoming elderly (Table 2); however, there was no significant value in the applied tests in terms of the relationship between variables.

In the analysis of the types of violence, psychological violence was the most prevalent, with 37% being humiliation, insult situations, rudeness, screaming and threatening the elderly, and 24% being discrimination, i.e., abused by not being treated with respect (Table 3).

Regarding the results of the relation between functional capacity and the presence of violence, the only type of violence where there was a value with statistical significance in the test performed concerned the association between basic activities of daily living and physical violence (p=0.02). The higher the Katz score, the greater the chance of the elderly suffering physical violence. In other words, the higher the dependence to perform basic activities, the higher the
<table>
<thead>
<tr>
<th>Variables</th>
<th>Gender</th>
<th></th>
<th>Gender</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>Yes n(%)</td>
<td>No n(%)</td>
<td>Yes n(%)</td>
<td>No n(%)</td>
</tr>
<tr>
<td><strong>Age group, years</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60-69</td>
<td>53(68.80)</td>
<td>24(31.20)</td>
<td>24(58.50)</td>
<td>17(41.50)</td>
</tr>
<tr>
<td>70-79</td>
<td>46(69.70)</td>
<td>20(30.30)</td>
<td>13(52.00)</td>
<td>12(48.00)</td>
</tr>
<tr>
<td>&gt;80</td>
<td>13(59.10)</td>
<td>9(40.90)</td>
<td>5(83.30)</td>
<td>1(16.70)</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>55(65.48)</td>
<td>29(34.52)</td>
<td>18(60.00)</td>
<td>12(40.00)</td>
</tr>
<tr>
<td>Brown</td>
<td>41(78.85)</td>
<td>11(21.15)</td>
<td>15(57.69)</td>
<td>11(42.31)</td>
</tr>
<tr>
<td>Black</td>
<td>16(55.17)</td>
<td>13(44.83)</td>
<td>9(56.25)</td>
<td>7(43.75)</td>
</tr>
<tr>
<td><strong>Education, years</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uneducated</td>
<td>46(63.89)</td>
<td>26(36.11)</td>
<td>17(51.52)</td>
<td>16(48.48)</td>
</tr>
<tr>
<td>1 year</td>
<td>10(71.43)</td>
<td>4(28.57)</td>
<td>4(80.00)</td>
<td>1(20.00)</td>
</tr>
<tr>
<td>2-4</td>
<td>30(66.60)</td>
<td>15(33.40)</td>
<td>12(63.10)</td>
<td>7(36.90)</td>
</tr>
<tr>
<td>5-8</td>
<td>21(80.70)</td>
<td>5(19.30)</td>
<td>5(50.00)</td>
<td>5(50.00)</td>
</tr>
<tr>
<td>&gt;9</td>
<td>5(62.50)</td>
<td>3(37.50)</td>
<td>4(80.00)</td>
<td>1(20.00)</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>36(76.60)</td>
<td>11(23.40)</td>
<td>24(55.81)</td>
<td>19(44.19)</td>
</tr>
<tr>
<td>Widowed</td>
<td>44(64.71)</td>
<td>24(35.29)</td>
<td>46(66.67)</td>
<td>23(33.33)</td>
</tr>
<tr>
<td>Single</td>
<td>11(57.89)</td>
<td>8(42.11)</td>
<td>4(66.67)</td>
<td>2(33.33)</td>
</tr>
<tr>
<td>Lives with a partner</td>
<td>4(57.14)</td>
<td>3(42.86)</td>
<td>3(50.00)</td>
<td>3(50.00)</td>
</tr>
<tr>
<td>Divorced or separated</td>
<td>17(70.83)</td>
<td>7(29.17)</td>
<td>7(63.64)</td>
<td>4(36.36)</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retired</td>
<td>70(70.71)</td>
<td>29(29.29)</td>
<td>30(63.83)</td>
<td>17(36.17)</td>
</tr>
<tr>
<td>Receives benefits</td>
<td>11(78.57)</td>
<td>3(21.43)</td>
<td>2(66.67)</td>
<td>1(33.33)</td>
</tr>
<tr>
<td>Receives pension</td>
<td>12(50.00)</td>
<td>12(50.00)</td>
<td>0(0.00)</td>
<td>1(100.00)</td>
</tr>
<tr>
<td>Works</td>
<td>8(72.73)</td>
<td>3(27.27)</td>
<td>5(35.71)</td>
<td>9(64.29)</td>
</tr>
<tr>
<td>Receives support from family/others</td>
<td>11(64.71)</td>
<td>6(35.29)</td>
<td>5(71.43)</td>
<td>2(28.57)</td>
</tr>
<tr>
<td><strong>Income, minimum wages</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without income</td>
<td>5(100.00)</td>
<td>0(0.00)</td>
<td>1(33.33)</td>
<td>2(66.67)</td>
</tr>
<tr>
<td>Until 1</td>
<td>59(66.29)</td>
<td>30(33.71)</td>
<td>8(40.00)</td>
<td>12(60.00)</td>
</tr>
<tr>
<td>2-3</td>
<td>40(65.57)</td>
<td>21(34.43)</td>
<td>28(85.12)</td>
<td>5(14.88)</td>
</tr>
<tr>
<td>&gt;4</td>
<td>7(87.50)</td>
<td>1(12.50)</td>
<td>2(66.67)</td>
<td>1(33.33)</td>
</tr>
<tr>
<td>Does not know exactly/does not have a fixed amount</td>
<td>1(50.00)</td>
<td>1(50.00)</td>
<td>3(100.00)</td>
<td>0(0.00)</td>
</tr>
<tr>
<td><strong>Children</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>106(69.28)</td>
<td>47(30.72)</td>
<td>41(58.57)</td>
<td>29(41.43)</td>
</tr>
<tr>
<td>No</td>
<td>6(50.00)</td>
<td>6(50.00)</td>
<td>1(50.00)</td>
<td>1(50.00)</td>
</tr>
<tr>
<td>Accompanied by a relative</td>
<td>101(68.20)</td>
<td>47(31.80)</td>
<td>37(60.60)</td>
<td>24(39.40)</td>
</tr>
<tr>
<td><strong>Living arrangement</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alone</td>
<td>10(62.50)</td>
<td>6(37.50)</td>
<td>5(50.00)</td>
<td>5(50.00)</td>
</tr>
<tr>
<td>Accompanied by a non-relative person</td>
<td>1(100.00)</td>
<td>0(0.00)</td>
<td>0(0.00)</td>
<td>1(100.00)</td>
</tr>
<tr>
<td><strong>Current religion</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catholic</td>
<td>66(67.35)</td>
<td>32(32.65)</td>
<td>28(57.14)</td>
<td>21(42.86)</td>
</tr>
<tr>
<td>Protestant</td>
<td>41(66.13)</td>
<td>21(33.87)</td>
<td>14(63.64)</td>
<td>8(36.36)</td>
</tr>
<tr>
<td>Others</td>
<td>5(100.00)</td>
<td>0(0.00)</td>
<td>0(0.00)</td>
<td>1(100.00)</td>
</tr>
</tbody>
</table>

n=237
possibility of the elderly suffering physical violence, when, for example, he/she needs help to maintain fecal or urinary continence, to change clothes or to take a bath (Table 3).

**Discussion**

Although the aim of this study was the association of the violence phenomenon and the conditions of functional capacity among the elderly, one of the study limitations concerns the fact that it was not possible to establish a cause and effect relation among the analyzed factors, which suggests that the event was caused by the association of other variables that were not the scope of this study, as violence against the elderly is a multifaceted and complex phenomenon, with both clinical and social and situational origins. Thus, the violence against the elderly comprises several aspects of nursing care and, therefore, needs to be addressed during care in all settings of action of nurses and other healthcare professionals.

The approaches and methods employed allowed to verify that, in reality, the assessments of functionality and violence aspects may be performed together, since they complement each other, in order to contribute to maintain the physical, mental and social integrity of the elderly, through a global care to the elderly, provided by nurses and a multiprofessional team.

The sample characterization as for socioeconomic and demographic data and the context of the elderly corroborated the findings of another studies, whose elderly inclusion methods were similar to this study, with a predominance of elderly women, white, aged between 60 and 70 years old, with low education level and living with a family member. (3,12-14)

The feminization phenomenon of the elderly population may be observed in several studies and explained from some striking history facts,
such as the greater longevity reached by women, which may be associated with the increased health care and the non-exposure, while still young, to risk situations of violent death – this occurrence has a higher concentration in men for this elderly generation.\(^{(13,15)}\)

The explanations are based on a perspective of gender, objectified symbolic spaces and lifestyles in contexts of socio-spatial occupation in the territories.

A singular feature is that the elderly are living with a family member, a situation denominated by co-residence. Very few live alone, and this fact is due to possible situations such as the financial dependence of other family members – which can characterize financial abuse, since most of them have their own income, or the inverse, when the elderly are financially dependent on family members.\(^{(16)}\)

Another reality is the concern in caring for elders in the Latin culture, i.e., the behavior of overprotecting the elderly, who, in the symbolic imagery is represented as fragile and dependent of help to perform activities, from the most complex to the most basic self-care ones, which reduces their autonomy and independence still often preserved. The condition to live with relatives does not guarantee that there will be an adequate care to the needs of the elderly and is not characterized as a protective factor against abuse.\(^{(17,18)}\)

The comorbidities evidenced by the presence of chronic diseases among the elderly present similar results to other studies, with hypertension and diabetes being the most prevalent in this population. These comorbidities are mainly related to lifelong habits, to the senescent aging process and to the senility associated, in turn, to endocrine and cardiovascular diseases, which favor the development of these diseases and the onset of disabling complications.\(^{(3,13,19,20)}\)

The assessment of functional capacity in the elderly population analyzed in other studies with young elderly highlighted that, in activities of daily living, they showed greater functional dependence in relation to instrumental activities, when assessed, which can be related to the natural decline typical of aging. This occurs in most elderly populations without neurodegenerative diseases.\(^{(3,13,19,21)}\)

Regarding violence situations and functional capacity, it is unanimous among the studies that an increased level of dependence results in a greater chance of the elderly being victims of violence, i.e., the elderly who need help for self-care or to perform more complex activities of daily living, such as handling finances, shopping and others, mainly due to physical disabilities, are at a higher risk of suffering abuse or mistreatment, especially when there is not a good relationship between the elderly and the relatives or the caregiver – and this may favor the occurrence of violence.\(^{(16,21,22)}\)

As observed among the studied elderly, although only physical violence presented a significant result in the studied model in situations of dependence for activities of daily living, the other types of violence may be evidenced when there is a certain decline in functions of higher complexity associated to the presence of cognitive impairment. The reason for this is that the elderly would be doubly exposed to conditions of abuse, because he/she is inserted in a context that signals the loss of autonomy and independence.\(^{(16,21-23)}\) In another study, the decrease of functional capacity among the elderly was associated with episodes of financial and emotional abuse.\(^{(12)}\) New models of multilevel logistic regression needs to be tested to reveal possible effects between other variables.

It should be highlighted that the psychological violence, followed by abandonment and financial abuse were the most commonly reported conditions among the respondents. Other studies have already evidenced that a greater dependence in functional activities is associated with an increase in the possibility of the elderly suffering financial and emotional abuse, since they are more psychologically and physically frail and more vulnerable to situations involving verbal aggression, abuse threats, harassment or even intimidation. The detection of this nature of abuse, still poorly reported or notified in our milieu, deserves the attention of the professionals.\(^{(14,16,21)}\)

The use of strategies that enhance the early detection and intervention of nursing and other pro-
professionals towards the families of elderly individuals who suffer abuse is a need that must be incorporated to the nursing practice, mainly among elderly populations with risk factors inherent to the normal aging process and those in situations of vulnerability.

Conclusion

Being dependent in basic self-care activities and suffering physical violence were statistically significant, i.e., when the elderly needs help in performing personal hygiene, transfers, feeding, among others, there is a greater chance of exposure to situations of physical abuse.

Collaborations

Faustino AM; Gandolfi L and Moura LBA contributed to the project conception, relevant critical revision of the intellectual content, research development and data interpretation, drafting and final approval of the version to be published.

References

Quality of life of frail elderly users of the primary care

Maria Helena Lenardt¹
Nathalia Hammerschmidt Kolb Carneiro¹
Jéssica Albino¹
Mariluci Hautsch Willig¹

Abstract
Objective: Identifying the quality of life of frail elderly patients, users of primary care services.
Methods: A cross-sectional, quantitative study. The sample size was calculated based on the estimate of population proportion and consisted of 203 elderly. Data were collected by using a questionnaire of physical activity for the elderly, fatigue/exhaustion, quality of life, and by carrying out a test of gait speed, handgrip strength and anthropometric measurement.
Results: Among the 203 seniors, 39 were fragile. The mean scores for quality of life presented by the frail elderly were the following: 60.4 for pain, functional capacity 61.1, limitations due to physical aspects 71.1, general state of health 71.4, vitality 75, mental health 76.4, emotional aspects 81.1 and social aspects 85.6.
Conclusion: The dimensions of quality of life of the frail elderly that had lower mean scores were pain, functional capacity, limitations due to physical aspects and general state of health.

Keywords
Frail elderly; Quality of life; Geriatric nursing; Primary nursing; Primary health care; Questionnaires

Descritores
Idoso fragilizado; Qualidade de vida; Enfermagem geriátrica; Enfermagem primária; Atenção primária à saúde; Questionários

Submitted
June 24, 2014
Accepted
June 30, 2014

Resumo
Objetivo: Identificar a qualidade de vida de idosos frágeis usuários da atenção primária.
Métodos: Estudo quantitativo transversal. A amostra foi calculada com base na estimativa da proporção populacional e constituída por 203 idosos. Os dados foram coletados mediante questionário de nível de atividade física para idosos, fadiga/exaustão, qualidade de vida e realização de teste de velocidade da marcha, força de preensão manual e medição antropométrica.
Resultados: Dos 203 idosos, 39 deles eram frágeis. As médias de qualidade de vida apresentadas pelos idosos frágeis foram: 60,4 para dor, 61,1 capacidade funcional, 71,1 limitações por aspectos físicos, 71,4 estado geral de saúde, 75 vitalidade, 76,4 saúde mental, 81,1 aspectos emocionais e 85,6 aspectos sociais.
Conclusão: As dimensões da qualidade de vida dos idosos frágeis que apresentaram menores médias foram dor, capacidade funcional, limitações por aspectos físicos e estado geral de saúde.

¹Universidade Federal do Paraná, Curitiba, PR, Brazil.
Conflicts of interest: no conflicts of interest to declare.
Introduction

The increased longevity of the population causes people to think more deeply about the aging process and its effects on quality of life. A study with subjects aged 65 years or more aimed at assessing the perception of the elderly about their quality of life, pointed out that the majority considered ‘being healthy’ and ‘not having disabilities’ as the main definitions of the term.\(^{(1)}\) Answers like ‘having energy’, ‘being happy’ and ‘proper functioning of the senses’ were also found.\(^{(2)}\) Although quality of life is defined in different ways, there is a consensus that it is a multidimensional concept that includes psychological, social, environmental and spiritual dimensions.\(^{(2)}\)

One of the most widely used instruments to assess health-related quality of life is the SF-36 (Medical Outcomes Study 36-Item Short-Form Health Survey), developed from the Medical Outcomes Study (MOS), a questionnaire published in English in the year 1990 that is specific to the elderly population. In Brazil, the SF-36 was translated and validated in a study that examined the quality of life of individuals with rheumatoid arthritis.\(^{(3)}\) According to the author, it was adapted for use in the Brazilian population considering the local socioeconomic and cultural conditions.

The SF-36 is a questionnaire of easy application. Because of its reproducibility and validity, the questionnaire is an additional parameter for assessing the quality of life of individuals with different pathologies, in research and assistance.\(^{(3)}\) One of the health conditions evaluated in this study and associated with frailty was the syndrome of physical frailty in older adults.

The syndrome of physical frailty can be defined as ‘a medical syndrome with multiple causes and contributions, which is characterized by a diminution of strength, endurance and reduced physiological function that increases the vulnerability of individuals and develops greater dependence and/ or death’.\(^{(4)}\) According to the authors, from this physical focus, frailty can be evaluated through five physical components: unintentional weight loss, reduced grip strength, decreased physical activity, self-reported fatigue and decreased gait speed. Older people who present three or more of these features are considered frail; those with one or two are pre-frail and those who do not have any of these components are non-frail seniors.\(^{(5)}\)

Although the relations between aging, frailty and quality of life have been little explored, a recent number of studies connects the frailty syndrome with a worsened quality of life.\(^{(6,7)}\) Studies evaluating the frailty syndrome through the five physical components and the quality of life through the SF-36, observed that frail elderly had lower scores in almost all dimensions of quality of life when compared to other participants.\(^{(8-10)}\) However, it is not yet a consensus that the frailty syndrome negatively influences the quality of life of individuals.

The frail elderly are vulnerable to unhealthy outcomes and therefore, they can express different combinations of quality of life. Little is known about the quality of life of Brazilian frail elderly, about the specific affected aspects, the deficits, the personal compensations and available resources. Hence, studies investigating the quality of life associated with frailty are needed. Through the results of these studies it will be possible to support a more independent life for elderly and to base preventive actions taken by health professionals, focusing on aspects related to frailty and quality of life.\(^{(11)}\)

Given the above and the national deficit in studies that assess the frailty syndrome by the physical phenotype, the objective of this study was identifying the quality of life of frail elderly patients, users of primary care services.

Methods

This is a quantitative, cross-sectional study carried out in a Basic Health Unit, which is part of the primary health care service, located in Curitiba, state of Paraná, southern region of Brazil. The target population consisted of elderly aged 60 years and over, in the period between January and April 2013.

The following inclusion criteria were adopted for the selection of the elderly: a) age equal to or
over 60 years; b) getting a score higher than the cutoff point (according to the level of education) in the cognitive test called Mini-Mental State Examination. The exclusion criteria were: a) having previous diagnoses of diseases or serious physical and mental deficits that prevented the participation in the stages of interview and assessment of the frailty phenotype; b) having previously participated in the research.

This was a convenience sample and individuals were invited to participate in the study according to their order of arrival in the health service. The Mini-Mental State Examination was taken in a private environment for tracking the changes in cognitive function (cognitive screening) of the elderly. In this study was used the validated version with the following cutoff points: 13 for illiterates, 18 for medium and low education and 26 for high levels of education. The Mini-Mental State Examination comprises 11 items grouped into seven categories: temporal orientation, spatial orientation, registration of three words, attention and calculation, memory of three words, language and visual construction capacity. The scores range between zero and 30.

Data collection included the assessment of the frailty syndrome and evaluation of the health related quality of life of the elderly. In order to make the specificity of elderly Brazilians effective, two changes were made in the evaluation of measures of the frailty phenotype. According to American researchers and their collaborators, the Minnesota Leisure Activity Questionnaire is applied to identify the level of physical activity. For assessing the level of energy, specifically for the fatigue/exhaustion component, these authors use two questions of the Center for Epidemiologic Studies Depression Scale - CES-D. In the present study was applied the Level of Physical Activity for the Elderly CuritibAtiva questionnaire for the physical activity component. The energy level was known through a question of the Geriatric Depression Scale - GDS, and by a graduated visual scale, using a numbered rule.

The unintentional weight loss component was measured by the self-report of weight loss equal to or greater than 4.5 kg or 5% of body weight within the last year. The gait speed test was used to measure the slowness in seconds (distance of 4 m) with adjustment for gender and height. The handgrip strength was measured with a dynamometer in the dominant hand with adjustment for gender and body mass index - BMI.

The Medical Outcomes Study – MOS, Short Form 36 - SF-36, was used for assessing the health related quality of life. This is an instrument consisting of 36 questions; a question of comparison between the current and previous health, and 35 questions classified into eight domains: physical functioning, role-physical, bodily pain, general health, vitality, social functioning, role-emotional and mental health. The final score ranges from zero to 100, with higher scores indicators of positive health perception. The instrument was validated for the Portuguese language and is called “Brazil - SF-36”.

The sample size was determined based on the estimate of population proportion. The confidence level was set at 95% (α = 0.05), 0.12 variance and sampling error was fixed at five percentage points. It was added 10% to the sample size, for the possibilities of losses and refusals, resulting in a sampling plan consisting of 203 elderly.

Data were organized in the Excel® 2007 program and the EpiInfo version 6.04 was used for statistical analysis of data: absolute and percentage frequency distribution, mean and standard deviation.

The development of study followed the national and international standards of ethics in research involving human beings.

Results

The study included 203 elderly patients, of whom 39 (19.2%) were classified as frail, 115 (56.7%) as pre-frail and 49 (24.1%) as non-frail.

The highest mean score for quality of life of frail elderly was for the psychosocial dimensions - concerning social aspects, emotional aspects, vitality and mental health. The lowest mean score was for the physical dimensions - concerning pain, func-
tional capacity, limitations due to physical aspects and general state of health (Table 1).

Table 1. Quality of life of frail elderly

<table>
<thead>
<tr>
<th>Dimensions of quality of life</th>
<th>Frail elderly</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
</tr>
<tr>
<td>Functional capacity</td>
<td>61.1(27.9)</td>
</tr>
<tr>
<td>Limitation due to physical aspects</td>
<td>71.1(41.1)</td>
</tr>
<tr>
<td>Pain</td>
<td>60.4(30.7)</td>
</tr>
<tr>
<td>General state of health</td>
<td>71.4(17)</td>
</tr>
<tr>
<td>Pain</td>
<td>75(24.4)</td>
</tr>
<tr>
<td>Social aspects</td>
<td>85.6(25.6)</td>
</tr>
<tr>
<td>Emotional aspects</td>
<td>81.1(38.5)</td>
</tr>
<tr>
<td>Mental health</td>
<td>76.4(23.4)</td>
</tr>
</tbody>
</table>

The quality of life of frail elderly by position is shown in chart 1. It is observed that the pain dimension of quality of life is the worst evaluated and the social aspect dimension is the best evaluated.

Chart 1. Quality of life of frail elderly by position

<table>
<thead>
<tr>
<th>Dimension position (from lowest to highest score)</th>
<th>Frail elderly (score)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Position Pain</td>
<td>60.4</td>
</tr>
<tr>
<td>2nd Position Functional capacity</td>
<td>61.1</td>
</tr>
<tr>
<td>3rd Position Physical aspects limitations</td>
<td>71.1</td>
</tr>
<tr>
<td>4th Position General state of health</td>
<td>71.4</td>
</tr>
<tr>
<td>5th Position Vitality</td>
<td>75</td>
</tr>
<tr>
<td>6th Position Mental health</td>
<td>76.4</td>
</tr>
<tr>
<td>7th Position Emotional aspects</td>
<td>81.1</td>
</tr>
<tr>
<td>8th Position Social aspects</td>
<td>85.6</td>
</tr>
</tbody>
</table>

Discussion

The limits of the study results are related to the cross-sectional design that does not allow establishing relations of cause and effect. On the other hand, the results could guide gerontological nursing care in the practice with frail, pre-frail and non-frail elderly. The studies on the syndrome of frailty and quality of life of seniors subsidize the provision of care for successfully combating the frailty, and consequently resulting in improved quality of life for these individuals.

When compared to national and international studies, the frequency distribution of frailty in this study is significantly high (19.2%). A study with 606 Americans aged 65 years or more, in which 301 participants were of Mexican ancestry and 305 of European descent, found 12.2% and 7.3% of frail elderly, respectively. Another study carried out in Spain with a sample of 814 elderly (aged 65 years or more), found 10.3% of frail elderly. The pioneering study carried out in Brazil on Frailty in Brazilian Elderly, consisting of a sample of 3,413 individuals aged 65 years or over, revealed 9.1% of frail elderly.

The cultural difference is considered a determining factor. Researchers claim that the unequal distribution of frailty in different places, besides reflecting possible differences in health between countries and regions, can also be attributed to the cultural characteristics that influence the perception of health and interpretation of subjective items of the scales used to assess frailty. Issues relating to lifestyle, nutrition, hydration, presence of comorbidities and medication use may also have influenced the divergence of results.

The dimensions of quality of life of the frail elderly most affected by the frailty syndrome resemble those found in the research conducted with a sample of 1,008 American elderly of Mexican descent aged 74 years or more. The study on the relation between the frailty syndrome and the quality of life of older people using the Medical Outcomes Study - MOS Short Form 36, concluded that the frail elderly of the sample had lower mean scores in the aspects of functional capacity, limitations due to physical aspects and general state of health.

The biological nature of the frailty syndrome itself justifies the significant deficit in the physical dimension of quality of life of frail elderly. In the cycle of frailty, physical problems such as sarcopenia, multiple diseases, excessive use of medication, and neuroendocrine deregulations are directly related with frailty and, consequently, affect the quality of life of these individuals. Moreover, the decline of different physical components that occurs in the syndrome may contribute to this result. Studies have shown that the decrease in physical activity, handgrip strength, gait speed and energy are directly related to decreased quality of life. Identifying the
components of frailty associated with the quality of life of frail elderly is an important first step, as it will lead to the early detection of the involved problems and the establishment of interventions and preventive actions.\(^{(11)}\)

Unlike other studies, the dimension of pain had the lowest mean score of all investigated dimensions (60.4 points).\(^{(8,10)}\) Pain in aging is related to symptoms that are precursors of decline of health and of bodily functions. Physical changes inherent to the frailty of the elderly can be associated with a reduction in health related quality of life, with the lowest mean scores for the pain dimension of the SF-36.\(^{(9)}\) The early identification of pain and the use of analgesic drugs may be important factors in the prevention of frailty and increase in quality of life.

A study shows that physical activity practice can improve the condition of frailty in the elderly and therefore, functional capacity.\(^{(22)}\) Thus, prescriptions for physical activity according to the possibility of individuals, could act both in the prevention of frailty syndrome as in improving the quality of life of frail elderly. Also, engaging in physical activity can improve mental health and promote social contacts,\(^{(20)}\) which is also beneficial for the psychosocial dimensions of the quality of life of seniors.

The psychosocial dimensions have obtained the best scores in the quality of life of frail elderly, a result of the social relations maintained by most of them. The main feature of the psychosocial profile is to be living with relatives or with the spouse and not feeling alone. Many Brazilian elderly still have an important role in the maintenance of themselves and their families.\(^{(20)}\) These factors lead the elderly to maintain an active social life, reducing isolation, dependency, thus obtaining better scores on quality of life regarding the psychosocial dimensions. Risk factors involving social relations are strongly associated with moderate or severe dependence. Although the frailty syndrome is a risk factor for dependence, maintaining social relationships can reduce or postpone this scenario.

A national study carried out with 113 participants aged between 60 and 98 years found that seniors with a routine concern with their network of friends and family had better quality of life.\(^{(21)}\) According to the author, the ability of the elderly to remain active in the society and for their loved ones transcends the limitations and physical disabilities, while the inability to alter the physical environment becomes inefficiency, lack of motivation and lower levels of quality of life.

### Conclusion

The frail elderly had lower mean scores for the physical dimensions of quality of life such as pain, functional capacity, limitations due to physical aspects and general state of health. The highest mean scores were obtained in psychosocial dimensions, concerning social aspects, emotional aspects, vitality and mental health.

### Acknowledgements

Research carried out with the Support of Scientific and Technological Development of Paraná – Fundação Araucária (FA), under protocol number 18239, contract 005/2011.

### Collaborations

Lenardt MHL; Carneiro NHK; Albino J and Willig MH contributed to the project design, analysis and interpretation of data, drafting the article and critical review of the relevant intellectual content and final approval of the version to be published.

### References

Quality of life of frail elderly users of the primary care


Cultural adaptation to Brazil and psychometric performance of the “Evidence-Based Practice Questionnaire”

Adaptação cultural para o Brasil e desempenho psicométrico do “Evidence-based Practice Questionnaire”

Karina Rospendowiski¹
Neusa Maria Costa Alexandre¹
Marilia Estevam Cornélio¹

Abstract

Objectives: To culturally adapt the instrument “Evidence-Based Practice Questionnaire” (EBPQ) to the Portuguese language and assess its psychometric qualities.

Methods: The steps of cultural adaptation of measurement instruments were followed. Reliability was verified through internal consistency, stability by test-retest, and construct validity by the contrasted groups approach.

Results: High Cronbach’s alpha (0.91 to 0.68) and satisfactory Intraclass Correlation Coefficient (0.90) were obtained in all domains. In assessing construct validity, significant differences were found between groups of nurses with different backgrounds.

Conclusion: The steps of cultural adaptation of measurement instruments have been successfully completed. The Brazilian version obtained presents reliable psychometric properties for its use in this population.

Keywords
Nursing research, Clinical nursing research, Evidence-based nursing; Psychometric

Descritores
Pesquisa em enfermagem, Pesquisa em enfermagem clínica; Enfermagem baseada em evidências; Psicometria

Submitted
March 12, 2014
Accepted
July 29, 2014

Corresponding author
Karina Rospendowiski
Tessália Vieira de Camargo Avenue, 126, Cidade Universitária “Zeferino Vaz”, Campinas, SP, Brasil.
Zip Code: 13084-971
karinarospen@yahoo.com.br

DOI
http://dx.doi.org/10.1590/1982-0194201400068

¹Faculdade de Enfermagem, Universidade Estadual de Campinas, Campinas, SP, Brazil.
Conflicts of Interest: there are no conflicts of interest to declare.
**Introduction**

Evidence-based practice (EBP) is a technology that has been gaining popularity with the purpose of improving clinical effectiveness. Its application involves using the best available clinical evidence on individual patient care and implies to improve clinical professional knowledge with the most consistent and reliable scientific findings, resulting from the advancement of clinical research.\(^{(1)}\)

Currently, the process of EBP is implemented in five steps: 1 formulate a searchable, answerable question; 2 find the best evidence to answer the clinical question; 3 appraise the evidence according to its validity, applicability and impact; 4. integrate the evidence with clinical expertise, customer values and circumstances and information from the practical context; and 5 evaluate the effectiveness and efficiency of the information found in the application of steps 1-4 and think about ways to improve job performance.\(^{(2)}\)

In the context of nursing, EBP apparently emerged with the Cochrane Group, journals such as the Evidence-Based Nursing and centers such as the Joanna Briggs Institute for Evidence-Based Nursing.\(^{(3)}\) Evidence-based nursing is defined as "a problem-solving approach to clinical care that incorporates use of current best evidence from well-designed studies, a clinician’s expertise, and patient values and preferences."\(^{(4)}\)

However, in nursing, clinical care seems not to have been benefited with the production of knowledge. Personal difficulties continue to be observed, such as motivation and dissemination of scientific findings, as well as situational difficulties, such as limited resources and inadequate organization of time.\(^{(1,5-7)}\) In order to be successful, EBP requires individual and organizational strategies that address factors that interfere in its utilization.\(^{(8)}\)

Regarding the production of nursing knowledge on EBP and its application, various measurement instruments have been developed to evaluate the use and the barriers to adoption of EBP.\(^{(9)}\)

An evaluation of EBP was proposed in 1998 by means of the “Evidence-Based Practice Questionnaire” (EBPQ). This instrument was developed in the United Kingdom in order to appraise attitudes, knowledge and implementation of EBP for physicians and other health care providers.\(^{(10)}\) The analysis of the psychometric properties of EBPQ was subsequently performed in a sample of nurses of various levels of training and was proved to be a valid and reliable tool.\(^{(11)}\) It is a brief self-administered questionnaire, of easy understanding, which explores the use of EBP by health professionals in everyday practice.

This instrument has been used in international research, with the purpose to evaluate practice, knowledge and attitudes of students and attending nurses. The results show important information about adopting EBP among these professionals and suggest strategies for its dissemination.\(^{(12-15)}\)

The EBPQ was recently adapted and validated for the Spanish language, obtaining a reduced version, however suitable for use in that culture.\(^{(13)}\) This version was used in a study in Spain to diagnose the factors that nurses perceive as facilitators to EBP.\(^{(16)}\)

Considering the lack of instruments in Brazil for assessing EBP among nurses and the importance of this information to investigate its application in clinical care as a tool that provides quality assistance, the objective of this study is to provide a version of the Evidence-based Practice Questionnaire (EBPQ) for the Brazilian population by means of the process of cultural adaptation, as well as through the evaluation of its measurement properties.

**Methods**

The Evidence-Based Practice Questionnaire (EBPQ) consists of 24 items rated on a scale of one to seven (Likert scale). The score of the instrument is calculated by adding the response values of each question, totaling 168 points, with higher scores indicating more positive attitudes toward EBP. The scores can be also evaluated by fields, calculating the arithmetic mean. The items are categorized into three dimensions:

1. Practice of Evidence-Based Nursing: six questions or 42 points;
2. Attitudes related to Evidence-Based Practice: four questions or 28 points;
3. Knowledge and skills associated with Evidence-Based Practice: 14 questions or 98 points.

In the end, the instrument presents questions related to the characterization of the research subjects regarding sociodemographic and data related to occupational training, work experience and field of practice.

In the original study, the instrument had a Cronbach’s alpha of 0.87 and satisfactory convergent validity (p < 0.001).\(^{(11)}\)

After the author’s consent, the essential steps of cultural adaptation were followed, as recommended by specialized publications, in order to ensure its quality.\(^{(17)}\)

First, an independent translation was performed by two translators separately. One of the translators was aware of the goals and concepts involving the instrument to be translated and the other translator had no prior knowledge of these concepts and goals. The two translated versions of the instrument were confronted by the advisor, researcher and a mediator. After identifying the discrepancies, a single synthesized version of the instrument was obtained.

Subsequently, the obtained synthesized version was back-translated into English by two translators native-speakers of English who had not participated in the first stage, thus obtaining back-translation 1 and back-translation 2. These translators did not receive information on the concepts and purposes of the instrument.

After completing the back-translation phase, a committee composed of seven bilingual participants and nursing research experts consolidated all versions produced into one single version that was used in the pre-test. A specific instrument was constructed for the purposes of this assessment containing the versions: original, synthesis of translations and back-translations. The committee evaluated the semantic, idiomatic, cultural and conceptual equivalence of each item or question of the EBPQ.

To calculate the level of agreement between the committee judges the Content Validity Index (CVI) was used.\(^{(18)}\) Was considered satisfactory an index of agreement equal to or above 90%.\(^{(19)}\) Thus, through the evaluation of the judges committee it is possible to verify the content validity of the questionnaire.

The Pre-test involved a sample of 30 nurses from a public hospital. At this stage, the understanding of the instrument was assessed, identifying questions or concepts considered difficult to understand.

Nurses that took part in this study were from a public hospital of a public university located in upstate São Paulo, Brazil. For data analysis, subjects were divided into two groups. Group 1 included nurses, students and faculty with a master’s or doctoral degree, or were doctoral candidates. Group 2 included nurses who had only completed their graduation and who were not enrolled in any postgraduate course at the time of data collection.

Nurses who had a completed or ongoing latu sensu specialization course were excluded from the study. Subjects who were on vacation or leave during the period of data collection were also excluded.

Convenience sampling was performed, thus the number of subjects in each group were equivalent. The sample size was obtained by calculating the sample size for the Cronbach’s alpha, totaling approximately 160 individuals.\(^{(20)}\)

Reliability was assessed by internal consistency and stability. For internal consistency, Cronbach’s alpha coefficient was used. For stability, assessed by test-retest, in which the questionnaire was administered on two separate occasions, with an interval of 10 to 15 days, the Intraclass Correlation Coefficient was used.\(^{(21)}\)

The validity of the construct was verified with the known groups approach to determine the degree to which the instrument demonstrated different scores for groups of each group. It was expected to find higher scores in the Group 1, consisting of nurses with a Master’s degree or PhDs, in relation to nurses who held completed the undergraduate studies. The validity was evaluated by the non-parametric Mann-Whitney test.

The development of the study met national and international standards of ethics in research involving human beings.
Results

Following the judges’ evaluation of semantic-idiomatic, conceptual and cultural equivalences of the EBPQ, minimal changes related to the translated terms were suggested, such as replacing the word “persevero” (Portuguese word for persevere) with “mantenho” (Portuguese word for maintain).

In the equivalence assessment, agreement for items 1 and 14 was 57%; item 18, 71% and 85% for items 3, 4, 7, 9, 12, 16, 19, 20, 23, 28 and 29. The suggestions were analyzed in a discussion meeting with the researcher, the advisor, and the members of the research group on cultural adaptation of measurement instruments. The agreement rates for all the other items were above 90%.

The participants of the pre-test were 30 nurses of a public hospital, who performed direct care activities and/or nursing management. It was found that the average time to complete the questionnaire was nine minutes, the minimum time was six and the maximum time was 21 minutes.

Seven nurses found it difficult to understand question 01, in relation to the word “lacuna” (Portuguese word for gap). This difficulty was revised, and it was decided to add the word “falta” (Portuguese word for lack) as a synonym of the first word, for better interpretation of the question.

The study included 158 nurses, 81 in Group 1 (nurses with master’s or doctoral degrees) and 77 in Group 2 (public hospital nurses without postgraduate degrees). The subjects were 148 (84%) women and 10 men (16%), of ages between 23 and 66 years. The time since graduation ranged from 01 to 43 years. In Group 1, most subjects were from the College of Nursing, 64.2% held a master’s degree, 29.6% a doctoral degree and 6.2% a postdoctoral degree. In Group 2, all nurses worked in the public hospital, of which 70 (90.9%) performed direct care activities and 7 (9.0%) were unit managers (Table 1).

Data description of the Evidence-Based Practice questionnaire:
The final score for the Evidence-Based Practice and Clinical Effectiveness scale for nurses was 129.15 for Group 1 (nurses with master’s or doctoral degrees) and 111.24 for Group 2 (public hospital nurses without postgraduate degrees).

In both groups, the domain with the highest average score per item was Domain 2 - Attitudes

Table 1. Socio-demographic characterization, according to the division into groups (n = 158)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group 1 (n=81)</th>
<th>Group 2 (n=77)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>41.4(10.7)</td>
<td>39.1(10.2)</td>
<td>0.1368</td>
</tr>
<tr>
<td>Time since graduation</td>
<td>18.2(10.5)</td>
<td>14.1(10.0)</td>
<td>0.0076</td>
</tr>
<tr>
<td>Time in practice</td>
<td>17.5 (10.8)</td>
<td>12.6(9.9)</td>
<td>0.0021</td>
</tr>
<tr>
<td>Gender</td>
<td>n(%)</td>
<td>n(%)</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>6(7.4)</td>
<td>4(5.2)</td>
<td></td>
</tr>
<tr>
<td>Place of work</td>
<td>n(%)</td>
<td>n(%)</td>
<td></td>
</tr>
<tr>
<td>Public Hospital</td>
<td>31(38.3)</td>
<td>77(100.0)</td>
<td></td>
</tr>
<tr>
<td>College of Nursing</td>
<td>50(61.7)</td>
<td>0(0)</td>
<td></td>
</tr>
<tr>
<td>Position</td>
<td>n(%)</td>
<td>n(%)</td>
<td></td>
</tr>
<tr>
<td>Direct care</td>
<td>15(18.7)</td>
<td>7(9.9)</td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td>14(17.5)</td>
<td>70(90.9)</td>
<td></td>
</tr>
<tr>
<td>University professor</td>
<td>24(30.0)</td>
<td>0(0)</td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>27(33.7)</td>
<td>0(0)</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>n(%)</td>
<td>n(%)</td>
<td></td>
</tr>
<tr>
<td>Undergraduate degree</td>
<td>0(0)</td>
<td>77(100.0)</td>
<td></td>
</tr>
<tr>
<td>Master’s degree</td>
<td>52(64.2)</td>
<td>-(-)</td>
<td></td>
</tr>
<tr>
<td>Doctoral degree</td>
<td>24(29.6)</td>
<td>-(-)</td>
<td></td>
</tr>
<tr>
<td>Postdoctoral degree</td>
<td>5(6.2)</td>
<td>-(-)</td>
<td></td>
</tr>
</tbody>
</table>

* SD - Standard Deviation
related to EBP (5.92 and 5.35 for Group 1 and 2, respectively), followed by Domain 1 - Evidence-Based Nursing Practice (5.38 and 4.54) and finally, Domain 3 - Knowledge and Skills (5.22 and 4.46).

**Reliability**

**Internal consistency**

Regarding internal consistency, the reliability of each question in relation to the domain of the instrument was evaluated, first for all subjects (n = 156) and then for each group of nurses.

The instrument presented satisfactory internal consistency values. In the overall sample, Domain 3 had the highest Cronbach’s alpha (0.92), which assesses the Knowledge and Skills associated with EBP. Domain 1, which evaluates EBP among nurses presented Cronbach’s alpha of 0.86. Questions inquiring attitudes related to EBP (Domain 2) obtained the lowest value (0.68).

**Stability (test-retest)**

To evaluate the reliability with respect to temporal stability, a sample of 50 nurses was used. The questionnaire showed high stability for all domains and for the instrument as a whole (ICC = 0.90) (Table 2).

The assessment of construct validity by means of the known groups approach showed that the subjects in Group 1 (master’s or doctoral degrees) had significantly higher means compared to those in Group 2 (undergraduate degree). Considering the total score of the instrument, Group 1 also showed higher values compared to Group 2. Thus, it is observed that the instrument was able to demonstrate differences in scores between known groups (Table 3).

**Discussion**

Like other validation studies, the study has limitations with regard to the validity of self-reported measures, because of the impossibility of adding direct measures of EBP, such as the observation of professional practice in accordance with their research findings. Furthermore, because it is the first study in Brazil using a measuring instrument for evaluation of EBP among nurses, other studies about the EBPQ must be produced in the national reality, to ensure greater validity through other methodological approaches, the expansion of the locations, and the expansion of quantity and characteristics of nurses.

However, the analysis of individual and organizational barriers in the incorporation of decision-making in individual care for the patient through the use of the EBPQ can facilitate the understanding and the directing of formation of technological skills necessary for a scientifically adequate healthcare choice. The study provided a culturally adapted questionnaire into the Portuguese language, with satisfactory assessment of validity and reliability, in order to create a tool for the development and evaluation of the im-
Cultural adaptation to Brazil and psychometric performance of the “Evidence-Based Practice Questionnaire”

A study found higher EBPQ scores among nurses with a master’s or doctoral degree, nurse managers and educators, and lower scores between the domains of the instrument for nurses that held only an undergraduate degree. Higher educational and training levels, such as a master’s degree, tend to show more satisfactory results in relation to knowledge and use of EBP.

After completing the steps necessary to deliver the questionnaire for the Brazilian context, it is suggested that it can be a useful tool for evaluating educational strategies and for evaluating health institutions concerned with health care quality. In addition, the instrument can be used to measure the personal evaluation of professionals regarding their practice, awakening critical thinking about the quality of their practice.

Conclusion

It is concluded that the process of cultural adaptation was performed successfully, and that the Questionnaire of Evidence-Based Practice and Clinical Effectiveness presents satisfactory validity and reliability.

Collaborations

Rospendowiski K contributed to the wording of article, design and design or analysis and interpretation of data. Alexandre NMC and Cornélio ME contributed to the relevant critical revision of intellectual content and final approval of the version to be published.

References

Effectiveness of antiemetics in control of antineoplastic chemotherapy-induced emesis at home

Efetividade de antieméticos no controle da emese induzida pela quimioterapia antineoplásica, em domicílio

Marielly Cunha Castro¹
Suely Amorim de Araújo¹
Thaís Rezende Mendes¹
Glauciane Silva Vilarinho¹
Maria Angélica Oliveira Mendonça¹

Keywords
Vomiting/chemically induced; Chemotherapy; Antineoelastics agents/adverse effects; Antiemetics; Oncology nursing; Residential treatment

Abstract
Objective: Evaluating if antiemetics are effective in the prevention or treatment at home, of chemotherapy-induced emesis.

Methods: In total, were included 42 women with breast cancer in moderately emetogenic chemotherapy, using dexamethasone/ondansetron before each cycle. The frequency of nausea and vomiting was obtained by applying the instrument in the pre-chemotherapy period, and 24h, 48h, 72h and 96h after chemotherapy. The use of antiemetics was considered in accordance with adherence to medical prescription.

Results: All patients (n = 42, 100%) reported emesis at some point. Only five cases (11.9%) were anticipatory. In the first 24 hours (acute emesis), 38 (90.5%) presented nausea (n=20, 47.6%) or vomiting (n=18, 42.8%) and, after this period (tardio), emesis was reported by all despite the regular use (n = 20, 47.6%) or not (n = 22, 52.4%) of antiemetics (ondansetron, dexamethasone, metoclopramide/or dimenhydrinate).

Conclusion: Antiemetics were not effective in the prevention or treatment at home, of chemotherapy-induced emesis.

Resumo
Objetivo: Avaliar se antieméticos são eficazes na prevenção ou tratamento da emese induzida pela quimioterapia antineoplásica, em domicílio.

Métodos: Foram incluídas 42 mulheres com câncer de mama, em quimioterapia moderadamente emetogênica, submetidas à dexametasona/ondansetron antes de cada ciclo. A frequência de náuseas e vômitos foi obtida por instrumento aplicado nos tempos pré-chemoterapia e 24h, 48h, 72h e 96h pós-chemoterapia. O uso de antieméticos foi considerado conforme adesão à prescrição médica.

Resultados: Todas as pacientes (n=42, 100%) relataram emese em algum momento. Apenas cinco casos (11.9%) foram antecipatórios. Nos primeiros 24 horas (emese aguda), 38 (90.5%) apresentaram náuseas e vômitos e, após este período (tardio), a emese foi referida por todas, apesar da utilização regular (n=20, 47.6%) ou não (n=22, 52.4%) de antieméticos (ondansetron, dexametasona, metoclopramida/ou dimenidrinato).

Conclusão: Os antieméticos não foram eficazes na prevenção ou no tratamento da emese induzida pela quimioterapia, em domicílio.
**Introduction**

Nausea and vomiting can be manifested in a variety of conditions, for example, in cases of drug poisoning.\(^{(1)}\) In cancer chemotherapy, the drugs used are potent inducers of nausea and vomiting, which represent the most uncomfortable and stressful adverse effects in view of the patients themselves.\(^{(2)}\)

Several drugs are used in the prevention and treatment of chemotherapy-induced emesis. Antagonists of serotonin receptors (5-HT3) such as ondansetron and granisetron are widely prescribed in hospitals, outpatient clinics and for use at home.\(^{(1)}\) However, despite proven efficacy, the 5-HT3 antagonists do not show satisfactory results in about 20 to 30% of patients in antiemetic treatment.\(^{(3)}\) In this context, the use of corticosteroids associated with the 5-HT3 antagonist is recommended, in view of greater efficacy in the control of emesis.\(^{(4)}\) Other drugs, such as metoclopramide hydrochloride and dimenhydrinate have also been used, however, without clearly defined efficacy.\(^{(5)}\)

Despite the introduction of antiemetic drugs considered effective, such as NK-1 receptor antagonist - aprepitant, an inadequate control of chemotherapy induced nausea and vomiting (CINV) is still observed and may persist until about five days after chemotherapy.\(^{(3,6)}\) Without effective prophylaxis, prolonged nausea and vomiting can result in dehydration, electrolyte imbalance, malnutrition, aspiration pneumonia and increased rates of hospitalization. Moreover, these symptoms can be so distressing that end up affecting the quality of life of patients, leading them to even stop the treatment. Therefore, the effective and well tolerated antiemetic therapy is essential in patients receiving intensive chemotherapy.\(^{(7)}\)

Thus, we consider that despite the recommendations made by consensus, the occurrence of CINV is still common, probably due to the ineffectiveness of antiemetic drugs or the combination of them. Given this, this study aims to assess the impact of antiemetic drugs currently used for the control of emesis in patients with breast cancer undergoing moderately emetogenic chemotherapy.

**Methods**

This is an observational, longitudinal study carried out in the outpatient chemotherapy at the Hospital do Câncer of the Universidade Federal de Uberlândia, in the state of Minas Gerais, southeastern Brazil, between February and November 2013.

Forty-two women with an initial diagnosis of breast cancer, regardless of tumor staging and on chemotherapy treatment (initial or ongoing) were included. It was a non-probabilistic convenience sample, consecutively drawn until reaching the number of subjects in accordance with sample size calculation (95% CI and 5% alpha error II).

All patients were followed for three consecutive cycles of chemotherapy - adriamycin (A) and cyclophosphamide (C) with or without fluorouracil (AC or FAC, respectively) - totaling 126 evaluated cycles. Immediately before each cycle, all received the same antiemetic therapy (ondansetron plus dexamethasone) administered intravenously, according to the Brazilian Consensus of Nausea and Vomiting (Consenso Brasileiro de Náuseas e Vômitos).\(^{(8)}\)

Clinical data were obtained from information on the medical records of patients, such as age (years), tumor staging (initial - I, IIA; advanced - IIb, III or IV), as well as antiemetics and anticancer drug (generic name) prescribed to use at home. The latter information was updated according to ongoing treatment.

The daily monitoring to measure the frequency of nausea and vomiting and the routine use of antiemetics was initiated before the completion of each cycle of chemotherapy, and for four days after the end of it. The survey instrument was developed by the authors, based on the Functional Living Index of Emesis.\(^{(8)}\) The interviews were conducted before the start of chemo and 24, 48, 72 and 96 hours (days one, two, three and four, respectively).
respectively) after completion of chemotherapy, by phone, when patients were already at home. The instrument was applied for three consecutive cycles of chemotherapy, following this same procedure.

The emesis was considered anticipatory when presented prior to the chemotherapy session; acute when occurring in the first 24 hours after chemotherapy and delayed, when nausea and/or vomiting occurred 24 hours after completion of the cycle. 

In the data analysis, three groups of patients were formed in accordance with the routine use of antiemetics at home: (1) Regular: use according to medical prescription, following the prescribed dosage; (2) Irregular: use without obeying the association of antiemetics and/or the recommended dosage, and (3) Self-medication: addition of some antiemetic to their everyday use, as well as using what had been prescribed or using only the antiemetic that they considered as the most effective.

Statistical analysis was performed with the use of Microsoft Office Excel 2007 and the GraphPad Prism 5. The results were expressed in mean ± standard deviation (±SD) and median with minimum and maximum values or absolute and relative frequencies.

The development of study followed the national and international standards of ethics in research involving human beings.

Results

In total, were included 42 women with mean age of (±SD) 48.3 ± 10.1 years, ranging between 29 and 73 years. Breast cancer was diagnosed, mostly at an advanced stage (n=26, 61.9%). In all cases there were reports of nausea and/or vomiting at some point of the chemotherapy treatment, despite the regular use of antiemetics (n=20, 47.6%) or not (n=22, 52.4%) by 100% of the study population (Table 1).

Considering the time of emesis occurrence, only five cases (11.9%) were anticipatory. However, in the first 24 hours after chemotherapy, 38 (90.5%) women had nausea associated with vomiting (n=20, 47.6%) or only nausea (n=18, 42.8%), and after this period, emesis was reported by all patients (n=42, 100%) (Table 1).

Table 1. Age group, tumor staging, and the occurrence and treatment of emesis

<table>
<thead>
<tr>
<th>Variables</th>
<th>Measures or frequencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>Mean ± SD 48.3 ± 10.1</td>
</tr>
<tr>
<td>Tumor staging</td>
<td>Median (min - máx) 46(29-73)</td>
</tr>
<tr>
<td>Initial</td>
<td>16(38.1)</td>
</tr>
<tr>
<td>Advanced*</td>
<td>26(61.9)</td>
</tr>
<tr>
<td>Nausea and/or vomiting</td>
<td>None** -</td>
</tr>
<tr>
<td>Only nausea</td>
<td>14(33.33)</td>
</tr>
<tr>
<td>Only vomiting</td>
<td>-</td>
</tr>
<tr>
<td>Nausea and vomiting</td>
<td>28(66.7)</td>
</tr>
<tr>
<td>Type of nausea and/or vomiting*</td>
<td>Antecipatory 5(11.9)</td>
</tr>
<tr>
<td>Nausea</td>
<td>4(9.5)</td>
</tr>
<tr>
<td>Nausea and vomiting</td>
<td>1(2.4)</td>
</tr>
<tr>
<td>Acute</td>
<td>38(90.5)</td>
</tr>
<tr>
<td>Nausea</td>
<td>18(42.8)</td>
</tr>
<tr>
<td>Nausea and vomiting</td>
<td>20(47.6)</td>
</tr>
<tr>
<td>Delayed</td>
<td>42(100)</td>
</tr>
<tr>
<td>Nausea</td>
<td>22(52.4)</td>
</tr>
<tr>
<td>Nausea and vomiting</td>
<td>20(47.6)</td>
</tr>
<tr>
<td>Routine of use of antiemetics at home</td>
<td>Regular** 20(47.6)</td>
</tr>
<tr>
<td>Irregular***</td>
<td>20(47.6)</td>
</tr>
<tr>
<td>Self-medication****</td>
<td>2(4.8)</td>
</tr>
</tbody>
</table>

* Stages I, IIa, IIb, III and IV; ** No episode of CINV; * Rating of nausea and/or vomiting according to the time of occurrence, pre (anticipatory emesis) and/or post (acute emesis – first 24h - or delayed – after 24h chemotherapy); ** Use of antiemetic in accordance with the prescription, following the prescribed dose; *** Use of the prescribed antiemetic however, not obeying the association of antiemetics and/or the recommended dosage; **** Addition of some antiemetic into their routine use, as well as using what had been prescribed, or using only the antiemetic they considered as the most effective.

Linking nausea and vomiting with the regularity of use of antiemetics (Table 2) showed that among the group who regularly followed the prescription (n=20), in almost 100% (n=19, 95%) emesis occurred in the first 24 hours and continued thereafter (delayed emesis). A similar result was observed for the groups with irregular use (n=20) or the self-medication group (n=2), where acute and delayed emesis occurred in 85% (n=17) and 100% (n=2) of cases, respectively.

Considering the total of cycles evaluated isolated (n = 126), nine antiemetic regimens were listed according to association among drugs or not: (A) ondansetron; (B) ondansetron, and dexamethasone; (C) ondansetron, dexamethasone and metoclopramide hydrochloride; (D) metoclopramide
hydrochloride; (E) dexamethasone and metoclopramide hydrochloride; (F) metoclopramide hydrochloride and ondansetron; (G) dexamethasone and dimenhydrinate; (I) dimenhydrinate (Table 3).

Ondansetron was used after 94 cycles isolatedly (n=41, 32.5%) or associated with dexamethasone (n=40, 31.7%), or together with dexamethasone and metoclopramide hydrochloride (n=4, 3.2%), or only associated with metoclopramide hydrochloride (n=9, 7.2%). The schemes A and B were the most frequent (32.5% and 31.7%, respectively) when compared to the others.

A high occurrence of acute and/or delayed emesis (n = 106, 84.1%) was observed for the different antiemetic regimens. Only two patients reported no use of antiemetics in one of the three analyzed cycles, and another patient reported not having used any medication in two consecutive cycles (data not shown in Table 3). For these cases, were found reports of both the occurrence of emesis (delayed nausea, delayed nausea and vomiting) as the lack thereof.

Emesis was not observed in 18 (14.3%) cycles of chemotherapy and in the vast majority of these (n = 16, 88.9%), some antiemetic drug was used in association with others or not (Table 3). A total of 12 different women had cycles with no emetic episodes, of which six (50%) had two cycles without complaints of emesis and the rest (n = 6, 50%) had only one cycle without complaint. Despite these reports, it is noteworthy that all patients had nausea and/or vomiting at some point, and in most cases was used an identical antiemetic regimen to that prescribed in the cycles without reports of emetic episodes.

### Table 2. Type of nausea and vomiting according to use of antiemetics at home

<table>
<thead>
<tr>
<th>Type of nausea and/or vomiting</th>
<th>Regular** (n=20)</th>
<th>Irregular*** (n=20)</th>
<th>Self-medication+ (n=2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Only nausea</td>
<td>n(%)</td>
<td>n(%)</td>
<td></td>
</tr>
<tr>
<td>Vomiting</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Nausea and vomiting</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Delayed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Only nausea</td>
<td>1(5.0)</td>
<td>2(10.0)</td>
<td></td>
</tr>
<tr>
<td>Vomiting</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Nausea and vomiting</td>
<td>-</td>
<td>1(5.0)</td>
<td></td>
</tr>
<tr>
<td>Acute and delayed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Only nausea</td>
<td>7(35.0)</td>
<td>4(20.0)</td>
<td></td>
</tr>
<tr>
<td>Only vomiting</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Acute nausea and delayed NV*</td>
<td>2(10.0)</td>
<td>4(20.0)</td>
<td>1(50.0)</td>
</tr>
<tr>
<td>Acute NV and delayed nausea*</td>
<td>3(15.0)</td>
<td>4(20.0)</td>
<td>1(50.0)</td>
</tr>
<tr>
<td>Nausea and vomiting</td>
<td>7(35.0)</td>
<td>5(25.0)</td>
<td></td>
</tr>
</tbody>
</table>

**NV - nausea and vomiting; ** Use of antiemetic in accordance with the prescription, following the prescribed dose; *** Use of the prescribed antiemetic however, not obeying the association of antiemetics and/or the recommended dosage; + Addition of some antiemetic into their routine use, as well as using what had been prescribed, or using only the antiemetic they considered as the most effective; The hyphen (-) indicates no occurrence for the group

### Table 3. Occurrence of emesis and the used antiemetic drug regimens

<table>
<thead>
<tr>
<th>Emesis</th>
<th>A**</th>
<th>B***</th>
<th>C****</th>
<th>D*</th>
<th>E*</th>
<th>F***</th>
<th>G****</th>
<th>H*****</th>
<th>I******</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n(%)</td>
<td>n(%)</td>
<td>n(%)</td>
<td>n(%)</td>
<td>n(%)</td>
<td>n(%)</td>
<td>n(%)</td>
<td>n(%)</td>
<td>n(%)</td>
</tr>
<tr>
<td>No emesis</td>
<td>6(14.6)</td>
<td>6(15.0)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3(37.5)</td>
<td>1(33.3)</td>
<td>-</td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nausea</td>
<td>2(4.9)</td>
<td>1(2.5)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1(12.5)</td>
<td>1(33.3)</td>
</tr>
<tr>
<td>Vomiting</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>NV*</td>
<td>-</td>
<td>1(2.5)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Delayed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nausea</td>
<td>2(4.9)</td>
<td>6(15.0)</td>
<td>-</td>
<td>-</td>
<td>1(16.7)</td>
<td>1(11.1)</td>
<td>3(37.5)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Vomiting</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>NV*</td>
<td>2(4.9)</td>
<td>3(7.5)</td>
<td>1(25.0)</td>
<td>2(20.0)</td>
<td>-</td>
<td>1(11.1)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Acute and delayed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nausea</td>
<td>13(31.7)</td>
<td>9(22.5)</td>
<td>-</td>
<td>4(40.0)</td>
<td>1(16.7)</td>
<td>2(22.2)</td>
<td>1(12.5)</td>
<td>1(33.3)</td>
<td>-</td>
</tr>
<tr>
<td>Vomiting</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>AN e DNW*</td>
<td>2(4.9)</td>
<td>3(7.5)</td>
<td>1(25.0)</td>
<td>2(20.0)</td>
<td>-</td>
<td>4(66.7)</td>
<td>1(11.1)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>ANV and DN**</td>
<td>7(17.1)</td>
<td>7(17.5)</td>
<td>2(50.0)</td>
<td>2(20.0)</td>
<td>-</td>
<td>-</td>
<td>1(11.1)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>NV*</td>
<td>7(17.1)</td>
<td>4(10.0)</td>
<td>-</td>
<td>3(33.3)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1(100)</td>
</tr>
<tr>
<td>Total</td>
<td>41(32.5)</td>
<td>40(31.7)</td>
<td>4(32.0)</td>
<td>10(7.9)</td>
<td>6(4.8)</td>
<td>9(7.2)</td>
<td>8(6.3)</td>
<td>3(2.9)</td>
<td>1(0.8)</td>
</tr>
</tbody>
</table>

*NV - nausea and vomiting; AN e DNW - acute nausea and delayed nausea and vomiting; ANV and DN - association of ondansetron, dexamethasone and metoclopramide hydrochloride; ANV - use of metoclopramide hydrochloride only; The hyphen (-) indicates no occurrence for the group
Discussion

The limit of the results of this study is related to the observational design that does not allow establishing relations of cause and effect. Nurses acting in oncology should know the chemotherapy drugs used, their possible side effects and the impact triggered by treatment, to ensure quality care. Therefore, it is essential showing the oncology teams about the high incidence of emesis even with an established antiemetic therapy, in order to help in the treatment of patients with similar conditions.

Despite the use of antiemetic drugs in specialized services, both in outpatient clinics as at home, in agreement with the consensus, the control of these symptoms is not yet satisfactory.(3,6,10) Such statement was demonstrated in the results of this study when it was observed that all participants had nausea with or without vomiting, either pre or post chemotherapy. A study of 178 American patients also showed the high occurrence of emesis, since in their results, 34% and 58% of participants experienced acute and delayed nausea and vomiting, respectively.(11)

It has been discussed and accepted that the emetogenic profile of chemotherapy drugs is primarily responsible for the intensity and duration of emesis. Among the 42 studied patients, all have experienced emetic episodes, revealing that despite one of the schemes being composed by fluorouracil, the addition of this chemotherapy drug did not alter the emetogenic profile of the protocol (data not shown). It is known that in chemotherapy regimen including more than one drug, the degree of emetogenicity is given by the combination of the chemotherapy drug with the highest emetogenic degree, plus the degree of emetogenicity of the other drugs.(9)

The management of emesis, particularly at the late stage of post chemotherapy, is a challenge.(12) It is known that first-generation 5-HT3 antagonists such as the ondansetron, which is the drug used in most cycles evaluated in this study, often fails to adequately control the late symptoms.(10) In addition, other drugs such as metoclopramide hydrochloride at high doses, associated with dexamethasone are less effective than the use in combination of a 5-HT3 antagonist and dexamethasone,(13) reinforcing the concept that antiemetics such as metoclopramide hydrochloride and also dimenhydrinate have low therapeutic index,(8) and there are few reports of use of this drug. It is noteworthy that all the women interviewed in this study had delayed emesis, which shows the poor control provided by the antiemetics used by this population.

It was also observed that the frequency of use of the prescribed antiemetic did not influence the control of emesis. However, some studies support the idea that due to irregular use of prescribed medication, some patients may not be benefiting from the treatment of prophylaxis.(11) Women taking the prescribed antiemetics irregularly argued that followed this routine for not having the habit of using any medication on a regular basis, for considering it unnecessary in face of the discomfort caused by emesis, and due to side effects of antiemetics.

Besides the features of chemotherapeutic agents and routine use of prescribed antiemetic, factors intrinsic to patients also increase the risks for developing nausea and vomiting, namely: the female gender, younger than 50 years, history of low alcohol consumption, history of nausea and vomiting in previous chemotherapy treatments, history of motion sickness, nausea and vomiting during previous pregnancy.(10,14) In this study, it is noteworthy that the studied population is comprised of women only, with average age under 50 years, which may be contributing factors to the high incidence of emesis.

Due to not being adequately controlled, nausea and vomiting affect the quality of life and adherence to the proposed treatment.(7) In another study, the authors indicated that, without the use of prophylactic antiemetic therapy, chemotherapy can trigger severe nausea and vomiting, which can lead patients to wish to stop treatment.(11)

Besides the negative impact on quality of life and influence on adherence to treatment, emesis may exert a burden on the health system, generating increased costs, whether with other medicines,
unscheduled medical consultations, and hospitalizations that may be required.\(^{11}\)

The goal of antiemetic therapy is the complete prevention of emesis. In this context, adherence to new practices that enable better control of symptoms becomes necessary. Studies have shown that combinations of new drugs such as palonosetron (serotonin receptor antagonist of the second generation) and aprepitant (NK-1 receptor antagonist) can offer a better protection.\(^{10,11,15}\)

Apart from drugs, complementary medicines and integrative practices can be associated with treatment such as herbal medicines, homeopathy, acupuncture, relaxation, aromatherapy and others. It is noteworthy that in addition to having these services provided, patients should be counseled regarding their effectiveness and encouraged to carry them out.\(^{8}\)

The nursing consultation is also of great importance. Nurses, as members of a multidisciplinary team, are a facilitating bridge on quality care and form a channel of communication and orientation, thus assisting effectively in the control of emesis. These professionals should be able to identify the risks to which patients are subjected, aiming at planning an assistance focused on preventing and minimizing these side effects.

The results showed that antiemetics were not able to prevent or treat chemotherapy-induced emesis, which shows that despite the recommendations made by consensus, nausea and vomiting remain one of the most prevalent side effects of chemotherapy.

Given the above, it is necessary to optimize the treatment with antiemetics, providing new drugs with proven effectiveness, new forms of complementary and alternative therapies and the institution of systematic nursing consultation, impacting in greater control of emesis and consequently positively influencing the quality of life of patients.

**Conclusion**

Antiemetics were not effective in the prevention or treatment at home, of chemotherapy-induced emesis.

**Collaborations**

Castro MC; Araújo AS; Mendes TR; Vilarinho GS and Mendonça MAO declare to have contributed to the project design, analysis and interpretation of data, drafting the article, critical revision of the important intellectual content and final approval of the version to be published.

**References**

13. Hesketh PJ. Prevention and treatment of chemotherapy-induced...


Cross-cultural adaptation of the primary health care satisfaction questionnaire

Adaptação transcultural do questionário de satisfação com os cuidados primários de saúde

Elisabete Pimenta Araujo Paz¹
Pedro Miguel Santos Dinis Parreira²
Alexandrina de Jesus Serra Lobo³
Rosilene Rocha Palasson¹
Sheila Nascimento Pereira de Farias¹

Abstract

Objective: To develop the cross-cultural validation and assessment of the psychometric properties of the Questionnaire about the quality and satisfaction dimensions of patients with primary health care.

Methods: Methodological cultural adaptation and assessment study of the psychometric properties, involving 398 users from a primary care service. The construct validity was verified through principal components factor analysis and internal consistency assessment as determined by Cronbach’s alpha, using SPSS.

Results: A factorial structure was identified that is equivalent to the original instrument, showing six factors that explain 70.81% of the total variance. All internal consistency coefficients were higher than 0.84, indicating appropriate psychometric properties.

Conclusion: The results show that the Brazilian Portuguese version of the instrument is culturally and linguistically appropriate to assess the satisfaction of users attended in primary care services.

Keywords
Nursing research; Primary care nursing; Public health nursing; Validation studies; Consumer satisfaction; Primary health care

Corresponding author
Elisabete Pimenta Araujo Paz
Afonso Cavalcanti street, 275,
Rio de Janeiro, RJ, Brazil.
Zip Code: 2011-110
bete.paz@gmail.com

DOI
http://dx.doi.org/10.1590/1982-0194201400070
Introduction

Primary care is the first level of care supply for a good performance of health systems, and offers care to people and their most common problems. Studies demonstrate better health and user satisfaction indicators, besides lower health costs in countries whose health systems are guided by primary health care.\(^\text{(1,2)}\)

User satisfaction is considered one of the main objectives of health services, playing an increasingly relevant role in the assessment and guarantee of health service quality in order to offer, in the health system, the care that is necessary, accessible and appropriate to the expectations of the population that directly uses the public health service.\(^\text{(2-4)}\)

Different factors influence the satisfaction with the health service, such as the local culture, the knowledge about how the service functions, the professionals’ attitudes towards the users’ demands, the trust in the health professional, past experiences in using the service, compliance with one’s needs, treatment success, among others. Given the subjective and multidimensional nature of satisfaction, this concept is difficult to operate in function of expectations and demands the services respond to, which involve the technical and interpersonal aspects of care. The more satisfied the users are with the health service, the more receptive they can be to the professional orientations to improve their health and choose that service as their reference for treatment.\(^\text{(4,5)}\)

The instruments used to assess satisfaction with health services are often insufficient to dimension what they really want to measure, mainly if the object that is being measures has subjective characteristics. Reaching a consensus in this area remains difficult.\(^\text{(6,7)}\) Therefore, the particularities of the service and clients being assessed should always be considered, mainly if instruments from other countries and social realities are used, which require adaptation to another sociocultural reality. The cross-cultural validation of instruments permits guaranteeing the validity and reliability of the adapted instruments, assessing what one intends to discover in another context, culture and age, and permits the comparison of results with other populations.\(^\text{(8,9)}\)

This study was aimed at developing the cross-cultural validation for Brazil of the Portuguese version of the Questionnaire about the quality and satisfaction dimensions of patients with primary health care, elaborated by Raposo, Alves and Duarte.\(^\text{(10)}\)

Methods

Methodological cultural adaptation and assessment study of the psychometric properties of the Portuguese version of the Questionnaire about the quality and satisfaction dimensions of patients with primary health care, elaborated by Raposo, Alves and Duarte.\(^\text{(10)}\) The original version consists of 33 items, organized in five dimensions: health service facilities, administrative attendance, nursing service, medical care and care in general, with statements in the form of a seven-point Likert scale, ranging from 1-I completely disagree; 2-I strongly disagree; 3-I somewhat disagree; 4-I neither agree nor disagree; 5-I somewhat agree; 6-I strongly agree; to 7-I completely agree.

The study was undertaken at a Family Clinic in planning area 3.1 of the city of Rio de Janeiro, in the Brazilian Southeast, located in a region that has recently gone through a pacification process, involving the continuing presence of the military police to eradicate the social conflicts that were common.

Cross-cultural adaptation

Initially, the authors of the questionnaire were asked for and granted their authorization for the development of the validation process and further use with the Brazilian population. To undertake the cross-cultural adaptation process, the guidelines proposed in international\(^\text{(9,11)}\) and Brazilian\(^\text{(12)}\) studies were followed, which include five phases: translation, first consensus version, back-translation, expert committee and pre-test.
Phase I and Phase II

In the first phase, two independent translations were elaborated (T1 and T2 of the instrument from the original language (source language) to Brazilian Portuguese) by one of the nurse researchers and a physician, both of whom worked in Primary Health Care, when possible difficulties were verified to understand words that could be semantically adapted to our context. In addition, the translators were asked to assess the difficulty of each scale item and, therefore, a score from zero (very difficult) to ten (very easy) was elaborated. Words that were biased or whose meaning was unclear were marked in the questionnaire, together with proposals for improvement in the Brazilian version, as these words were not current in Brazil.

Based on the independent translations, a sociologist fluent in Portuguese from Portugal developed a back-translation, which considered the original questionnaire, the items that maintained the semantic equivalence of the questions (same meaning), the conceptual equivalence (same concepts in both cultures) and the simple and direct formulation of the questions. Small changes were made, in line with the study objectives, and incorporated into the translators’ suggestions, which resulted in the consensus version.

Phases III and IV

A panel of specialists (expert committee) compared the original version in Portuguese, the consensus translation to Brazilian Portuguese and the back-translation to Portuguese from Portugal, including a Brazilian epidemiologist, a Brazilian nurse researcher who works with the family health strategy, a Portuguese nursing teacher with a Ph.D. who worked in service management and a Portuguese nursing teacher who researched on health service quality and had experience in the use of the original questionnaire. All questions from the consensus version were analyzed to assess the extent to which the content of each item reflected the meaning and content of the original version. The decisions made followed the proposals by Guillemin,\(^\text{11}\) aiming for equivalence between the original version and the Brazilian version, considering four areas: semantic equivalence, idiomatic equivalence, experiential equivalence and conceptual equivalence.

The words or expressions with different meanings were removed or adjusted to reflect in the translated version the same content as the original version, leading to the validity of the instrument. Coarse inconsistencies and/or conceptual translation errors were eliminated and the consensus was followed, which resulted in a version with a 100% agreement level. Then, any discrepancies were assessed, homogenizing the formulation based on the consensus. Examples are the original sentences “By standard the waiting time to be treated in short”, changed to “The nurses/physicians respect the service hours”; “The attendance cabinets offer sufficient space”, changed to “The consultation rooms offer sufficient space”.

Phases V and VI

The consensus version was applied to 20 users from a family health clinic that was not included in the study, as the final phase of the cultural adaptation process. In the pre-test phase, no difficulties were observed to understand and interpret the questions. Therefore, the researchers found the re-test unnecessary, immediately moving on to the application of the consensus version.

Field Research

The questionnaire was applied by means of an interview to 398 users who complied with the inclusion criteria and attended the Family Health Clinic with health demands. The interviews took place in the morning and afternoon shifts, from Mondays to Fridays, between August 5th and November 28th 2013, before medical or nursing care, or while the user was waiting for some procedure at the clinic. The average duration of the interviews was 15 minutes and the interviewers were grantees, who received training for this procedure.

At the start of the data collection, the study objectives and interview procedures were briefly presented and the participants’ confidentiality and anonymity were guaranteed. Then, the Free and Informed Consent Term was read, a compulsory document in research involving human beings, which
contained detailed information about the research phases, methods, possible risks for the participants and conducts to avoid them. The understanding of its content and the signature guarantee the participants’ autonomy, in compliance with the ethical principles of research.

The data were organized in a database and the statistical analyses were developed in the software Statistical Package for the Social Sciences version 20.0, including descriptive and trend analyses. To analyze the internal consistency, that is, the extent to which all items measure the same construct of the scale, Cronbach’s Alpha was used.

The development of this study complied with the Brazilian and international ethical standards for research involving human beings.

Results

Characteristics of respondents
The sample consisted of 74.1% female and 25.9% male respondents. The mean age was 41 years, with a standard deviation of 15.72 years, ranging between 18 and 84 years. As regards the self-referred skin color/race, 48.6% are mulatto, 28% black, 21.2% white and 1.5% indigenous. 9.3% live alone. Among the interviewees, 36.7% had finished the second cycle of secondary education (5th to 9th grade) and 24.6% the first cycle of secondary education (1st to 4th grade). In the interviewed sample, 55.8% did not inform any formal job.

In terms of monthly income in minimum wages, 38.4% receive between 1 and 2 wages, 32.4% gained no income and 11.8% informed gaining some kind of financial aid from the government. Concerning how frequently they tend to visit the health service, 35.5% informed 2 to 6 times per year, 25.6% once per month and 12.7% weekly, with 59.7% informing routine consultation as the reason to visit the service.

As regards the satisfaction with the location of the service, 93.7% are satisfied or highly satisfied, but 5.3% of the users experience difficulties to reach the health service, 72.9% take up to 15 minutes to reach the service and 94.2% do not spend anything on transportation.

Only 17.1% of the users are able to schedule an appointment on the same day, 29.2% take between 2 and 4 weeks to get a medical appointment and 28.4% between 1 and 2 months. As regards the delay in the waiting room to consult the physician, 58.8% are attended within the first hour and 15.2% wait more than 2 hours for this consultation.

Concerning the delay to get a nursing consultation, 35.9% of the users manage this on the same day. Although 74.9% got the nursing consultation within 30 days, 25.1% informed waiting between 1 and 6 months. 42.4% informed waiting up to 30 minutes at the waiting room for the nursing consultation.

In the analysis of the user satisfaction scale, first, the scale items were assessed according to the dispersion of the answers, showing that the users’ assessment were distributed across all agreement levels, indicating an appropriate discriminatory power of the items (Table 1). The scores tend to be much higher than the midpoint of the scale, indicating the users’ global satisfaction.

The questions with the lowest mean scores are related to the mean waiting time to get medical and nursing care. In addition, the mean score of 4.85 is observed for the question “This health service borders closely on a perfect health service”, indicating that, although the users feel satisfied, they acknowledge that the service does not fully attend to their expectations.

Construct validity
The construct validity of a concept like satisfaction, which is constantly changing and evolving, besides its subjectivity, although complex, shows to be decisive in order to be considered a measure of credibility. The dimensionality of the instrument was assessed by means of principal components factor analysis (PCA), followed by the internal consistency assessment using Cronbach’s Alpha and the item-factor correlations. In the interpretation of the factor, a minimum factor loading of ±0.30 was set for the PCA. The number of factors with an eigen-
### Table 1. Minimum, maximum, mean and standard deviation of the items in the primary health care user satisfaction questionnaire

<table>
<thead>
<tr>
<th>Item</th>
<th>Variables of Satisfaction Scale</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Facilities look good</td>
<td>1</td>
<td>7</td>
<td>6.25</td>
<td>1.06</td>
</tr>
<tr>
<td>2</td>
<td>Temperature in the facilities is pleasant</td>
<td>1</td>
<td>7</td>
<td>6.06</td>
<td>1.31</td>
</tr>
<tr>
<td>3</td>
<td>Facilities are comfortable</td>
<td>1</td>
<td>7</td>
<td>6.13</td>
<td>1.12</td>
</tr>
<tr>
<td>4</td>
<td>Facilities are clean</td>
<td>1</td>
<td>7</td>
<td>6.30</td>
<td>1.02</td>
</tr>
<tr>
<td>5</td>
<td>Bathrooms are in good hygienic conditions</td>
<td>1</td>
<td>7</td>
<td>5.99</td>
<td>1.23</td>
</tr>
<tr>
<td>6</td>
<td>There is sufficient space in the consultation rooms</td>
<td>1</td>
<td>7</td>
<td>6.21</td>
<td>1.16</td>
</tr>
<tr>
<td>7</td>
<td>The facilities at the clinic are appropriate for disabled people</td>
<td>1</td>
<td>7</td>
<td>5.63</td>
<td>1.59</td>
</tr>
<tr>
<td>8</td>
<td>The services are well signaled</td>
<td>1</td>
<td>7</td>
<td>5.99</td>
<td>1.37</td>
</tr>
<tr>
<td>9</td>
<td>The functioning hours are appropriate to your needs</td>
<td>1</td>
<td>7</td>
<td>5.70</td>
<td>1.66</td>
</tr>
<tr>
<td>10</td>
<td>At this clinic, there is information about health care</td>
<td>1</td>
<td>7</td>
<td>5.72</td>
<td>1.67</td>
</tr>
<tr>
<td>11</td>
<td>The Community Agents are thoughtful</td>
<td>1</td>
<td>7</td>
<td>6.05</td>
<td>1.39</td>
</tr>
<tr>
<td>12</td>
<td>The Community Agents take interest in your problems and their solution</td>
<td>1</td>
<td>7</td>
<td>5.85</td>
<td>1.52</td>
</tr>
<tr>
<td>13</td>
<td>The Community Agents clearly explain what you have to do</td>
<td>1</td>
<td>7</td>
<td>5.94</td>
<td>1.51</td>
</tr>
<tr>
<td>14</td>
<td>One normally waits little to be attended</td>
<td>1</td>
<td>7</td>
<td>5.11</td>
<td>1.80</td>
</tr>
<tr>
<td>15</td>
<td>The nurses are thoughtful</td>
<td>1</td>
<td>7</td>
<td>6.11</td>
<td>1.24</td>
</tr>
<tr>
<td>16</td>
<td>The nurses take interest in your problems and their solution</td>
<td>1</td>
<td>7</td>
<td>5.94</td>
<td>1.35</td>
</tr>
<tr>
<td>17</td>
<td>The nurses do everything they can to solve your problem</td>
<td>1</td>
<td>7</td>
<td>5.87</td>
<td>1.49</td>
</tr>
<tr>
<td>18</td>
<td>The nurses clearly explain the treatment you will have to do</td>
<td>1</td>
<td>7</td>
<td>5.97</td>
<td>1.43</td>
</tr>
<tr>
<td>19</td>
<td>The nurses are competent in the treatments they give you</td>
<td>1</td>
<td>7</td>
<td>6.01</td>
<td>1.42</td>
</tr>
<tr>
<td>20</td>
<td>Normally the nurse is available to treat you</td>
<td>1</td>
<td>7</td>
<td>5.60</td>
<td>1.62</td>
</tr>
<tr>
<td>21</td>
<td>The nurses respect the functioning hours</td>
<td>1</td>
<td>7</td>
<td>5.20</td>
<td>1.73</td>
</tr>
<tr>
<td>22</td>
<td>Normally, one waits little to be attended</td>
<td>1</td>
<td>7</td>
<td>4.61</td>
<td>1.87</td>
</tr>
<tr>
<td>23</td>
<td>The physicians are thoughtful</td>
<td>1</td>
<td>7</td>
<td>6.40</td>
<td>1.15</td>
</tr>
<tr>
<td>24</td>
<td>The physicians take interest in your problems and their solution</td>
<td>1</td>
<td>7</td>
<td>6.36</td>
<td>1.15</td>
</tr>
<tr>
<td>25</td>
<td>The physicians clearly explain the treatments you will have to get</td>
<td>1</td>
<td>7</td>
<td>6.41</td>
<td>1.12</td>
</tr>
<tr>
<td>26</td>
<td>The physicians do everything they can to solve your problem</td>
<td>1</td>
<td>7</td>
<td>6.26</td>
<td>1.26</td>
</tr>
<tr>
<td>27</td>
<td>The physicians are competent in the treatments they give you</td>
<td>1</td>
<td>7</td>
<td>6.29</td>
<td>1.27</td>
</tr>
<tr>
<td>28</td>
<td>The physicians respect the functioning hours</td>
<td>1</td>
<td>7</td>
<td>5.48</td>
<td>1.79</td>
</tr>
<tr>
<td>29</td>
<td>One normally waits little to be attended</td>
<td>1</td>
<td>7</td>
<td>4.76</td>
<td>1.88</td>
</tr>
<tr>
<td>30</td>
<td>In general, you feel satisfied with the service at this health unit</td>
<td>1</td>
<td>7</td>
<td>5.70</td>
<td>1.55</td>
</tr>
<tr>
<td>31</td>
<td>This health unit corresponds to your needs</td>
<td>1</td>
<td>7</td>
<td>5.70</td>
<td>1.52</td>
</tr>
<tr>
<td>32</td>
<td>This health service attends to your expectations</td>
<td>1</td>
<td>7</td>
<td>5.38</td>
<td>1.68</td>
</tr>
<tr>
<td>33</td>
<td>This health service is very close to a perfect health service</td>
<td>1</td>
<td>7</td>
<td>4.85</td>
<td>1.85</td>
</tr>
</tbody>
</table>

The principal components factor analysis resulted in six factors. The matrix produced evidenced a Kaiser Meyer-Olkin (KMO) coefficient of .919 with significance for Bartlett’s test of sphericity (BTS) ($\chi^2=11171.324$, $p=.000$), indicating the appropriateness of the sample and the correlation matrix for the factoring. The analysis revealed six factors with an eigenvalue superior to 1, which explain 70.82% of the variance, respectively 20.31% for the first factor, 12.72% for the second factor, 12.57% for the third factor, 10.58% for the fourth factor, 9.43% for the fifth factor and 5.20% for the sixth factor. Some small changes in relation to the original scale were observed, which nevertheless did not undermine any of the factors.

Concerning the characteristics of the original and adapted factors (Table 2), these were organized in F1-Nursing Care; F2-Medical Care; F3-Health Service Facilities; F4-Global Satisfaction; F5-Administrative Attendance; F6-Medical Care: Time and waiting time. The mean and standard deviation for each of the factors were, respectively: F1- 1.26 and 5.69; F2- 6.35 and 1.06; F3- 6.04 and 086; F4- 1.37 and 5.48; F5-5.73 and 1.34; F6-1.70 and 5.12.

The factor “Medical Care” in the original scale was divided into two factors, the first was called “F2-Medical Care”, which groups aspects like the interest in the problems and their solution, the explanation of the treatment needed, the attention and competency of the professional to solve the problems the user presented during the consultation. The second factor, called “F6- Medical Care: Time
and waiting time”, refers to aspects related to the waiting time and the physicians’ compliance with the time of the appointment. A slight factorial bias is observed, with scores bordering on 0.30 for the question “At this clinic there is information about health care”. It shows a higher saturation level in F4 - “Global Satisfaction” than in F3- “Health Service Facilities” though, grouping questions about the users’ expectation and satisfaction.

**Reliability**

The trust in the permanence of the results across several applications of a certain scale or test, always associated with an error that needs to be reduced, is called reliability. For this purpose, the internal consistency method is adopted, obtained through the mean correlation between all items and the final test score or factor in question, considering the component items. Cronbach’s Alpha is the most used test when the items are non-dichotomous and serves as a good reliability estimate in most situations.

As a reference point, 0.80 is considered, although coefficients of 0.60 or higher are acceptable when the number of items is small. The results showed that all factors showed internal consistency coefficients superior to 0.88, demonstrating that the instrument is reliable, like the original instrument.

**Table 2. User satisfaction: Percentage of explained variance, factorial saturations, commonalities (h²) and internal consistencies per factor**

<table>
<thead>
<tr>
<th>Item</th>
<th>Scale variables the level of satisfaction</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
<th>F5</th>
<th>F6</th>
<th>h²</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>The nurses do everything they can to solve your problem</td>
<td>0.908</td>
<td>0.911</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>The nurses clearly explain the treatment you will have to do</td>
<td>0.900</td>
<td>0.896</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>The nurses are competent in the treatments they give you</td>
<td>0.899</td>
<td>0.905</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>The nurses take interest in your problems and their solution</td>
<td>0.891</td>
<td>0.861</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>The nurses are thoughtful</td>
<td>0.885</td>
<td>0.860</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Normally the nurse is available to treat you</td>
<td>0.883</td>
<td>0.858</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>The nurses respect the functioning hours</td>
<td>0.847</td>
<td>0.846</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Normally, one waits little to be attended</td>
<td>0.798</td>
<td>0.768</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>The physicians take interest in your problems and their solution</td>
<td>0.857</td>
<td>0.858</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>The physicians clearly explain the treatments you will have to get</td>
<td>0.807</td>
<td>0.786</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>The physicians are thoughtful</td>
<td>0.799</td>
<td>0.775</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>The physicians do everything they can to solve your problem</td>
<td>0.798</td>
<td>0.801</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>The physicians are competent in the treatments they give you</td>
<td>0.774</td>
<td>0.753</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Facilities are comfortable</td>
<td>0.718</td>
<td>0.591</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Facilities are clean</td>
<td>0.690</td>
<td>0.536</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Facilities look good</td>
<td>0.658</td>
<td>0.490</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Temperature in the facilities is pleasant</td>
<td>0.641</td>
<td>0.446</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Bathrooms are in good hygienic conditions</td>
<td>0.618</td>
<td>0.489</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>There is sufficient space in the consultation rooms</td>
<td>0.582</td>
<td>0.491</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>The facilities at the clinic are appropriate for disabled people</td>
<td>0.578</td>
<td>0.317</td>
<td>0.470</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>The services are well signaled</td>
<td>0.488</td>
<td>0.367</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>The functioning hours are appropriate to your needs</td>
<td>0.306</td>
<td>0.451</td>
<td>0.307</td>
<td>0.411</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>This health unit corresponds to your needs</td>
<td>0.814</td>
<td>0.823</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>This health service attends to your expectations</td>
<td>0.782</td>
<td>0.824</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>In general, you feel satisfied with the service at this health unit</td>
<td>0.773</td>
<td>0.797</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>This health service is very close to a perfect health service</td>
<td>0.734</td>
<td>0.717</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>At this clinic, there is information about health care</td>
<td>0.15</td>
<td>0.333</td>
<td>0.335</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>The Community Agents take interest in your problems and their solution</td>
<td>0.879</td>
<td>0.802</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>The Community Agents are thoughtful</td>
<td>0.862</td>
<td>0.871</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>The Community Agents clearly explain what you have to do</td>
<td>0.815</td>
<td>0.802</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>One normally waits little to be attended</td>
<td>0.390</td>
<td>0.604</td>
<td>0.593</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>One normally waits little to be attended</td>
<td>0.809</td>
<td>0.821</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>The physicians respect the functioning hours</td>
<td>0.349</td>
<td>0.753</td>
<td>0.815</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cronbach’s Alpha</td>
<td>0.94*</td>
<td>0.94*</td>
<td>0.94*</td>
<td>0.91*</td>
<td>0.88*</td>
<td>0.84*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

F1-Nursing Care; F2-Medical Care; F3-Health Service Facilities; F4-Global Satisfaction; F5-Administrative Attendance; F6-Medical Care (Time and waiting time); *Scores obtained in this research; ** Scores obtained by Raposo, Alves and Duarte (2009)
In addition, coefficients superior to the midpoint of the scale are found, highlighting a higher satisfaction level in Factor 2 “Medical Care” and a lower satisfaction level in Factor 6- “Medical Care: Time and waiting time”, considering the time and waiting time for medical care.

**Correlation study**

The validity of the items, assessed using Pearson’s item/factors correlation, with and without overlapping of the item, Pearson’s two-tailed r correlations between the factors and the principal components analysis are displayed in table 3.

All items show higher correlation coefficients without overlapping with the dimension they theoretically belong to than with other dimensions, suggesting interdependence among factors, showing that the scale represents the factors of user satisfaction and possesses sufficient familiarity to constitute distinct dimensions (discriminant convergent validity). The correlations are stronger with the factor/dimension they theoretically belong to than with others, complementing the homogeneity of the content of the items inside each factor/dimension. It is highlighted that, globally, the coefficients are superior to 0.70, except for items 1,2,6,8,9 and 10 (0.528; 0.533; 0.591; 0.521 and 0.523, respectively).

**Table 3. Correlações entre os itens e os fatores com e sem sobreposição**

<table>
<thead>
<tr>
<th>Item</th>
<th>Without overlapping</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
<th>F5</th>
<th>F6</th>
</tr>
</thead>
<tbody>
<tr>
<td>p15</td>
<td>0.785</td>
<td>0.824</td>
<td>0.625</td>
<td>0.588</td>
<td>0.452</td>
<td>0.284</td>
<td>0.428</td>
</tr>
<tr>
<td>p16</td>
<td>0.823</td>
<td>0.859</td>
<td>0.635</td>
<td>0.563</td>
<td>0.514</td>
<td>0.330</td>
<td>0.434</td>
</tr>
<tr>
<td>p17</td>
<td>0.865</td>
<td>0.896</td>
<td>0.670</td>
<td>0.558</td>
<td>0.530</td>
<td>0.351</td>
<td>0.399</td>
</tr>
<tr>
<td>p18</td>
<td>0.840</td>
<td>0.875</td>
<td>0.675</td>
<td>0.543</td>
<td>0.509</td>
<td>0.365</td>
<td>0.406</td>
</tr>
<tr>
<td>p19</td>
<td>0.861</td>
<td>0.891</td>
<td>0.679</td>
<td>0.566</td>
<td>0.596</td>
<td>0.439</td>
<td>0.423</td>
</tr>
<tr>
<td>p20</td>
<td>0.815</td>
<td>0.860</td>
<td>0.572</td>
<td>0.551</td>
<td>0.586</td>
<td>0.366</td>
<td>0.468</td>
</tr>
<tr>
<td>p21</td>
<td>0.765</td>
<td>0.825</td>
<td>0.527</td>
<td>0.490</td>
<td>0.563</td>
<td>0.351</td>
<td>0.648</td>
</tr>
<tr>
<td>p22</td>
<td>0.680</td>
<td>0.747</td>
<td>0.460</td>
<td>0.480</td>
<td>0.552</td>
<td>0.387</td>
<td>0.622</td>
</tr>
<tr>
<td>p23</td>
<td>0.859</td>
<td>0.653</td>
<td>0.903</td>
<td>0.477</td>
<td>0.492</td>
<td>0.371</td>
<td>0.459</td>
</tr>
<tr>
<td>p24</td>
<td>0.690</td>
<td>0.622</td>
<td>0.925</td>
<td>0.464</td>
<td>0.494</td>
<td>0.340</td>
<td>0.471</td>
</tr>
<tr>
<td>p25</td>
<td>0.830</td>
<td>0.595</td>
<td>0.860</td>
<td>0.429</td>
<td>0.507</td>
<td>0.338</td>
<td>0.502</td>
</tr>
<tr>
<td>p26</td>
<td>0.846</td>
<td>0.623</td>
<td>0.897</td>
<td>0.424</td>
<td>0.549</td>
<td>0.396</td>
<td>0.478</td>
</tr>
<tr>
<td>p27</td>
<td>0.818</td>
<td>0.635</td>
<td>0.878</td>
<td>0.459</td>
<td>0.509</td>
<td>0.435</td>
<td>0.466</td>
</tr>
<tr>
<td>p1</td>
<td>0.528</td>
<td>0.374</td>
<td>0.308</td>
<td>0.612</td>
<td>0.292</td>
<td>0.263</td>
<td>0.226</td>
</tr>
<tr>
<td>p2</td>
<td>0.533</td>
<td>0.388</td>
<td>0.304</td>
<td>0.637</td>
<td>0.299</td>
<td>0.236</td>
<td>0.266</td>
</tr>
<tr>
<td>p3</td>
<td>0.631</td>
<td>0.415</td>
<td>0.289</td>
<td>0.705</td>
<td>0.388</td>
<td>0.230</td>
<td>0.300</td>
</tr>
<tr>
<td>p4</td>
<td>0.616</td>
<td>0.389</td>
<td>0.290</td>
<td>0.686</td>
<td>0.377</td>
<td>0.323</td>
<td>0.267</td>
</tr>
<tr>
<td>p5</td>
<td>0.625</td>
<td>0.448</td>
<td>0.340</td>
<td>0.709</td>
<td>0.386</td>
<td>0.362</td>
<td>0.320</td>
</tr>
<tr>
<td>p6</td>
<td>0.591</td>
<td>0.485</td>
<td>0.446</td>
<td>0.676</td>
<td>0.408</td>
<td>0.347</td>
<td>0.299</td>
</tr>
<tr>
<td>p7</td>
<td>0.626</td>
<td>0.483</td>
<td>0.324</td>
<td>0.733</td>
<td>0.440</td>
<td>0.343</td>
<td>0.305</td>
</tr>
<tr>
<td>p8</td>
<td>0.521</td>
<td>0.494</td>
<td>0.327</td>
<td>0.633</td>
<td>0.408</td>
<td>0.354</td>
<td>0.290</td>
</tr>
<tr>
<td>p9</td>
<td>0.523</td>
<td>0.468</td>
<td>0.435</td>
<td>0.656</td>
<td>0.475</td>
<td>0.327</td>
<td>0.340</td>
</tr>
<tr>
<td>p10</td>
<td>0.498</td>
<td>0.443</td>
<td>0.345</td>
<td>0.442</td>
<td>0.642</td>
<td>0.396</td>
<td>0.320</td>
</tr>
<tr>
<td>p30</td>
<td>0.792</td>
<td>0.604</td>
<td>0.519</td>
<td>0.494</td>
<td>0.857</td>
<td>0.557</td>
<td>0.447</td>
</tr>
<tr>
<td>p31</td>
<td>0.818</td>
<td>0.547</td>
<td>0.530</td>
<td>0.473</td>
<td>0.875</td>
<td>0.505</td>
<td>0.486</td>
</tr>
<tr>
<td>p32</td>
<td>0.855</td>
<td>0.578</td>
<td>0.535</td>
<td>0.527</td>
<td>0.905</td>
<td>0.506</td>
<td>0.582</td>
</tr>
<tr>
<td>p33</td>
<td>0.773</td>
<td>0.464</td>
<td>0.434</td>
<td>0.429</td>
<td>0.856</td>
<td>0.469</td>
<td>0.535</td>
</tr>
<tr>
<td>p11</td>
<td>0.776</td>
<td>0.313</td>
<td>0.298</td>
<td>0.360</td>
<td>0.433</td>
<td>0.852</td>
<td>0.185</td>
</tr>
<tr>
<td>p12</td>
<td>0.849</td>
<td>0.325</td>
<td>0.331</td>
<td>0.442</td>
<td>0.506</td>
<td>0.906</td>
<td>0.280</td>
</tr>
<tr>
<td>p13</td>
<td>0.817</td>
<td>0.444</td>
<td>0.472</td>
<td>0.411</td>
<td>0.515</td>
<td>0.885</td>
<td>0.317</td>
</tr>
<tr>
<td>p14</td>
<td>0.679</td>
<td>0.390</td>
<td>0.385</td>
<td>0.399</td>
<td>0.561</td>
<td>0.810</td>
<td>0.392</td>
</tr>
<tr>
<td>p28</td>
<td>0.834</td>
<td>0.547</td>
<td>0.524</td>
<td>0.382</td>
<td>0.518</td>
<td>0.297</td>
<td>0.925</td>
</tr>
<tr>
<td>p29</td>
<td>0.841</td>
<td>0.540</td>
<td>0.465</td>
<td>0.415</td>
<td>0.559</td>
<td>0.370</td>
<td>0.932</td>
</tr>
</tbody>
</table>

*Coefficients obtained in this research; ** Coefficients obtained by Raposo, Alves and Duarte (2009)*

**Discussion**

In this study, the five phases of the cross-cultural adaptation process were described that contributed to the validation for Brazilian Portuguese of the Questionnaire about the quality and patient satisfaction dimensions with primary health care. An instrument was produced that is equivalent to the Portuguese version for use in Brazil, guaranteeing its idiomatic and semantic equivalence. The assessment of the instrument’s psychometric properties through the construct validity study showed that the questions addressed in the instrument measure what they were intended to measure. The internal consistency determined by Cronbach’s Alpha, superior to 0.84 for all dimensions, indicated the high level of reliability of the instrument, as found in other studies that used psychometrics to measure subjective phenomena that involve behaviors and service assessment. (13-18)

For the nurses, using an instrument that assesses the satisfaction with their individual and team work contributes to gain knowledge on the impact of their activities, leading to the adaptation of actions and enhancing their social visibility in the primary care context, adopting continuous quality improvement and communication strategies with a view to care effectiveness.

Globally, the analysis of each item’s correlation with the factors showed that each items is more strongly correlated with the factor it belongs to than with other factors, as a sign of validity. (14,15) Despite showing higher mean values in all dimen-
sions, the results show lower mean values in the dimension Medical Care: time and waiting time, which contributes to a negative assessment of the health service.

The choice to hold the interviews at the clinic to facilitate the users’ participation, mainly considering the low education level of the population who uses the health service, with possible difficulties to read the questions, may have caused a bias due to the sole participation of users present at the health service, influencing the participants’ response pattern, which represents a limitation in the assessment of the results.

Conclusion

The instrument Primary Health Care User Satisfaction, in the phases of the cross-cultural adaptation process of its version translated to Brazil, showed to be appropriate in psychometric terms, balanced and effective for use in primary care services, such as family health services, and demonstrates equivalence with the original version from Portugal.

Collaborations

Paz EPA; Parreira PMSD; Lobo AJS; Palasson RR and Farias SNP declare that they contributed to the conception of the project, analysis and interpretation of the data, writing of the paper, relevant critical review of the intellectual content and final approval of the version for publication.

References

Biopsychosocial aspects and the complexity of care of hospitalized elderly

Beatriz Aparecida Ozello Gutierrez
Henrique Salmazo da Silva
Helena Eri Shimizu

Objective: To investigate the biopsychosocial aspects and aspects of the health system of hospitalized elderly and to classify their degree of care complexity.

Methods: This was a quantitative study whose convenience sample consisted of 279 elderly. The Interdisciplinary Medicine Instrument (INTERMED) method was used, a tool that identified biopsychosocial aspects and conditions of the health system and classified the complexity of the patient. The data were submitted to descriptive analysis.

Results: The prevailing profile was of elderly women, retired, white, with low educational levels, married and satisfied with their life conditions. The mean age was 72.3 years. The biological domain was the most compromised. As for the complexity of care, 34.8% of the patients required multiprofessional care.

Conclusion: The elderly had high care complexity, with the biological and health system domains being the most compromised.

Resumo

Objetivos: Conhecer os aspectos biopsicossociais e as condições do sistema de saúde de idosos hospitalizados e classificar o grau de complexidade assistencial.

Métodos: Trata-se de estudo quantitativo, cuja amostra por conveniência foi constituída por 279 idosos. Utilizou-se o método Interdisciplinary Medicine Instrument (INTERMED), ferramenta que identifica aspectos biopsicossociais e condições do sistema de saúde e classifica a complexidade do paciente. Os dados foram submetidos à análise descritiva.

Resultados: Predominou idosos do gênero feminino, aposentados, de cor branca, baixa escolaridade, casados e satisfeitos com as condições de saúde. A média de idade foi 72,3 anos. O domínio biológico foi o mais comprometido. Quanto à complexidade assistencial, 34,8% dos pacientes requerem assistência multiprofissional.

Conclusão: Os idosos apresentaram elevada complexidade assistencial, com maior comprometimento nos domínios biológico e sistema de saúde.

Keywords
Nursing care; Geriatric nursing; Nursing service, Hospital; Aged

Descritores
Cuidados de Enfermagem; Enfermagem geriátrica; Serviço Hospitalar de Enfermagem; Hospital; Idoso

Submitted
27 February 2014
Accepted
29 July 2014

DOI
http://dx.doi.org/10.1590/1982-0194201400071

1Escola de Artes, Ciências e Humanidades, Universidade de São Paulo, São Paulo, SP, Brazil.
2Faculdade de Saúde Pública, Universidade de São Paulo, São Paulo, SP, Brazil.
3Universidade Federal de Brasília, Brasília, DF, Brazil.

Conflicts of interest: there are no conflicts of interest to declare.
Introduction

The management of elderly care has been the subject of discussions between professionals, managers and researchers in the field of aging. The literature indicates that the elderly, especially the oldest and most dependent, require long-term care and assessment of their biopsychosocial needs in the short, medium and long term, in order to prevent adverse health outcomes: falls, insufficient care, disability, institutionalization, recurrent hospitalizations, and death.\(^{(1-3)}\)

In the last two decades, some researchers have conducted studies in order to identify aggravating factors in the health/disease status of the hospitalized patients, to improve the quality of care provided to them and also to reduce costs.\(^{(4-6)}\)

In this context, one of the proposals that can be a tool to improve communication within the interdisciplinary team, and to characterize the complexity of care for clinical, scientific and educational purposes, is the Interdisciplinary Medicine Instrument (INTERMED): a tool that can offer positive responses in assessing patients requiring care, and in helping adjust the provision of health services in general, and in mental health.\(^{(7)}\) The validity of this instrument is documented for the care of several types of patients.\(^{(8-10)}\)

Compared with usual care, targeted nursing interventions based on the INTERMED scores resulted in improvements in quality of life, at the time of admission and discharge in patients in general practice and in elderly patients requiring interdisciplinary care.\(^{(6,8-11)}\)

Assuming the importance of providing comprehensive care to the hospitalized elderly, this study aims to investigate biopsychosocial aspects of hospitalized elderly, and aspects of the health system, and to classify their degree of care complexity.

Methods

This was a quantitative, descriptive, cross-sectional study performed in the medical clinic at the University Hospital, São Paulo University, São Paulo state, in southeastern Brazil.

The population consisted of elderly patients admitted to the unit who met the following inclusion criteria: age 60 years or older, ability to understand and respond to the interview at the time of data collection. The convenience sample consisted of 279 elderly.

For participant characterization, demographic data were investigated (name, gender, age, occupation, ethnicity, income, marital status and family life), as well as one question related to the assessment of self-perceived health status.

For data collection, the INTERMED method was used, a tool based on data from medical records and on a semi-structured interview with the patient, which is designed by an analysis of data on the biological aspects, information on care related to psychosocial aspects, and on the health system.\(^{(7)}\)

This method classified the data into four domains related to biopsychosocial aspects and to the system used for health care/disease. Each domain had five variables related to “history”, “current state” and “prognosis”. The resulting twenty variables were classified from 0 to 3. The sum of these variables resulted in a score that could range from 0 to 60, indicating the complexity of patient care.\(^{(7)}\)

In this study, patients were classified through INTERMED as “complex” and “non-complex” based on a cutoff point of 20 representing the need for integrated treatment.\(^{(10,11)}\)

The INTERMED had advantages over other instruments because it was quick to administer, with an average duration between 15 and 20 minutes. It explored many pieces of patient data, providing knowledge and current, historical, and future assessment of four aspects - biological, psychological, social and health system - and enabled the collection of data by others involved in patient care, such as family members and caregivers, in cases in which the patient was unable to answer questions due to severe cognitive impairment or other disorders.\(^{(6,9)}\)

Data were analyzed using the Statistical Package for the Social Sciences (SPSS) for Windows version 17. A descriptive analysis was performed.

The development of the study met the national and international standards of ethics in research involving human beings.
Results

The sociodemographic profile of the 279 elderly is presented in table 1. Most participants were female, married, Caucasian, and claimed a religion. The average age was 72.3 years. The sample was concentrated in the lower classes of education and income. More than half claimed to be retired. Family income was one to three times the minimum wage. As for the spiritual aspects, most claimed to have a religion and considered having it to be very important. In relation to family life, 31.2% lived with their spouses. The results revealed that most elderly considered their health status compromised.

The INTERMED variables shown in table 2 indicate higher scores on the biological domain variable “chronicity”, because 60.9% of participants had more than one chronic disease, and on the variable “organization of care” in the health care system domain, because 94.3% the elderly did not have a perspective of discharge at the time of interview. Also, in the health care system domain, 36.2% of the elderly were at risk for impediments to health care.

Table 3 shows that the biological domain is the most compromised and, also, that the total INTERMED score, a value that characterizes the complexity of patient care, ranged from 3 to 43. The mean total INTERMED score was 18.13.
### Table 2. Score of the variables in the biological, psychological and health care system domains

<table>
<thead>
<tr>
<th>Variables</th>
<th>Score</th>
<th>Score</th>
<th>Score</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological domain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>0(0)</td>
<td>1(28)</td>
<td>2(15)</td>
<td>3(9)</td>
</tr>
<tr>
<td>Chronicity</td>
<td>21(7.5)</td>
<td>20(7.2)</td>
<td>68(24.4)</td>
<td>170(60.9)</td>
</tr>
<tr>
<td>Diagnostic dilemma</td>
<td>78(28)</td>
<td>131(47)</td>
<td>55(19.7)</td>
<td>15(5.3)</td>
</tr>
<tr>
<td>Diagnostic / Therapeutic challenge</td>
<td>42(15.1)</td>
<td>161(57.7)</td>
<td>68(24.4)</td>
<td>8(2.8)</td>
</tr>
<tr>
<td>Complications and life-threat</td>
<td>16(5.7)</td>
<td>102(36.6)</td>
<td>113(40.5)</td>
<td>48(17.2)</td>
</tr>
<tr>
<td>Psychological domain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>0(0)</td>
<td>1(28)</td>
<td>2(15)</td>
<td>3(9)</td>
</tr>
<tr>
<td>Restrictions in coping</td>
<td>176(63.1)</td>
<td>69(24.7)</td>
<td>22(7.9)</td>
<td>12(4.3)</td>
</tr>
<tr>
<td>Psychiatric dysfunction</td>
<td>195(69.9)</td>
<td>54(19.4)</td>
<td>28(10)</td>
<td>2(0.7)</td>
</tr>
<tr>
<td>Current state</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resistance to treatment</td>
<td>236(84.6)</td>
<td>31(11.1)</td>
<td>12(4.3)</td>
<td>-</td>
</tr>
<tr>
<td>Psychiatric symptoms</td>
<td>159(57)</td>
<td>54(19.4)</td>
<td>60(21.5)</td>
<td>6(2.1)</td>
</tr>
<tr>
<td>Prognoses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental health threat</td>
<td>143(51.2)</td>
<td>89(31.9)</td>
<td>42(15.1)</td>
<td>5(1.8)</td>
</tr>
<tr>
<td>Social domain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>0(0)</td>
<td>1(28)</td>
<td>2(15)</td>
<td>3(9)</td>
</tr>
<tr>
<td>Social vulnerability</td>
<td>130(46.6)</td>
<td>112(40.1)</td>
<td>12(4.3)</td>
<td>25(9)</td>
</tr>
<tr>
<td>Social dysfunction</td>
<td>185(66.3)</td>
<td>59(21.1)</td>
<td>15(5.4)</td>
<td>20(7.2)</td>
</tr>
<tr>
<td>Current state</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential instability</td>
<td>157(66.3)</td>
<td>100(35.8)</td>
<td>38(13.6)</td>
<td>7(2.5)</td>
</tr>
<tr>
<td>Restrictions of network</td>
<td>164(58.8)</td>
<td>63(22.6)</td>
<td>16(5.7)</td>
<td>14(5)</td>
</tr>
<tr>
<td>Prognoses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social vulnerability</td>
<td>146(52.4)</td>
<td>111(39.8)</td>
<td>16(5.7)</td>
<td>6(2.1)</td>
</tr>
<tr>
<td>Health care system domain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>0(0)</td>
<td>1(28)</td>
<td>2(15)</td>
<td>3(9)</td>
</tr>
<tr>
<td>Care access</td>
<td>184(65.9)</td>
<td>49(17.8)</td>
<td>13(4.7)</td>
<td>33(11.8)</td>
</tr>
<tr>
<td>Prior treatment experience</td>
<td>211(75.6)</td>
<td>42(15.1)</td>
<td>19(6.8)</td>
<td>7(2.5)</td>
</tr>
<tr>
<td>Current state</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organization of care</td>
<td>11(3.9)</td>
<td>4(1.4)</td>
<td>1(0.4)</td>
<td>26(94.3)</td>
</tr>
<tr>
<td>Coordination of care</td>
<td>257(92.1)</td>
<td>207(71.1)</td>
<td>1(0.4)</td>
<td>1(0.4)</td>
</tr>
<tr>
<td>Prognoses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impediments of the health care system / Health insurance</td>
<td>178(63.8)</td>
<td>80(28.7)</td>
<td>12(4.3)</td>
<td>9(3.2)</td>
</tr>
</tbody>
</table>

### Table 3. Scores of the INTERMED domains

<table>
<thead>
<tr>
<th>Domain</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological</td>
<td>8.17</td>
<td>2.49</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>Psychological</td>
<td>2.51</td>
<td>3.01</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Social</td>
<td>3.04</td>
<td>3.15</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>Health care system</td>
<td>4.33</td>
<td>1.84</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>18.13</td>
<td>7.24</td>
<td>3</td>
<td>43</td>
</tr>
</tbody>
</table>

* t Teste = 0

### Discussion

One limitation of this study is the prevalence bias, typical of cross-sectional studies. Another limitation is the lack of deep understanding of the subjective dimension of the factors related to the biological, psychological, social and health system domains by using a quantitative measurement instrument.

Nevertheless, although this study was cross-sectional, with a specific population of elderly patients at a teaching hospital, the indicators evaluated through INTERMED were similar to those of international studies, which confirmed the importance of the use of this instrument by the multidisciplinary team to identify the complexity of care, the social and the health care system vulnerability for the hospitalized elderly.\(^{(8-11)}\)

The profile of the elderly investigated in this study showed a mean age of 72.3 years, females predominated, with a socioeconomic income in the range of three times the minimum wage, a profile that was similar to that observed in the literature.\(^{(12-15)}\) The increase in longevity was a response to the evolution of medical science, however, the quality...
of life of the elderly was one of the greatest challenges in developing countries, where poverty and social inequality were highlighted.\(^{(16)}\)

The impoverishment of the social support network, combined with a reduced economic profile and the worst objective (degree of dependence) conditions and subjective (satisfaction with their own health and living conditions) health conditions may predispose the elderly to negative health outcomes that will increase the costs in the care network, if properly planned long-term care is not implemented in its complexity and scope.\(^{(17)}\)

It was found in this study that most elderly lived with their families (spouse, children, grandchildren), thereby their closest support consisted of the family. However, the high proportion of elderly who reported living alone in their homes drew attention, reaching 18.6% of the sample, higher than the rate described in the literature.\(^{(18)}\) Therefore, there is need for restructuring of health services that includes supervision of the elderly at home.\(^{(19)}\)

It is unquestionable that the social engagement of the elderly in the family, community and social activity groups enables improvements in self-esteem and motivation for life.\(^{(20,21)}\)

In this study, most elderly had negative perceptions of their health status, higher than the results of the Brazilian study.\(^{(22)}\)

Several factors contributed to confirmation of such perceptions, with diseases and physical and mental losses being the main factors. The disabling signs and symptoms were expressive of body image, lower agility and strength, which contribute to the dissatisfaction with the health state. Nevertheless, some practices can improve this condition, especially the practice of physical activities and regular health care.\(^{(21)}\)

As for the complexity of care, the mean total score was 18.13. However, 34.8% of patients had total INTERMED scores greater than 20 points, indicating a need for integrated care. These findings were similar to one international study.\(^{(23)}\) It was also found that 6.1% of these patients were classified as high complexity with a score higher than 30. There was evidence of improved health outcomes following targeted intervention for patients identified as complex through INTERMED.\(^{(12)}\)

Thereby, it is recommended that the more complex patients are followed after hospital discharge by a multidisciplinary team that will enable comprehensive care in order to improve the biopsychosocial aspects.\(^{(24)}\)

Moreover, coordination of care can be facilitated with the use of INTERMED, because it has been correlated with clinical outcomes of patients and their satisfaction with the care.\(^{(13,14)}\)

The elderly in the study pointed to problems in the health system, highlighting the variable, “organization of care”. These data indicated that there were difficulties in the organization of integrated care for the elderly, due to their vulnerability related to conditions resulting from the natural aging process that required multiple forms of care. Studies showed that the elderly often had multiple diseases, which could cause limitation and dependence.\(^{(4)}\)

In this sense, it should be emphasized that health professionals must be prepared to assist the elderly in the organization of their care, with services that must be varied to meet their multiple needs. It is important to build networks of elderly care. Thus, it is noteworthy that the nurse may facilitate access to comprehensive care management programs.

Efforts have been made to improve health service usage and costs with new management models, and comprehensive health care for people with complex health conditions.\(^{(12)}\)

It was found in this study that the elderly lived with a range of biological, psychological and social changes that increased susceptibility to diseases and could even cause disability. The biological domain was the most affected, mainly due to the chronicity of the diseases. This fact was consistent with the result expected for elderly patients admitted to the hospital, who most often are fragile and have more complex care outcome.\(^{(22)}\)

The psychological domain was less compromised. However, one should be aware of the need to assess for the presence of depressive symptoms in the elderly, because a study performed with the elderly at home showed that 23.9% had these symptoms and that they were associated with sociodemographic, health, and social behaviors of the elderly.\(^{(25)}\)
The importance of resuming the humanist conception is emphasized in order to focus on the health-disease process in the elderly, in order to incorporate the assumptions of comprehensive care and to expand relationships between individuals and social structures involved in activities that promote, maintain and recover health. There must be a model that meets the care model, beyond the interests of the marketplace, which consists of the organization of actions to intervene in the health-disease process, articulating physical, technological and human resources in an attempt to achieve the resolution of health problems in a collective manner.\textsuperscript{(26-28)}

It is necessary to rethink the responsibilities of the institutions facing the actual demands of the society and of the professionals in various areas of care for the elderly, families and communities, in order to introduce changes in the care model and social support equipment.

Conclusion

The results of this study demonstrated the importance of the INTERMED method because it enabled the multidisciplinary team to use it effectively for identifying the complexity of care, the biopsychosocial and health system vulnerability of the hospitalized elderly.

The knowledge of biopsychosocial factors, and of the health system, of the hospitalized elderly patient is important because it provides parameters that guide possible improvements in health practices, in programs, and in the implementation of public policies.

Collaborations

Gutierrez BAO contributed to the study design, analysis and interpretation of data, revising the intellectual content and approval of the version to be published. Silva HS collaborated in the development and statistical analysis of data, relevant critical revision of the intellectual content, and final approval of the version to be published. Shimizu HE contributed to the relevant critical revision of the intellectual content, and final approval of the version to be published.

References


Expression of domestic violence against older people

Luana Araújo dos Reis¹
Nadirlene Pereira Gomes¹
Luciana Araújo dos Reis²
Tânia Maria de Oliva Menezes¹
Jordana Brock Carneiro¹

Abstract

Objective: To reveal forms of domestic violence experienced by older people with impaired functional capacity.

Methods: This descriptive, exploratory study, using a qualitative approach guided by the oral history method, analyzed forms of violence. The oral histories told by older adults were used to identify the relationship between violence and dependence on someone else. The content analysis proposed by Bardin was used as a technique of systematic and objective analysis to describe the contents of the messages to categorize the data.

Results: Oral histories reveal that older adults are aware of the fact that their dependence on other people exposes them to situations of violence, expressed as negligence, psychological abuse and misappropriation of assets.

Conclusion: The expression of domestic violence experienced by older adults with impaired functional capacity was revealed, which indicates a relationship between depending on other people and suffering domestic violence.

Keywords
Geriatric nursing; Nursing care; Aged; Health of the elderly; Domestic violence

Descritores
Enfermagem geriátrica; Cuidados de enfermagem; Idoso; Saúde do idoso; Violência doméstica

Resumo

Objetivo: Desvelar as formas de expressão da violência intrafamiliar vivenciada por idosos com comprometimento da capacidade funcional.

Métodos: Estudo descritivo, de caráter exploratório e natureza qualitativa guiada pelo método da história oral, analisou as formas de violência, identificando através da história oral dos idosos sua relação com a dependência de outrem e da análise de conteúdo proposta por Bardin, como técnica de análise sistemática e objetiva de descrição dos conteúdos das mensagens para categorização dos dados.

Resultados: A história oral desvela que os idosos se dão conta que a dependência ao outro os expõem a situações de violência, expressas pela negligência, violência psicológica e apropriação indevida de bens.

Conclusão: A expressão da violência intrafamiliar vivenciada por idosos com comprometimento da capacidade funcional foi desvelada sinalizando que há relação entre a dependência de outrem e a vivência de violência intrafamiliar.

Keywords
Geriatric nursing; Nursing care; Aged; Health of the elderly; Domestic violence

Descritores
Enfermagem geriátrica; Cuidados de enfermagem; Idoso; Saúde do idoso; Violência doméstica

Submitted
March 13, 2014

Accepted
July 29, 2014

Corresponding author
Luana Araújo dos Reis
Doutor Augusto Viana Avenue, unnumbered, Salvador, BA, Brazil. Zip Code: 40110-060
luareis1@hotmail.com

DOI
http://dx.doi.org/10.1590/1982-0194201400072

¹Escola de Enfermagem, Universidade Federal da Bahia, Salvador, BA, Brazil.
²Universidade Estadual do Sudoeste da Bahia, Jequió, BA, Brazil.

Conflicts of Interest: there are no conflicts of interest to declare.
Introduction

Over the last decades, life expectancy has grown in Brazil, and population aging has become one of the main challenges of these modern times. This scenario becomes even worse when, together with social inequalities, there is lack of information, age discrimination and disrespect to older people. Advanced age carries the stigma of functional and social disabilities suffered by an individual, often turning the older person into a burden to his/her family, which leads to both family and social exclusion and domestic violence.

Domestic violence is defined as each and every act of violence or neglect which harms well-being, physical and psychological integrity, or freedom and the right of a family member’s full development. These acts can be perpetrated inside or outside the household, by any family member who is in a relationship of power with the assaulted person, including people who play the role of parents, even without any familial bonds.

Upon an international consensus involving all countries which take part of the International Network For the Prevention of Elder Abuse, the World Health Organization has defined seven types of violence: physical abuse (defined as the use of physical force); emotional or psychological abuse (defined as the infliction of verbal or nonverbal aggressive acts); neglect (defined as the refusal or failure to fulfill any part of a person’s obligations or duties to an elder); self-neglect (the behavior of an elderly person that threatens his/her own health or safety); abandonment (the desertion of an elderly person by an individual who has assumed responsibility for providing care for him/her); financial or material exploitation (the illegal or improper use of an elder’s funds, property, or assets), and sexual abuse (non-consensual sexual contact of any kind with an elderly person).

Taking into consideration the complexity of violence and its consequences for the health of older people, several authors have highlighted the need for actions to face this phenomenon immediately.

In this sense, learning the risk factors for domestic violence allows to identify older people who experience this offense early and/or prevent these situations from happening to them in the household setting. A study which investigated the protection network for older people in the city of Rio de Janeiro, through the analysis of 763 complaints registered at the police station for older people and 135 complaints registered at a special care center for older people, emphasized the importance of implementing health surveillance measures, focused on the prevention of diseases and offenses and on health promotion, especially based on the maintenance of a peaceful family life between the older people and their relatives.

In the light of the foregoing, the objective of this study was to reveal forms of domestic violence experienced by older people with impaired functional capacity.

Methods

The study design consists of descriptive, exploratory research, using a qualitative approach guided by the oral history method, which emphasizes the use of oral narratives turned into written records, orienting social processes by favoring investigations in the scope of cultural and individual memories. Oral histories allow for the establishment of dialogical relationships, but they are not conversations, they are scheduled meetings aiming especially at recording information.

This study was developed in March and April of 2012, in a city located in the southwestern region of the state of Bahia, Brazil.

Fifteen older people who are registered at a Family Health Unit of the city were included. Eligibility of people who would take part of the research was established with the following inclusion criteria: people aged 60 years old or older; living with relatives; presenting impaired functional capacity and having cognitive conditions to answer the questions from the data collection instrument.

Data were collected in individual interviews guided by a semi-structured script. The research question was: How is your relationship with your
relatives now that your functional capacity has been compromised? All interviews were recorded on an MP4 device and then entirely transcribed. The interviews took place on the house of the researched older people, in a room that ensured their privacy and confidentiality of information.

The data collected were organized based on the categorical thematic content analysis technique proposed by Laurence Bardin, which includes three basic phases: pre-analysis, material exploration, and inference and interpretation of results, which allowed to outline the theme “Expression of violence experienced by older people” and the following categories: negligence, psychological violence, financial exploitation and physical violence.

The development of this study complied with national and international ethical guidelines for the research involving human subjects.

**Results**

**Characteristics of the older people who participated in the study**

The older people interviewed were aged between 65 and 88 years, with prevalence of women (73.4%). As for their marital status, 60.0% of the older people did not live with their partner, being widowed, separated or divorced. Level of education varied from being illiterate to having incomplete primary education. With respect to health issues, the most commonly reported diseases were: systemic arterial hypertension (80.0%), arthritis/arthrosis/osteoporosis/rheumatoid arthritis (40.0%), diabetes mellitus (33.3%), low back pain (20.0%), and cardiopathy (6.6%).

All of the people who participated in the research presented impaired functional capacity for the development of instrumental activities of daily living (IADL), and depended on a relative to perform activities such as: cleaning the house, handling clothes, cooking, using household appliances, shopping, using personal or public transportation, and controlling their own medications and finances.

**Expression of the violence experienced by older people**

The interviewed older people with impaired functional capacity reported they experience domestic violence, as presented in the following categories:

**Negligence**

The older people said they are neglected by their relatives, who stopped providing for their basic care needs for physical, emotional and social development, which is verified in their speeches:

[…] when they leave the older person locked at home, with no food. There are moments I ask God to take me right away and stop this suffering. (I-3: Woman).

I don’t get out, nobody takes me to the church, not even for a walk, I spend all day in this garage. There are days I want to die. I cannot stand being locked up like an animal (...) I don’t even know why they allowed you to get in here, nobody enters here, I never talk to anybody. (I-7: Woman).

My life was better before, I used to do things on my own and people here did not order me around. They used to respect me, to obey me. Now I am abandoned in this room, I cannot even talk to people. (I-8: Man).

[…] it is sad when you want to do something but you cannot [...] and it is even sadder to hear other people complain when you ask for something. (I-11: Woman).

They won’t take me to the doctor. I am a prisoner: I live in this house. The only thing I am entitled to do is watching television. (I-13: Woman).

**Psychological violence**

As for psychological violence, the older people mentioned they suffer rejection, disparaging and disrespect, as shown in the speeches below:

There are moments they (children) say things that are worse than an attack, you know? Words that insult. You get hurt. It is impossible not to take offense. (I-3: Woman)

The words she (daughter) says are more hurtful than a punch. It is the worst! When someone hurts you, you get better. Words offend. They keep on our mind all the time. (I-9: Woman)
One day my grandson called me a bastard. Just because I asked him to turn the computer off because I wanted to watch the news (I-12: Man)

[...] Now they throw insults at me, they tell me to shut up, they tell I am a burden to them, they complain even for giving me a glass of water [...] I do not do this because I want to, if I was not bedridden, I would do things myself. (I-13: Woman).

**Financial exploitation**

Financial exploitation was also mentioned by the older people who participated in the research. They said they are afraid of experiencing this form of violence through the misappropriation of their assets.

I am afraid of getting worse, because he treats me badly, he complains, he yells at me. The other day, he wanted to sell my house. (I-3: Woman).

I am afraid of getting worse and that he might put me in a home for older people to stay with my house. (I-10: Woman).

The way things have been recently, I am afraid my grandchildren might throw me out to stay with my house. (I-12: Man).

I never thought I would work all my life to raise my children, and when I got old they would steal all my money and even insult me (...). (I-15: Man).

**Discussion**

The limitations of the results of this study refer to the research design, as its empirical material and oral histories told by the older people participating in the research related to domestic violence experienced by older people with impaired functional capacity can be biased by the subjects.

The results help nurses to reflect on their provision of home care to older people with impaired functional capacity, with the aim of preventing domestic violence, by pointing out the forms of violence experienced by these people which must be overcome.

The oral histories told by the interviewees reveal that they are aware of the fact that their dependence on someone else exposes them to situations of violence, expressed herein by negligence, psychological violence and financial exploitation, especially through misappropriation of assets. These forms of elder abuse were also revealed in a study based on scientific productions published from 2001 to 2008, which also highlighted physical and sexual abuse.(6)

Another study showed that negligence was the most common form of domestic violence against older people. It revealed that, of the 424 documents analyzed as for violence cases, approximately 40% of them referred this kind of abuse.(7)

An exploratory study carried out between 2002 and 2005 analyzed the presence, frequency and forms of elder abuse through complaints made by telephone and identified that, in terms of negligence, the number of complaints is not expressive, accounting for only 13% of the total complaints made in the year of 2002. Of these, the vast majority referred to cases of negligence suffered at institutions dedicated to providing care to older people.(8)

These studies reveal that elder abuse not only is perpetrated by family members, but also by health service workers, including healthcare professionals. Such professionals should pay close attention to these forms of abuse to identify cases of negligence against older people, especially in the older people's home, a space considered protective, but which has been revealed as a setting of family abuse.

Another form of domestic violence against older people highlighted in this study is related to psychological abuse. A study carried out with older people who lived in areas assisted by the Health Family Program in the city of Rio de Janeiro, Brazil, revealed that, among the people interviewed, 43% reported at least one episode of psychological abuse in the last year.(5) Another study developed in Fortaleza, Ceará, Brazil, whose locus was the collection of documents of a service that receives elder abuse reports, revealed a percentage of 35.2% complaints related to psychological abuse.(9)

Regarding financial exploitation, our findings revealed that older people are afraid of experiencing this form of violence through misappropriation of their assets, especially their house. To express this form of violence, a quantitative study conducted with 13 older people revealed that they suffer finan-
cial exploitation. One of the interviewees said that his relatives did not visit him much and, when they did, they were interested in his pension.\textsuperscript{(10)}

In these situations, besides the financial exploitation, it is also important to think of the psychological aspect, because the older person sometimes feels helpless in face of the situation, which generates an avalanche of losses, financial, psychological and even physical, which are sometimes irreversible.\textsuperscript{(11)}

In this context, it is important to emphasize that complaints of financial abuse are related to other forms of elder abuse, such as psychological and physical abuse, which may cause injuries and even lead to death.\textsuperscript{(10)} In agreement with these findings, a study conducted in Camaragibe, Pernambuco, Brazil, revealed that, in a sample of 315 older people, 66 reported suffering elder abuse. Psychological abuse was the most common form of violence (62.1%), followed by physical abuse (31.8%).

Older people are subjected to physical and verbal violence not only in the family, but also in institutions, where they suffer abuse, abandonment, discrimination and isolation. They suffer because their rights, which are guaranteed by the Brazilian Constitution, are poorly divulged and there are not specialized and specific public services for older people, with priority care.\textsuperscript{(12)}

According to the Brazilian Statute for Older People, aging is a personal right and its protection is a social right, with the State and society being responsible for protecting the life and health of older people, watching over their dignity and protecting them from any cruel, frightening, violent, shameful or embarrassing treatment. The person who commits acts of negligence, discrimination, violence, cruelty or oppression, either by act or omission, to older people shall be punished according to the law.\textsuperscript{(13)}

Therefore, elder abuse represents a serious infringement of older people’s rights as citizens, showing a backlash against social evolution regarding the affirmation of human rights. As for domestic violence, this type of felony is the one which most transgresses the principles covered by the rights that defend and protect older people, however, it is perpetrated for a number of reasons, such as: 1. Competent authorities do not apply effectively what is established in the Brazilian Statute for Older People and other laws which protect elderly people; 2. The older people are afraid of revealing the abuse they experience.

A study revealed that, among the feelings expressed by the older people, they feel fear of retaliation, especially in the family; a sense of guilt for generating a conflict; shame of the situation; and fear of being institutionalized. Living with the abusers can not only affect these people’s health, but also poses a big obstacle for the victim to make a complaint.\textsuperscript{(14)}

The 4\textsuperscript{th} section of the Statute establishes that “No elderly individual will be object of any kind of negligence, discrimination, violence, cruelty or oppression, and any attack to his/her rights will be punished, by act or omission, according to the law”. The same section states that it is everyone’s duty to impede threats or violation of the rights of the elderly.\textsuperscript{(13)} On this perspective, it is important to denounce evident acts and traces of violence. Society cannot wait for the confirmation of an abuse to denounce it, as this constitutes a strategy to help the elderly live with no violence.

In this sense, the responsibility of healthcare professionals towards older people’s well-being is established in the section 19 of the Statute, which states it is mandatory to report suspected or confirmed cases of elder abuse to the police, to the Department of Public Prosecution to the Council for the Elderly. Section 57 establishes that if the healthcare professional does not denounce an identified act of violence, he/she will be fined, with this fine being calculated by a judge, taking into consideration the damage suffered by the older person and, if the felony occurs again, the value of the fine is doubled.\textsuperscript{(15)}

Healthcare professions must have an active participation in the care of abuse victims, in an articulated and interdisciplinary manner, with other social sectors, in order to protect the older person and punish the abusers. Healthcare services must monitor these occurrences and create
conditions to prevent this kind of abuse, leading to the reduction of the high levels of mortality derived from this form of abuse and its consequences: fear, alienation, posttraumatic stress disorder or even depression.(14)

Nurses, in their everyday practice, are exposed to different forms of abuse. Therefore, a process of constant awareness through continuing or permanent education is necessary. This approach should be characterized as an opportunity for a dialogue which allows for a necessary personal and professional reflection, as one cannot exclude the other. In this awareness process, it is important to have specific scientific information and to include spaces of reflection about the difficulties that go beyond education practice of each area of expertise, because dealing with cases of abuse demands thoughts beyond disciplinary boundaries, in order to create better listening and intervention strategies.(15)

**Conclusion**

Impaired functional capacity and dependence on other people are deemed risk factors for domestic violence and, the difficulty to obtain oral reports from older people who experienced domestic violence and make them commit to a preventive care project are limiting.

**Acknowledgements**
The authors thank the Coordination for the Improvement of Higher Education Personnel (CAPES) for the master scholarship granted to Luana Araújo dos Reis.

**Collaborations**
Reis LA and Gomes NP contributed to the project conception, research development, and writing of the article. Reis LA collaborated with the writing of the article, relevant and critical review of its intellectual content, and final approval of the version to be published. Menezes TMO and Carneiro JB contributed to the relevant and critical review of the

**References**

Assessment of attributes for family and community guidance in the child health

Avaliação dos atributos de orientação familiar e comunitária na saúde da criança

Juliane Pagliari Araujo¹
Cláudia Silveira Viera²
Beatriz Rosana Gonçalves de Oliveira Toso²
Neusa Collet³
Patrícia Oehlmeyer Nassar²

Abstract

Objective: To identify the extension in primary health services of attributes for family and community guidance about the health of children health.

Methods: This was a quantitative, cross-sectional and evaluation study. We administered 548 questionnaires (Brazilian Primary Care Assessment Tool, child version) to families and/or legal guardians of children younger than 12 years of age who were received care in 24 health units. Data were analyzed using SPSS software, version 17.0.

Results: The basic public health services of the studied municipality were below what is considered ideal for primary health care with regard to the attributes of family and community guidance. Score of these attributes were 4.4 and 5.1, respectively. Scores considered satisfactory were ≥6.6.

Conclusion: We found that it was difficult for services to integrate families and the community in the care process. This finding reinforces the healing care culture and individual-centered care.

Keywords
Primary health care; Children’s health; Family health; Health evaluation; Pediatric nursing

Descritores
Atenção primária à saúde; Saúde da criança; Saúde da família; Avaliação em saúde; Enfermagem pediátrica

Submitted
March 24, 2014
Accepted
July 29, 2014

Corresponding author
Juliane Pagliari Araujo
João XXIII street, 600, Londrina, PR, Brazil. Zip Code: 86060-370
juliane.pagliari@ifpr.edu.br

DOI
http://dx.doi.org/10.1590/1982-0194201400073

¹Instituto Federal do Paraná, Londrina, PR, Brazil.
²Universidade Estadual do Oeste do Paraná, Cascavel, PR, Brazil.
³Universidade Federal da Paraíba, João Pessoa, PB, Brazil.

Conflicts of interest: none reported.
Introduction

Building and reorganization of public health policies in Brazil and around the world make up a long process that requires reflection to determine gaps in current care models. To reorganize the health system and strengthen clinical practice, investments in and changes to Primary Health Care (PHC) are needed.

In Brazil, the main proposal for PHC organization centers on the family health strategy (FHS), including basic care services characterized by continuity and integrality of care in a population from a specific area. However, in the current Brazilian health system FHS coexists with the traditional basic health units (BHU), the characteristic of which is assistance with spontaneous demand.

In the context of PHC, child health care presents some weaknesses. A recent literature review reported that PHC for children does not effectively distinguish between this point of attention and the other parts of the current health system. This lack of articulation shows the lack of effective coordination in PHC; it also implies that not all possibilities for pediatric health care are being addressed, thereby leading to unresolved care.

To establish that the health units (BHU and FHS) are the main entry points to the health system and to obtain better results for PHC services, the principles of these units must be operationalized; therefore, structured PHC in agreement with its essential attributes (family and community guidance and cultural competence) would be more efficient and can improve resolution of care. Our study focused on attributes of family and community guidance.

Family guidance considers the family as the object of care. The center of care is directed toward the knowledge of the multidisciplinary team and family members about the family health problems.

Community guidance presupposes the knowledge of characteristics of community health and of local resources designated for cultural, leisure and other activities. Such knowledge provides a broader way to assess health needs than an approach based only on interactions with patients or their families.

For pediatric health care, attributes of family and community guidance must be present because they strengthen the bond with health services and reflect the extension of further attributes, making health care for children more effective.

Assessment of health services in Brazil has become an increasing focus of scientific and institutional movements, indicating the need to include such assessment in planning and implementation of health programs. For this reason, a number of studies have been conducted to verify extension of essential attributes of an efficacious PHS.

When considering the PHS as an attempt to reorganize health system, it is necessary to reflect, among other aspects, on characteristics of care delivery and the focus of attention. In this way, the development and broadening of studies on health services are needed, particularly because the reduction in child morbidity and mortality is directly related to the quality of care delivered. The objective of the current study was to identify to what extent family and community are involved in the pediatric care process in PHS.

Methods

This was a cross-sectional, descriptive and evaluation study with a quantitative approach of health care services models of FHS and traditional BHU in pediatric health care in Paraná in southern Paraná. This study is part of multicenter project involving the Universidade Estadual de Londrina and Universidade Federal da Paraíba. As part of this project, therefore, this research was developed in 24 health units (23 BHUs; 1 unit with 2 family health teams) in urban area of the municipality.

We estimated the sample size by probabilistic stratified sample causation with proportionated share by unit. The sample consisted of 548 caregivers of children younger than 12 years of age who were receiving care in the mentioned units.
Of this total, 17 were from an FHU and 531 from a BHU. To administer questionnaires, caregivers were selected by systematic sampling while they were waiting in line for nursing and medical consultations in the units. The following inclusion criteria were used: participants needed to be users of the service and have attended at least two consultations in the unit within the six months before data collection.

Data were collected from October 2012 to February 2013 using the Brazilian PCATool (Primary Care Assessment Tool), child version. The questions concern all essential attributes and derivations; the attributes of family guidance are elicited in three questions that concern the family’s opinion about the child’s treatment, the history of family diseases and the encounter of the professional with the family. With regard to the attribute for community guidance, four questions addressed the use of home visits by the health team, the knowledge of professionals, community health problems, and participation of families in local health councils.

Responses on the instrument were given by Likert scale with the following options: definitely yes (4); probably yes (3); probably not (2); definitely not (1). To obtain the score of each attribute, the mean of each element was calculated, thereby constituting a mean attribute. The mean of each attribute was transformed on a scale of 0-10 as follows: (score obtained-1) × 10/3. For this transformed score, a cutoff point ≥ 6.6 is considered satisfactory for the extension of attribute in PHC. It is important to emphasize that this score is equivalent to a value of 3 or greater on the Likert scale because values < 6.6 were considered low.

Questionnaire response were digitized into a database created in Excel 2010 with double entry.

Data were transferred to SPSS software, version 17.0, for analysis. Data are reported as mean, standard errors, minimum and maximum for each item of derivate attributes. Results described are presented with absolute and relative distribution.

Development of this study followed all national and international ethical and legal aspects of research on human subjects.

Results

Of 548 applied questionnaires, 440 (80.29%) indicated that the main caregiver of the child was the mother; 272 parents (49.6%) were married. Of children participating in the study, 228 (41.61%) were an only child. A total of 434 (60.94%) families had income equal to as high as two times the minimum wages. With regard to water and wastewater, 526 (95.99%) and 310 (56.57%) of respondents had treatment by official network, respectively.

The regular source of care for PHC services was the nurse for 6.4% of respondents and physician for 41.1%; both types of professionals were employed in the health service (Table 1).

Table 1. Professional or health service mentioned by the caregiver in relation to affiliation degree

<table>
<thead>
<tr>
<th>Professional / service</th>
<th>n(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse</td>
<td>35(6.4)</td>
</tr>
<tr>
<td>Physician</td>
<td>225(41.1)</td>
</tr>
<tr>
<td>PHC Service</td>
<td>288(52.5)</td>
</tr>
<tr>
<td>Total</td>
<td>548(100.0)</td>
</tr>
</tbody>
</table>

n – 548; PHC - Primary Health Care

Table 2 presents results related to each element that makes up the attribute of family guidance in PHC services.

Table 2. Attribute of family guidance

<table>
<thead>
<tr>
<th>Variables</th>
<th>X</th>
<th>SE</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>The health professional asked your opinion on the child’s treatment and care</td>
<td>2.2</td>
<td>0.677</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>The health professional asked about the family history of diseases</td>
<td>2.4</td>
<td>0.720</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>The health professional organized a meeting with child’s relatives</td>
<td>2.3</td>
<td>0.563</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>2.3</td>
<td>0.471</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Mean score</td>
<td>4.4*</td>
<td>3.168</td>
<td>0</td>
<td>10</td>
</tr>
</tbody>
</table>

SE – standard error; * Transformed mean (0-10); PHC - Primary Health Care
Table 3. Attribute of community guidance

<table>
<thead>
<tr>
<th>Variables</th>
<th>PHC Services Indicator (n=548)</th>
<th>X</th>
<th>SE</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Somebody in the service made home visits</td>
<td>2.9</td>
<td>0.666</td>
<td>1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>The service is aware of local community health problems</td>
<td>2.5</td>
<td>0.623</td>
<td>1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Services conduct surveys within the community to identify problems</td>
<td>2.4</td>
<td>0.606</td>
<td>1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Service invite family members to participate in health councils</td>
<td>2.2</td>
<td>0.631</td>
<td>1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2.5</td>
<td>0.487</td>
<td>1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Mean Score</td>
<td>5.1*</td>
<td>0.162</td>
<td>0</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

SE – standard error; * Transformed Mean (0-10); PHC - Primary Health Care

Table 3 emphasizes results of each component of attribute community guidance.

The mean scores for family and community guidance in the health services investigated were 4.4 and 5.1, respectively. These values are below what is considered satisfactory (6.6).

Discussion

This assessment of health services used a validated instrument that enabled us to identify to what extent the attributes of family and community guidance are present in pediatric health care in PHC services according to the perspective of caregivers. It is important to emphasize that these results presented must be interpreted with caution because they reflect only the users’ vision. It will also be necessary to know the opinions of the PHC professionals.

Health service geared toward PHC that includes family and community guidance favor actions in plan and act, enabling nursing and other health professionals to provide care that is more effective and improves pediatric health indicators. However, in this study, caregivers mentioned that they received care from physicians (41.1%) more than nurses (6.4%). For this reason, this study emphasizes the need to broaden nurses’ clinical practice in pediatric care in PHC services and in a broader clinical context because no isolated knowledge can resolve complex population health problems. A broader clinical aim may help overcome the barriers with traditional clinic care by modifying the work process from individual-centered care in a collective environment to a care focus that is heterogeneous, medically centered, and pragmatic.

In this study, the predominant care model in the urban area of the studied municipality is of traditional health (91.6%). Until the data collection period, only two active PHS teams existed in this area, both located in the same physical structure. Transformation of the care model must begin by implementation of new PHS teams in such a way that reflects an understanding of local needs and characteristics for development of actions and that is oriented by national rules, such as consolidation of care networks focused on social health determinants.

Changes in the work process of health teams still produce tension because these changes propose alterations in conventional clinical practice and health management; more democratic relations between health professionals and relations with assisted population must be respected. Part of the challenge that PHC proposes is unstrained labor relations and incorporation of children and their families as protagonists of the care process. This dichotomy between daily practice and the goals of PHC resulted in weakened presence and extension of attributes of family guidance, which contribute to the lack of resolution of pediatric health care.

A broader view of the role of the child and his/her family favors the construction of integrative and resolution care. It also helps reinforce the characteristics that PHC espouses, including attempts to reduce pediatric morbidity and mortality from avoidable causes.

To address the needs for family guidance, health services must present other character-
Assessment of attributes for family and community guidance in the child health

istics related to the PHC, such as longitudinal aspects. For the service to be identified as the regular source of medical attention, the family knowledge of the origin and diseases care is essential. To address this assumption, one of the survey questions related to existing diseases in the child’s family. In the evaluated health service, the mean score for this element was less than 3.0 (Table 2), which demonstrates that the service did not integrate family care. This finding also shows the weakness of other characteristics of PHC, besides family guidance, such as longitudinal care and community guidance. In this sense, family participation in the decisions concerning child care is critical so that the care focus is not fragmented and that the needs of the child and his/her family group are addressed.

Family integration in child health care, as well as the integration of health service and its professionals in family care broaden the relationship among the participants, remodeling the focus of health care. Despite that, in the studied municipality, individual-centered care was highlighted; care focused mainly on family was not evident throughout the follow-up of life cycle of children aged 0 to 12 years (Table 2). The attribute of family guidance in the PHC was not seen as part of the daily routine for delivering care to the child.

A mean score of 4.4 was identified in the assessment of the attribute of family guidance. This attribute also had unsatisfactory value in any of the services evaluated by users of BHU and FHS in previous studies conducted in Minas Gerais and São Paulo, as well as in Santander, Colombia.(7,14,15) However, research carried out in FHS units(6) with children younger than 1 year of age in the countryside of São Paulo reported a high score for this attribute; this finding diverged from previous studies. This discrepancy can be explained by the fact that participants in the latter study(6) were from a single family health unit; the study did not involve all units of the municipality or the selected health district.

In the municipality of the current study, the territorial process was concluded in 2012; however, according to data reported by interviewers, gaps remained in diagnoses among the enrolled community, especially because services are not close enough to the community. We emphasize that the mean was unsatisfactory for all of the assessed elements (Table 3), which indicates the weakness in other attributes of PHC, such as longitudinal care, access, integration of care, and family guidance.

One of the tools that PHC uses to understand the community is the home visit. This activity should be done by all health professionals. However, in this study, the mean score for this requisite was 2.9. Although home visits are an important tool, this practice is not conducted effectively and often is not integrated into the services care plan. Our study highlights that professional education in directions not compatible with those proposed by PHS and the massive presence of biomedical technology favor this negative aspect. Related to this aspect is the organizational environment of health services, which has a very complex dynamic involving users, health professionals, and their self-governors and the service administration. For this reason, focus on changes in the working process in health care led to several reflections concerning macro and micro policies.

In this context, the FHS is a care model that progresses slowly because it is based on broad objectives and involves community agents. In addition, little attention has focused on work conducted within these teams, particularly interdisciplinary practice in the daily routine of health care in such services.(14) Continuing education in health can be a strategy to generate new knowledge and broaden discussions in working environment, integrating the health team to identify strong and weak points of the service, reflecting the integral care to the child.

To improve the performance of services with relation to community guidance, it is imperative to understand the role of the service in community health problems. The assessed services had a mean score that was lower than ideal (Table 3), which showed a weakness of services concerning integration with the community. An approach oriented to the community links the clinic, epidemiology, and
social sciences, so that programs can be changed based on needs and the efficacy of such changes can be evaluated.\(^{(16)}\)

The survey in the community to identify its problems also showed an unsatisfactory mean score. Listening to the population is important because health professionals often act as if they know the needs of the population and take for granted the way they should to act; they also assume interventions involving only technical knowledge are sufficient for effective care. Health problems or needs of the population must be take into account based on social health determinants.\(^{(17)}\)

The scores of the other studies\(^{(7,8,14,15)}\) on assessment of attribute of community were also considered unsatisfactory. It is evident that the score of attributes of family and community guidance (4.4 and 5.1, respectively) did not address the PHC goals of including the family and community in pediatric care, strengthening the culture of individual-centered care. The need to broaden PHC is clear in the municipality where this study was conducted based on the working process centered on such clinical widening, which emphasize the focus on family and children in their cultural context and in the community needs. For this reason, this broadened focus will entail the reformulation of public policies in the municipality, as well as in some aspects related to the structure and care process for an effective implementation of high-quality PHC services.

**Conclusion**

Attributes of family and community guidance had lower score in child health care based on assessment of users of primary care services. The service did not reach its total extension, which compromised the affiliation degree to the service and resolution of child health care in the PHC.

**Acknowledgments**

To the National Council for Scientific and Technological Development – CNPq (Notice # 014/2001); to undergraduate students of nursing and medicine programs and graduate students in public health graduate program at Universidade Estadual do Oeste do Paraná - UNIOESTE; Campus Cascavel-PR.

**Collaborations**

Araujo JP; Viera CS and Toso BRGO contributed with project design, data analyses and interpretation; Araujo JP; Viera CS; Toso BRGO; Collet N and Nassar PO contributed to critical revision of important intellectual content, drafting the manuscript and final approval of the version to be published.

**References**


Validity of instruments used in nursing care for people with skin lesions

Valide de instrumentos sobre o cuidado de enfermagem à pessoa com lesão cutânea

Roberta Kaliny de Souza Costa¹
Gilson de Vasconcelos Torres²
Marina de Góes Salvetti²
Isabelle Campos de Azevedo¹
Maria Antônia Teixeira da Costa¹

Abstract

Objective: To validate the content of two instruments used to evaluate nursing care for people with skin lesions.

Methods: Content validation study comprised of two stages: the first was the development of the instruments, beginning with a literature review; the second, content validation by means of an evaluation conducted by 30 judges/experts. For analysis, the Kappa coefficient ≥ 0.61 and content validity index ≥ 0.75 were adopted.

Results: The judges presented nine suggestions regarding the instrument’s categories. All items of the questionnaire and the observation script reached acceptable rates of content validity and concordance. Some categories attained scores above the given value, confirming the validity of the content.

Conclusion: The instruments showed satisfactory content validity rates, and can be used to measure the skills and knowledge of nursing care provided to people with skin lesions.

Keywords

Nursing assessment; Nursing care; Validation studies; Wound healing; Skin injuries

Descritores

Avaliação em enfermagem; Cuidados de enfermagem; Estudos de validação; Cicatrização; Pele/lesões

Submitted
June 25, 2014
Accepted
July 29, 2014

Corresponding author
Roberta Kaliny de Souza Costa
André Sales street, 667, Caicó, RN, Brazil. Zip Code: 59300-000
robertaksc@bol.com.br

DOI
http://dx.doi.org/10.1590/1982-0194201400074

¹Universidade do Estado do Rio Grande do Norte, Caicó, RN, Brazil.
²Universidade Federal do Rio Grande do Norte, Natal, RN, Brazil.

Conflicts of interest: there are no conflicts of interest to declare.
Introduction

Wounds are among the most common skin problems in everyday health care services. With high incidence and prevalence in the population, skin lesions cause great harm to the lives of individuals and their families, and cause economic impact on health care services.\(^1\)

The quality of care for people with wounds requires comprehensive care provided by trained professionals, and systematized by protocols that guide the practice of preventive, diagnostic and treatment conduct.

As members of the health care team, nurses play an important role in treating this clientele, diagnosing the problem, monitoring its evolution, and applying dressings at home and at health services.\(^2\) Performance evaluation should seek to grasp the knowledge acquired by future professionals, in addition to identifying their ability to perform specific tasks, using, integrating and applying their learned theory to solving problems in real situations.

The instruments for this type of evaluation should be grounded in scientific evidence, essential to the quality, legitimacy and credibility sought in its validation process.\(^3\)

The validation of an instrument verified its ability to measure a phenomenon, and may be performed using various methods. In turn, content validation is one of the psychometric measures essential to the development of measurement tools, which involves the process of preparation and trial by experts, in defining the theoretical universe and different dimensions of the concept to be observed and measured.\(^4\)

Thus, the use of reliable instruments is a valuable resource in the evaluation of nursing care, especially during professional training, since it facilitates the production of data, favors the analysis of techniques and approaches adopted, and provides standardization of efficient conduct in teaching and clinical practice.

However, the lack of validated measurement tools in literature to evaluate nursing care for people with skin lesions reinforces the importance of constructing and validating tools for this purpose.

Methods

Content validation was comprised of two stages: the first was the development of the instruments, beginning with a literature review; the second, content validation by means of evaluation of the instruments by 30 experts.

The judges were selected by performing an advanced search on Plataforma Lattes, which is a database containing researchers’ curricula vitae (CVs). The search yielded 1,449 CVs, from which a purposive sample of 147 nurses was selected, based on the following inclusion criteria: having a PhD or master’s degree in health sciences; working in undergraduate teaching; and having engaged in scientific research and/or publication on wounds over the last five years.

An invitation letter was sent by email to the 147 nurses, containing the objectives and methodology of the study, the rationale of the validation process and request for participation in the study as an evaluating judge. The letter also provided a link to a form developed in Google docs (docs.google.com), which the nurses should use for the evaluations. Of the 147 professionals invited, 30 agreed to participate, thereby constituting the study sample.

The data collection instrument sent to the judges was comprised of three parts: identification of professional characterization items; a structured, checklist-type observation script; and a questionnaire with ten multiple-choice questions to assess knowledge of nursing care for patients with wounds.

In general terms, the content of the questionnaire considered the categories comprising the checklist. The checklist included 20 items corresponding to the steps deemed important for nursing care of people with skin lesions.

The evaluation by the judges consisted of rating each item on the instrument as well as the in-
instrument as a whole as “adequate” or “inadequate,” according to the following criteria: usefulness/relevance, consistency, clarity, objectivity, simplicity, feasibility, if it is up-to-date, vocabulary, accuracy and sequence of instruction topics. Furthermore, explanations of the inadequacies and suggestions could also be made so that items could be modified and improved.

After evaluation of the instruments, the Kappa coefficient and Content Validity Index were applied to verify the level of agreement of the judges in relation to the items evaluated. As criteria for acceptance, an agreement level of >0.61 (good level) for the Kappa coefficient and ≥0.75 for the Content Validity Index was established for the evaluation of each item, as well as for the general evaluation of each instrument. (5.6)

The data collected were organized into an electronic spreadsheet and exported to statistical software. After coding and tabulation, the data were analyzed using descriptive statistics, with absolute and relative frequencies, application of the Kappa test and the Content Validity Index. The analysis supported the reformulation of instruments in accordance with the guidelines and suggestions of the judges.

The development of the study adhered to national and international standards of ethics in research involving humans.

**Results**

Thirty nurses participated as judges. The majority (80%) was female, and their ages ranged between 25 and 59 years, with a mean age of 44.3 years. As regards professional qualifications, the majority had doctorate degrees (76.7%), experience in teaching and care (93.3%), and worked in the Southeast (56.7%) of the country.

The length of experience in health care ranged from one to 30 years, the mean being 12.8 years; the period of work as a teacher ranged from one to 35 years, the mean being 15.3 years, with the predominant ranges from one to 10 years and 11-20 years of experience.

In evaluating the composition categories of the instruments on nursing care for people with lesions, nine suggestions given by the judges were verified, of which five were adopted and four rejected by the researcher after analysis and comparison with the literature (Chart 1).

**Chart 1. Suggestions of the judges, acceptance and rejection of suggestions, and justification by the researcher**

<table>
<thead>
<tr>
<th>Category of instrument</th>
<th>Suggestions of judges (n)</th>
<th>Acceptance</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial observations</td>
<td>Uses accessible language when addressing the person with lesion (1)</td>
<td>Yes</td>
<td>Verbal communication in a language that is familiar to the patient is important so that he or she can understand the information provided to them, enabling the fulfillment of the delegated actions to ensure successful treatment (2)</td>
</tr>
<tr>
<td>Assessment of the person and skin lesion</td>
<td>Combines the items “Identify risk factors” and “Perform patient history” (1)</td>
<td>No</td>
<td>In the constitution of care guidelines for people with skin lesions, the identification of risk factors appears as a separate item of the patient history (3)</td>
</tr>
<tr>
<td></td>
<td>Includes directed physical exam (1)</td>
<td>No</td>
<td>Authors refer to the performance of a complete and detailed physical examination of the person with skin lesion (1)</td>
</tr>
<tr>
<td></td>
<td>When evaluating the lesion, specifies the volume, depth and width measurements (1)</td>
<td>Yes</td>
<td>The measurements will be specified and standardized to facilitate the implementation of the instrument (4)</td>
</tr>
<tr>
<td>Care of the wound and surrounding skin</td>
<td>Does not describe the saline jet stream technique to clean the lesion (1)</td>
<td>No</td>
<td>Technique described in literature (5,6)</td>
</tr>
<tr>
<td></td>
<td>When applying the dressing, divides the item into clean and sterile techniques (1)</td>
<td>No</td>
<td>We opted for the sterile technique, since the instrument will be collected in hospitals and health care units. In the environment of health care services, sterile technique should be used (7,8)</td>
</tr>
<tr>
<td>Follow-up and guidance to people with skin lesions and their relative/caregiver</td>
<td>Includes nutrition guidance in health education actions for people with skin lesions (1)</td>
<td>Yes</td>
<td>The guidelines should include the benefits of eating certain foods that are important to health (9)</td>
</tr>
<tr>
<td>Records and documentation</td>
<td>Makes a record of the use of popular practices (1)</td>
<td>Yes</td>
<td>There are several popular therapies that are used in wound care (10)</td>
</tr>
<tr>
<td>Final observations</td>
<td>In the item relating to organization of the environment, provides details regarding the procedures used to organize the environment (1)</td>
<td>Yes</td>
<td>The details of the procedures involved in organization of the environment, after treatment of a person with skin lesion, standardizes and facilitates application of the instrument (11)</td>
</tr>
</tbody>
</table>

The number of judges that suggested changes in the categories that compose the instruments is indicated by "n".
In the result of the judgment of the observation checklist on nursing care for patients with skin lesions, all items showed concordance within the prescribed level (Content Validity Index >0.75 and Kappa coefficient >0.61). However, some categories achieved excellent Kappa coefficients (>0.80) among the study judges, such as: Identifies the need and provides additional tests; Recommends coverage; Develops educational activities; Identifies the need for and provides referral; Records the clinical evaluation; and Records the evaluation of the lesion. Most items presented a Content Validity Index well above the given value, except for the following categories: Cleans the wound and Applies dressing (Content Validity Index of 0.78). Both items also had the lowest Kappa value of the instrument (0.65 and 0.66, respectively) (Table 1).

In the analysis of concordance of the judges on the questions of the questionnaire on knowledge of nursing care for people with lesion, it is observed that all of the questions had Kappa and Content Validity Index values within the minimum level adopted. Questions Q2, Q3, Q6, Q7, Q9 and Q10 attained excellent Kappa values (>0.80). The lowest levels of concordance among the judges were on questions Q1, Q4, Q5 and Q8. The Content Validity Index was much higher (≥0.90) than the given value on questions Q6, Q7, Q9 and Q10 (Table 2).

The final version of the instruments is in the appendix.

Table 1: Analysis of concordance of the judges on the categories of the checklist

<table>
<thead>
<tr>
<th>Categories comprising the checklist</th>
<th>Kappa</th>
<th>CVI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial observations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Care</td>
<td>0.76</td>
<td>0.87</td>
</tr>
<tr>
<td>Sanitizes hands</td>
<td>0.73</td>
<td>0.84</td>
</tr>
<tr>
<td>Assessment of the person and skin lesion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical history taking</td>
<td>0.78</td>
<td>0.87</td>
</tr>
<tr>
<td>Identifies risk factors</td>
<td>0.74</td>
<td>0.85</td>
</tr>
<tr>
<td>Performs physical examination</td>
<td>0.73</td>
<td>0.84</td>
</tr>
<tr>
<td>Checks vital signs</td>
<td>0.78</td>
<td>0.88</td>
</tr>
<tr>
<td>Assesses the presence of pain</td>
<td>0.77</td>
<td>0.87</td>
</tr>
<tr>
<td>Evaluates the skin lesion</td>
<td>0.72</td>
<td>0.83</td>
</tr>
<tr>
<td>Identifies signs of infection</td>
<td>0.76</td>
<td>0.85</td>
</tr>
<tr>
<td>Identifies the need for, and provides exams</td>
<td>0.82</td>
<td>0.90</td>
</tr>
<tr>
<td>Care of lesion and surrounding skin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cleans wound</td>
<td>0.65</td>
<td>0.78</td>
</tr>
<tr>
<td>Applies dressing</td>
<td>0.66</td>
<td>0.78</td>
</tr>
<tr>
<td>Assesses the need for debridement</td>
<td>0.79</td>
<td>0.87</td>
</tr>
<tr>
<td>Recommends coverage</td>
<td>0.81</td>
<td>0.89</td>
</tr>
<tr>
<td>Referral and guidance to the person with skin lesion, relative/caregiver</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develops educational activities</td>
<td>0.85</td>
<td>0.91</td>
</tr>
<tr>
<td>Identifies and provides referral</td>
<td>0.84</td>
<td>0.91</td>
</tr>
<tr>
<td>Record and documentation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Records clinical evaluation</td>
<td>0.81</td>
<td>0.89</td>
</tr>
<tr>
<td>Records lesion evaluation</td>
<td>0.82</td>
<td>0.89</td>
</tr>
<tr>
<td>Final observations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizes the environment</td>
<td>0.74</td>
<td>0.85</td>
</tr>
<tr>
<td>Sanitizes hands after care</td>
<td>0.80</td>
<td>0.88</td>
</tr>
</tbody>
</table>

CVI - Content Validity Index
## Table 2. Judges’ analysis of concordance regarding the knowledge questionnaire categories

<table>
<thead>
<tr>
<th>Categories comprising the checklist</th>
<th>Agreement analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Kappa</td>
</tr>
<tr>
<td>Q1. What actions should be taken in the evaluation stage of a person with skin lesion?</td>
<td>0.76</td>
</tr>
<tr>
<td>Q2. Which aspects should be considered when evaluating the characteristics of the skin lesion?</td>
<td>0.61</td>
</tr>
<tr>
<td>Q3. Which signs of infection should be considered when evaluating the characteristics of the skin lesion?</td>
<td>0.82</td>
</tr>
<tr>
<td>Q4. Which aspects should be considered when choosing the dressing to be applied onto the skin lesion?</td>
<td>0.71</td>
</tr>
<tr>
<td>Q5. During the care of the wound and surrounding skin, what is the adequate procedure to perform during application of the dressing?</td>
<td>0.78</td>
</tr>
<tr>
<td>Q6. In the initial and subsequent evaluation of the skin lesion, the nurse should be aware of the wound characteristics that indicate the need to perform debridement. What are these characteristics?</td>
<td>0.83</td>
</tr>
<tr>
<td>Q7. When recommending the coverage to be used in the treatment of the lesion, what should the nurse consider?</td>
<td>0.86</td>
</tr>
<tr>
<td>Q8. What debriding action products are used in the topical treatment of skin lesions?</td>
<td>0.76</td>
</tr>
<tr>
<td>Q9. What guidelines should be provided to the person with skin lesions and their relative/caregiver for continuing care?</td>
<td>0.82</td>
</tr>
<tr>
<td>Q10. When completing the record and documentation of the care process for a person with lesion, what should be done?</td>
<td>0.86</td>
</tr>
</tbody>
</table>

Q - Question; CVI - Content Validity Index.

## Discussion

The results of this study show the type of validation used as being a limitation, considering the opinions of the judges and their concordance on the content of instruments to assess nursing care for the person with wounds.

This type of evaluation must be grounded on the best sources of scientific evidence. Instruments evaluated by experts are an important tool, with the potential to contribute to nurses’ practice in teaching and care of this population.

Care of a person with skin lesions includes a range of preventive, diagnostic and therapeutic measures, requiring intervention by a trained health professional to care for the patient comprehensively, considering their individuality and specifics of the wound. Reinforcing this idea, an increasing number of studies have shown the need for the health care system to care for people with lesions, with guidelines and protocols that support decision-making and guide professional practice.\(^{2,13}\)

The active and organized work process of nursing care for people with lesions should be practiced in services, and taught in undergraduate courses, contributing to the quality of care and preparation of the professional to act in this context.\(^{14}\)

Corroborating the opinions of the judges participating in the research, one study\(^{13}\) that characterizes care protocols for people with wounds in Brazil showed that activities involved in evaluating the person and the wound, care of the wound and the surrounding skin, documentation and recording of clinical findings, and referral and education of the person, family member and/or caregiver are all important elements in the comprehensiveness of recommendations and guidelines for care of people with skin lesions.

With regard to procedures prior to evaluation of the people and their wounds, there was good concordance among the judges on items focused on receiving the person with lesions, preservation of privacy, hand hygiene and explanation and request for permission to perform procedures.

Evaluation of a person and their wound corresponds to an initial and important stage of care, crucial to the preparation and implementation of treatment aimed at restoring skin health and recovery of the person with lesion. This requires knowledge, communication skills, observation of health needs and care, and performance of propaedeutic techniques.

Among the procedures considered in this stage of care that achieved concordance among the judges, the following are highlighted: a thorough medical history taking and detailed physical examination; the existence of risk factors; checking vital signs, and for presence of pain associated with the lesion; and signs of infection and laboratory in-
vestigation. These actions are considered crucial in identifying the health condition of the patient and diagnosing the wound, because they encourage detection of associated diseases and problems related to the healing process.\(^{[13]}\)

Once the survey of a patient’s condition and wound characteristics is complete, the development of the diagnosis of care needs proceeds, related to the physical and psychological dimensions of the person with a wound, essential to planning the actions to be implemented in treatment. In this stage of care, consonance between the judges and the literature was verified regarding the application of procedures involved in the skin restoration process, such as cleaning the lesion, need for debridement of the wound, application of dressings and recommendation for topical therapy to be used in treatment.\(^{[15]}\)

In this study, the items related to cleaning the lesion and the dressing had the lowest concordance rates among the judges. In these items, the description of the parameter to be evaluated was questioned regarding the use of irrigation of the lesion with 0.9% saline solution jets. Suggestions for improvement were also identified in order to define the use of a clean or sterile technique, considering closure intention (primary, secondary and tertiary healing).

The criticisms made by the judges highlighted the need for production of best scientific evidence regarding procedures and techniques involved in care of people with skin lesions, as scarcity and low level of evidence in publications regarding this subject is observed. This contributes to the persistence of doubts and an incongruous variety of procedures for evaluation and treatment of the problem.

In aspects regarding the set of therapeutic measures, there was high concordance among the judges regarding strategies for referral and guidance of people with skin lesions, family member and/or caregiver. Care of patients with wounds requires multidisciplinary health intervention and ongoing educational work, involving the health care team, patients, family members and caregivers.\(^{[13]}\)

Furthermore, it is noteworthy that all monitoring of a person with lesion, including successive evaluations, effectiveness of conduct, guidance, training, products and therapeutic techniques used at various stages of care, should be documented, encouraging communication between the multidisciplinary team, and providing diagnostic and therapeutic benefits.\(^{[13,16]}\)

Nurses represent the largest number of workers in health care institutions, directly aimed at caring for patients with skin wounds. It is therefore crucial that nurses are trained to perform appropriate care.

In this sense, the use of instruments for evaluating the care provided to people with lesions are capable of assisting in the guidance of care practice and teaching, and is a strategy for organizing the work of diagnosis, treatment and prevention of people with lesion, with a view towards a holistic approach that considers the individual as a whole, beyond the healing of her or his lesion.

Conclusion

The instruments showed a satisfactory content validity index, and can be used to measure the ability and knowledge of nursing care provided to people with skin lesions.

Acknowledgments

To the Coordination of Improvement of Higher Education Personnel and the State University of Rio Grande do Norte (CAPES; UERN; doctoral scholarship for Roberta Kaliny de Souza Costa and CAPES/PNPD postdoctoral scholarship for Marina de Góes Salvetti).

Collaborations

Costa RKS; Azevedo IC and Torres GV contributed to the design, analysis and interpretation of data, drafting the article and critical review of the manuscript. GV Torres; Salvetti MG and Costa MAT contributed to critical review of the manuscript and approved the final content.
References


Validity of instruments used in nursing care for people with skin lesions

**Appendix - Checklist Procedure**

**Facility of practice observation:** ( ) Health care unit ( ) Hospital ( ) Other

**Monitoring by the preceptor:** ( ) No ( ) Yes

**Verification categories:** 0 Inadequate 1 Adequate

<table>
<thead>
<tr>
<th>Procedures</th>
<th>If O justifies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Initial observations:</td>
<td></td>
</tr>
<tr>
<td>1.1 Introduction to the person with skin lesion ( )</td>
<td></td>
</tr>
<tr>
<td>Performs care indoors, ensuring the patient’s privacy and making him/her comfortable ( )</td>
<td></td>
</tr>
<tr>
<td>Explains the procedures to be performed ( ) (interview, physical examination, evaluation of the lesion, application of dressing, information).</td>
<td></td>
</tr>
<tr>
<td>Uses appropriate language ( )</td>
<td></td>
</tr>
<tr>
<td>Requests permission and collaboration, if the patient can collaborate ( )</td>
<td></td>
</tr>
<tr>
<td>1.2 Sanitizes hands before care ( )</td>
<td></td>
</tr>
<tr>
<td>Removes jewelry ( )</td>
<td></td>
</tr>
<tr>
<td>Performs simple hand hygiene with soap and water ( )</td>
<td></td>
</tr>
<tr>
<td>Opens the tap and wets hands, avoiding leaning against the sink ( )</td>
<td></td>
</tr>
<tr>
<td>Applies in the palm of hand liquid soap sufficient to cover all surfaces of the hands ( )</td>
<td></td>
</tr>
<tr>
<td>Soaps palms of hands by rubbing them against each other ( )</td>
<td></td>
</tr>
<tr>
<td>Scrubs palm of right hand against the back of the left hand, interlacing fingers and vice versa ( )</td>
<td></td>
</tr>
<tr>
<td>Interlaces fingers and scrubs spaces between fingers ( )</td>
<td></td>
</tr>
<tr>
<td>Scrubs the back of the fingers of one hand with the palm of the opposite hand, securing fingers with movement of back and forwards, and vice versa ( )</td>
<td></td>
</tr>
<tr>
<td>Scrubs right thumb with the help of the palm of the left hand, using a circular movement and vice versa ( )</td>
<td></td>
</tr>
<tr>
<td>Rubs the fingertips and nails of left hand against the palm of right hand, closed in a clamshell, making circular motion and vice versa ( )</td>
<td></td>
</tr>
<tr>
<td>Scrubs right thumb with the help of the palm of the left hand, using a circular movement and vice versa ( )</td>
<td></td>
</tr>
<tr>
<td>Rinses hands, removing soap residue. Avoids direct contact of soapy hands with the tap ( )</td>
<td></td>
</tr>
<tr>
<td>Dries hands with disposable paper towel, beginning with the hands and then the wrists ( )</td>
<td></td>
</tr>
<tr>
<td>2 Evaluation of the patient and lesion</td>
<td></td>
</tr>
<tr>
<td>2.1 Takes medical history (in the first evaluation), collecting information about:</td>
<td></td>
</tr>
<tr>
<td>Identification (name, age, sex, address, nationality, marital status, skin color, income, education level, occupation ( )</td>
<td></td>
</tr>
<tr>
<td>Emotional state ( )</td>
<td></td>
</tr>
<tr>
<td>Clinical history/history of disease (hypertension, diabetes, heart disease, venous/arterial insufficiency, allergies ( )</td>
<td></td>
</tr>
<tr>
<td>Drugs in use ( )</td>
<td></td>
</tr>
<tr>
<td>Personal habits (smoking, alcohol consumption, physical activity, hours of sleep, leisure ( )</td>
<td></td>
</tr>
<tr>
<td>Family history ( )</td>
<td></td>
</tr>
<tr>
<td>Personal hygiene ( )</td>
<td></td>
</tr>
<tr>
<td>Nutritional state ( )</td>
<td></td>
</tr>
<tr>
<td>Mobility (walking, walking with assistance, bedridden ( )</td>
<td></td>
</tr>
<tr>
<td>Bladder and bowel elimination ( )</td>
<td></td>
</tr>
<tr>
<td>Complaint and duration of symptoms ( )</td>
<td></td>
</tr>
<tr>
<td>History of current lesion and treatments performed ( )</td>
<td></td>
</tr>
<tr>
<td>Characterization of previous lesions ( )</td>
<td></td>
</tr>
<tr>
<td>Popular practice in the treatment of lesions ( )</td>
<td></td>
</tr>
<tr>
<td>Identification of patient’s caregiver and health care institution ( )</td>
<td></td>
</tr>
<tr>
<td>Uses printed materials that guide medical history taking ( )</td>
<td></td>
</tr>
<tr>
<td>2.2 Attention to risk factors:</td>
<td></td>
</tr>
<tr>
<td>Systemic ageing, nutritional status, mobility, emotional state, general hygiene, incontinence, daily and work activity with risk of lesions, vascular insufficiency ( )</td>
<td></td>
</tr>
<tr>
<td>Local edema, skin dehydration, pressure, infection, necrosis, humidity, trauma ( )</td>
<td></td>
</tr>
<tr>
<td>Invasive procedures ( )</td>
<td></td>
</tr>
<tr>
<td>Use of drugs ( )</td>
<td></td>
</tr>
<tr>
<td>Diseases associated ( )</td>
<td></td>
</tr>
<tr>
<td>Scales used in the identification of risk factors ( )</td>
<td></td>
</tr>
<tr>
<td>2.3 Performs physical examination of the person with skin lesion, from the head to the legs, making use of the techniques of inspection, palpation, percussion and auscultation (in the first examination).</td>
<td></td>
</tr>
<tr>
<td>Physical examination directed in subsequent reviews. The examination should include:</td>
<td></td>
</tr>
<tr>
<td>Identification of the characteristics of the skin, moisture, plasticity and tumor (attention to: mycoses, varicose veins, edema, lymfemadema, pigmentation, hyperkeratosis, dermatitis, cyanosis, temperature, dryness, lack of hair, calluses, deformities, cracks, protruding bony prominences ( )</td>
<td></td>
</tr>
<tr>
<td>Checks weight ( )</td>
<td></td>
</tr>
<tr>
<td>Checks height ( )</td>
<td></td>
</tr>
<tr>
<td>Calculation of body mass index ( )</td>
<td></td>
</tr>
<tr>
<td>Palpation of peripheral pulses ( )</td>
<td></td>
</tr>
<tr>
<td>Conducting sensitivity test ( )</td>
<td></td>
</tr>
<tr>
<td>Measurement of the circumference of the calf and ankle ( )</td>
<td></td>
</tr>
<tr>
<td>Calculation of Ankle Brachial Index ( )</td>
<td></td>
</tr>
<tr>
<td>2.4 Checks vital signs: pulse, respiratory rate, blood pressure and temperature ( )</td>
<td></td>
</tr>
<tr>
<td>2.5 Assess the presence of pain associated with the lesion at baseline and subsequent evaluations before, during and after the completion of dressings ( )</td>
<td></td>
</tr>
<tr>
<td>Collects detailed information on pain, seeking the location, pattern (type, duration, improvement, worsening, use of medication to control pain), the effect of pain on sleep and daily activities ( )</td>
<td></td>
</tr>
<tr>
<td>Use of scales to assess pain intensity ( )</td>
<td></td>
</tr>
<tr>
<td>2.6 Evaluates the wound, identifying (during baseline and subsequent evaluations):</td>
<td></td>
</tr>
<tr>
<td>Type of lesion (surgical incision, laceration, bruise, burn, pressure ulcers, neuropathic ulcers, arterial ulcers, venous ulcers ( )</td>
<td></td>
</tr>
<tr>
<td>Location of lesion ( )</td>
<td></td>
</tr>
<tr>
<td>Measurement of length (small - up to 20 cm², medium - from 20 to 60 cm², large - above 60 cm²) ( )</td>
<td></td>
</tr>
<tr>
<td>Measurement of depth (surface - to the dermis, partially deep - down to the subcutaneous tissue, deep - muscle and adjacent structures ( )</td>
<td></td>
</tr>
<tr>
<td>Duration of lesion (acute - traumatic lesions that respond to treatment and heal without complication, chronic - of long duration and frequent recurrence ( )</td>
<td></td>
</tr>
<tr>
<td>Characteristics of the wound bed (granulation tissue, epithelialization, slough, necrosis ( )</td>
<td></td>
</tr>
<tr>
<td>Skin surrounding the lesion (normal, red, swollen, macerated, cyanotic, peeling, bullous, hematoma ( )</td>
<td></td>
</tr>
<tr>
<td>Edges of the lesion (detached, attached, washouts, macerated, whitish, hyperemia, epithelial ( )</td>
<td></td>
</tr>
<tr>
<td>Exudate (abscess, serum, bloody, purulent, mixed patterns ( )</td>
<td></td>
</tr>
<tr>
<td>Volume of exudate (little - up to 3 gauze, medium - 4 to 10 gauze, a lot - over 10 gauze ( )</td>
<td></td>
</tr>
<tr>
<td>Odor (absent, grade I - felt when the dressing is opened; grade II - without opening the dressing, grade III - foul and nauseating ( )</td>
<td></td>
</tr>
<tr>
<td>Evaluates the stage of tissue lesion in pressure ulcer (I. redness of intact skin II. Bubbles/Lesions of small thickness epidermis/dermis III. Local skin lesion covering the subcutaneous site IV. Total lesion of the skin involving muscles, tendons and/or bones ( )</td>
<td></td>
</tr>
<tr>
<td>Uses instrument/printed form to guide the assessment of the lesion ( )</td>
<td></td>
</tr>
</tbody>
</table>
2.7 Assesses the presence of infection in the skin lesion, identifying signs of (in the initial and subsequent evaluations):
- Increased pain
- Edema
- Heat
- Purulent exudates
- Increased level of exudate
- Odor
- Systemic manifestations (hyperthermia, increased regional nodes, evolution in wound healing)

2.8 Identifies the need for and provides laboratory exams, considering the clinical picture of the person with skin lesion

3.1 Cleans wound:
- Lesion healing by first intention:
  - Cleans the incision using two sides of gauze soaked with 0.9% saline solution, in unidirectional movements
  - Cleans the edges of the lesion, using two sides of gauze soaked with 0.9% saline solution, in unidirectional movements
  - Proceeds with mechanical cleaning of all surrounding skin with gauze moistened in 0.9% saline, in unidirectional movements. If dirt is present, cleans with antiseptics
  - Irrigates the edges of the lesion with jets of up to 0.9% saline solution (through a hole in the bottle with a 25x8mm 40x12mm gauge needle), warm (when possible) or at room temperature, or cold for bleeding lesions
  - Irrigates the bed of the lesion with jets of up to 0.9% saline solution (through a hole in the bottle with a 25x8mm 40x12mm gauge needle), warm (when possible) or at room temperature, or cold for bleeding lesions

3.2 Applies dressing with aseptic or sterile technique
- Lesion healing by first intention:
  - Sanitizes hands before applying dressing
  - Collects all the material needed for the application of the dressing - 0.9% saline solution, procedure gloves, sterile gloves, sterile gauze, hypoallergenic tape or similar, plastic bag for disposal of the material used
  - Puts the person with lesion in a comfortable position, maintains their privacy and explains what will be done
  - Uses personal protective equipment
  - Opens the dressing material without contaminating it
  - Removes the previous dressing using the procedure gloves that are then discarded
  - Carefully removes adhesive tapes with 0.9% saline solution, making sure that there was no adherence on the lesion, moistening with saline solution until it detaches, if this occurs
  - Disposes of the dressing removed, along with gloves used, in a separate plastic bag for this purpose
  - Proceeds with cleansing of the lesion
  - Uses sterile gloves or tongs to handle the lesion
  - Occludes the lesion with sterile equipment (when there is exudation)
  - Applies the dressing with hypoallergenic tape or similar
  - Discards contaminated material in separate plastic bag for disposal of the material used
  - Puts the person with lesion in a comfortable position, protects their privacy and explains what will be done
  - Uses personal protective equipment
  - Opens the dressing material without contaminating it
  - Removes the previous dressing using the procedure gloves which are then discarded in a plastic bag for this purpose
  - Carefully removes adhesive tapes with 0.9% saline solution, making sure that there was no adherence on the lesion, moistening with saline solution until it detaches, if this occurs
  - Disposes of the dressing removed, along with gloves used, in a separate plastic bag for this purpose
  - Proceeds with cleansing of the lesion
  - Uses sterile gloves or tongs to handle the lesion
  - Places cover recommended for treatment of the lesion
  - Occludes the lesion with sterile equipment
  - Applies the dressing with hypoallergenic tape or similar
  - Discards the contaminated material in an appropriate place, organizing the environment
  - Sanitizes hands after applying dressing

3.3 Evaluates the need for debridement (chemical, mechanical, autolytic) of the necrotic and/or devitalized tissue, observed during initial or subsequent evaluation of the wound, according to the goals of treatment and the clinical condition of the patient with skin lesion, considering:

3.4 Choose the type of coverage (coverage is all material, substance or product that is applied to the wound to complete of the dressing):
- Contraindications (infected ulcer, ischemic ulcer, neoplastic ulcer, cavity ulcer with nerve exposure, patient with coagulation disorders)

4.1 Develops educational activities directed to the patient and family/caregiver, providing guidance regarding:
- Diet
- Hygiene
- Skin care
- Risk factors for the development of lesions
- Clinical manifestations suggestive of worsening of lesion (pain, fever)
- Prevention of accident and trauma
- Prevention of complications
- Medications used in treatment
- Care with dressing
- Frequency of dressing change and encouragement of self-care
- Carrying out activities of daily living
- Behavior followed in the treatment

continues...
### Validity of instruments used in nursing care for people with skin lesions

#### 4.2 Identifies the need for and provides referral for the patient with skin lesion for medical evaluation (clinical evaluation or in the case of complications)

When inserted into the health care team and supported by clinical care protocol, identifies the need for and provides referral of patients with skin lesions for evaluation by an interdisciplinary team of professionals: angiologist, endocrinologist, cardiologist, physiotherapist, nutritionist, social worker, psychologist.

#### 5 Record and documentation

5.1 Documenting the clinical evaluation of the patient with lesion, including information regarding:

- Identification (name, age, sex, address, nationality, marital status, skin color, income, education level, occupation)
- Emotional state
- Clinical history/history of disease (hypertension, diabetes, heart disease, venous/arterial insufficiency, allergies)
- Drugs in use
- Personal habits (smoking, alcohol consumption, physical activity, hours of sleep, leisure)
- Family history
- Personal hygiene
- Nutritional state
- Mobility (walking, walking with assistance, bedridden)
- Bladder and bowel eliminations
- Complaint and duration of symptoms
- History of current lesion and treatments performed
- Characterization of previous lesions
- Popular practice in the treatment of lesions
- Identification of patient’s caregiver and health institution
- Risk factors identified
- Findings of the physical examination
- Results of tests performed during the treatment
- Uses specific forms to record the evaluation of the patient with lesion
- Performs the nursing diagnosis
- Records the result of directions and guidelines in subsequent evaluations

5.2 Records information about evaluation of lesion characteristics:

- Type of lesion
- Location of lesion
- Measurement of length of lesion
- Measurement of depth of lesion
- Duration of lesion
- Characteristics of the bed of the wound
- Skin surrounding lesion
- Edge of lesion
- Exudate
- Volume of exudate
- Odor
- Exhibition of anatomical structures
- Evaluates the stage of tissue lesion in pressure ulcers
- Topical therapy performed (materials and products)
- Complications during application of the dressing
- Directions provided to the family member/caregiver and person with skin lesion
- Uses specific forms to record the characteristics and evolution of the lesion
- Performs the nursing diagnosis
- Records the result of conduct and guidance in subsequent evaluations

#### 6 Final observations

6.1 Organizes the environment:

- Discards used disposable material in garbage for infectious waste, using plastic bags intended for this purpose
- Promotes the cleaning and disinfection of equipment and instruments used in care
- Organizes the site of care

6.2 Sanitizes hands after care:

- Performs simple hand hygiene with soap and water after care
- Opens the tap and wets hands, avoiding leaning against the sink
- Applies in the palm of hand liquid soap sufficient to cover all surfaces of the hands
- Soaps palms of hands by rubbing them against each other
- Scrubs palm of right hand against the back of the left hand, interlacing fingers and vice versa
- Scrubs the back of the fingers of one hand with the palm of the opposite hand, securing fingers, in a backwards and forwards movement, and vice versa
- Scrubs right thumb with the help of the palm of the left hand, using a circular movement and vice versa
- Rubs the fingernails and nails of left hand against the palm of right hand, closed in a clamped, in a circular motion and vice versa
- Rinses hands, removing soap residue. Avoids direct contact of soapy hands with the tap
- Dries hands with disposable paper towel, beginning with the hands and then the wrists.
# Questionnaire

1. **PERSONAL IDENTIFICATION AND TRAINING/PROFESSIONAL QUALIFICATION**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Undergraduate disciplines in which you had access to the content (theory and practice) on wounds</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Conducted further studies on content about wounds in addition to what was taught in course subjects</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Opportunity to provide care to people with wound</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Observed the care of patients with wounds</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Participated in extracurricular courses or training on wounds</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Hourly load of training or course</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**1. RECORD THE EVALUATION OF THE PATIENT WITH LESION, FROM THE INITIAL EVALUATION OF THE LESION AND ITS FEATURES THROUGHOUT TREATMENT.**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Personal hygiene, nutrition, risk factors for the development and exacerbation of skin lesions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Lesion location and type of skin lesion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Location, depth and width of lesion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. ALL OF THE ABOVE.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**2. DURING CARE OF THE WOUND AND SURROUNDING SKIN, WHAT IS THE ADEQUATE PROCEDURE TO PERFORM WHEN APPLYING THE DRESSING?**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Change the cover used in treatment without cleaning the lesion, using clean dressing technique for all types of lesions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Clean the lesion with 0.9% saline solution prior to changing the dressing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Remove previous dressing with 70% alcohol or ether, clean the lesion with 0.9% saline solution, and place the cover used in the treatment.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Change the cover and then clean the lesion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Clean open lesions with antiseptic solution, leaving uncovered.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**3. IN THE INITIAL AND SUBSEQUENT EVALUATION OF THE SKIN LESION, THE NURSE SHOULD BE AWARE OF THE WOUND CHARACTERISTICS THAT INDICATE THE NEED TO PERFORM DEBRIDEMENT. WHAT ARE THESE CHARACTERISTICS?**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cool skin around the lesion, pain, exudate.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Necrosis, edema, exudate.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Pain, erythema, edema and heat, increased and purulent exudate, odor.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Bleeding, pain, cold skin around the lesion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Necrosis, pain, edema.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**4. WHICH ASPECTS SHOULD BE CONSIDERED WHEN CHANGING THE COVER TO BE APPLIED ONTO THE SKIN LESION?**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Time of evolution of the lesion, presence of infection on the lesion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Lesion location and type of skin lesion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Depth of the lesion, presence of pain.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Length of the lesion, presence of pain.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. ALL OF THE ABOVE.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**5. WHEN RECOMMENDING THE COVERAGE TO BE USED IN THE TREATMENT OF THE LESION, WHAT SHOULD THE NURSE CONSIDER?**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. KNOW THE RECOMMENDATION, CONTRAINDICATION, CHANGING PERIOD, COST AND BENEFIT OF THE COVER IN RELATION TO THE CHARACTERISTICS OF THE LESION TO BE TREATED.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Choose any cover considering the type of lesion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Recommend the cover to be used in the treatment of the lesion considering only the stage in the healing process.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Indicate the cover that is appropriate for the treatment of all kinds of lesion.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**6. RECORD THE INITIAL EVALUATION OF THE LESION AND ITS FEATURES THROUGHOUT TREATMENT.**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. All of the above.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**7. WHEN COMPLETING THE RECORD AND DOCUMENTATION OF THE CARE PROCESS FOR A PATIENT WITH LESION, WHAT SHOULD BE DONE?**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Record the evaluation of the patient with lesion, from the initial evaluation of the lesion and its features throughout treatment. The directions provided to the patient and their family member/caregiver.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Record results of laboratory tests and referrals to other health professionals.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Record the initial clinical evaluation of the patient with skin lesion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Record the initial evaluation of the lesion and its features throughout the treatment.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Violence against women and its consequences

Leônidas de Albuquerque Netto¹
Maria Aparecida Vasconcelos Moura¹
Ana Beatriz Azevedo Queiroz¹
Maria Antonieta Rubio Tyrrell¹
María del Mar Pastor Bravo²

Abstract

Objective: To analyze the consequences of intimate partner violence, from the perspective of women, as an intervention proposal for nurses in health care.

Methods: Qualitative, descriptive and exploratory research. Theoretical framework supported by Levine’s Nursing Theory. Sixteen women who had experienced intimate partner violence participated in the study. The Collective Subject Discourse was used for the analysis.

Results: The consequences of violence against women were sleep disorders, improper diet, lack of energy, body aches, bruises, abrasions, panic attacks, sadness, loneliness and low self-esteem, constituting psycho-emotional and physical harm.

Conclusion: Assaults upon the integrity of women were evidenced, based on Levine’s conservational principles, in terms of conservation of energy and conservation of structural, personal and social integrity, where the intervention of the nurse is essential for support, promotion and rehabilitation of women’s health.

Keywords
Women’s health; Primary care Nursing; Violence against women; Domestic violence; Family health

Conflicts of interest: there are no conflicts of interest to declare.

DOI
http://dx.doi.org/10.1590/1982-0194201400075

¹Escola de Enfermagem Anna Nery, Universidade Federal do Rio de Janeiro, Rio de Janeiro, RJ, Brazil.
²Facultad de Enfermería, Universidad de Murcia, Spain.
Introduction

The saga of violence against women is recurrent and enslaving. It strikes at autonomy, destroys self-esteem and reduces Quality of Life, with consequences for personal, family and social structuring. The aggressions committed are threatening, and generally associated with disturbing social problems, such as unemployment, marginalization, social inequalities and the use of alcohol and drugs, creating an impact on the morbidity and mortality of this population. It contributes to loss of Quality of Life, increased health care costs and school and work absenteeism, in addition to being one of the most significant ways in which personal, family and social structures are broken down.\(^{(1)}\)

Violence is any act of aggression or negligence toward a person, group or community, which produces or can produce psychological damage, physical harm or sexual suffering, and includes threats, coercion or arbitrary deprivation of liberty, whether in a public or private setting.\(^{(2,3)}\)

To understand the complexity of violence against women, it is necessary to uncover its structures involving the concept of gender. Gender is understood as a historical and sociocultural construct, which assigns roles and behaviors to the sexes. For women, it is defined as passivity, fragility, emotion and submission, and for men, activity, strength, reason and domination. The dimension of gender is structured as a power relationship, resulting in a usurpation of the body of the other, and is generally framed between men and women.\(^{(4)}\)

Research conducted in Brazil by the Perseu Abramo Foundation, on violence against women and gender relations in public and private places, estimated that of the 2365 women from 25 states in the country, 34% had been subjected to violence in the domestic realm.\(^{(5)}\) Every two minutes, five women are violently assaulted. Violent acts result in the loss of one year of healthy life, for every five years of being subjected to aggression.\(^{(6)}\)

This violence, regardless of the gender perspective, is currently permeated by various physical, psychological and sexual aspects, and is considered a public health problem, constituting a violation of human rights.\(^{(7)}\) Interventions for solving this problem should not necessarily dispense with the clinical approach, but measures need to be taken to promote the conservation of health. This is because clinical actions are not sufficient for addressing all the varied dimensions of the problems and the health needs of women. The strengthening of cooperation between sectors and collective action is essential for overcoming the helplessness reported by many health professionals in situations involving violence.\(^{(8)}\) Such actions, in health/nursing, require a broader approach, emphasizing intervention proposals for the follow-up care of these women in health facilities, in social support networks and with comprehensive, humanized care.

Women, being the primary target of this type of violence, have received attention from governmental authorities (national and international) and health professionals, especially nurses who, in their jobs and any work environment, encounter this situation, which requires specific knowledge and skills for providing care.\(^{(9)}\)

Many theories have been proposed in Nursing, but in terms of battered women, a theoretical framework was sought that provides a comprehensive view of the individual. On the basis of this premise, the Theory of Nursing of Myra Strin Levine was used,\(^{(10)}\) seeking connections with the comprehensive care of women’s health. Levine’s conceptual model characterizes the individual as a dynamic whole, in constant interaction with his or her environment, and focuses on patients who enter a health establishment in need of care due to their altered state of health.

The discussion here is guided by principles related to the debilitated health of women who suffer intimate partner violence in a private realm, hidden from the public. This theory presents sickness as a stressful situation in which the individual attempts to adapt to his or her altered state of health. This adaptation is manifested by an organic reaction, which includes negative changes in the behavior of the body or degeneration in the levels of its functioning. The purpose of this adaptation is so that the individual can regain a state of complete independence.\(^{(11)}\)
Violence against women and its consequences

The nurse provides the woman with appropriate care, bearing in mind her wholeness and encouraging her to participate in the restoration of her well-being. The function of the nurse is to transmit knowledge and strength, motivating the woman to withdraw from her debilitating situation and find a more independent milieu in order to survive.\(^\text{(10)}\)

The nurse’s expertise should assist in the process of maintaining wholeness and personal, family and social structure, through a minimum expenditure of energy, supporting and promoting social rehabilitation and insertion. The core of this theory has three theoretical pillars: adaptation, conservation and integrity. In this research, the dimension of conservation of health was addressed, which encompasses four principles: (1) conservation of energy, (2) conservation of structural integrity, (3) conservation of personal integrity and (4) conservation of social integrity.\(^\text{(11)}\)

The conservation of energy is characterized by activities necessary for supporting life, such as those involving growth and development. The conservation of structural integrity focuses on experiences with injuries, sickness processes and inflammatory and immunological responses. The conservation of personal integrity focuses on the sense of being – defined, protected and described by its essence – wherein each person is unique, exclusive and complete. In turn, the conservation of social integrity involves defining the person within a context that extends beyond the individual, where each one is defined through their relationships. Each person's identity is connected to family, community, culture, ethnicity, religion and education.\(^\text{(10)}\)

The applicability of Levine’s theory provided support to this research through the principles of conservation, which underline the interventions of nurses when faced with the problem of violence in the care of women. It can be argued that the current care model still operates on the basis of rationality and reductionism, which reinforces the biomedical model in the care administered by health professionals.\(^\text{(12)}\)

The scientific literature uncovered studies that show the consequences of violence upon women’s health as problems common to physical and psych-cho-emotional integrity.\(^\text{(5,12-14)}\) As a weakness in knowledge production, it was noted that few studies use the Levine Theory approach, from the perspective of conservation of health, in relation to energy and structural, personal and social integrity.

The objective of this study was to analyze the consequences of intimate partner violence, from the viewpoint of women, based on Levine’s Theory of Nursing, as an intervention approach for nurses in the comprehensive care of women’s health.

Methods

Qualitative, descriptive and exploratory research, carried out in the Centro de Referência e Atendimento à Mulher em Situação de Violência Doméstica - CR Mulher (a reference care center for women in situations of domestic violence), in the metropolitan region of Rio de Janeiro, state of Rio de Janeiro, Brazil. This center uses focus groups, frequent meetings and educational dynamics in an effort to restore the self-esteem of abused women.

The participants were women, over the age of 18, who had suffered physical, psychological or sexual violence at the hands of an intimate mate, attended focus group meetings and voluntarily signed a Free and Informed Consent Form.

Data were collected between June and September of 2012. Sixteen of the 32 women receiving care at CR Mulher were interviewed. The empirical profile was limited by the saturation of data and the diversity of this universe.

Individual interviews, with a semi-structured script, were conducted in a room reserved at this facility in order to collect data. Permission was given to record them and they lasted on average 40 minutes. There was a formal presentation with respect to the ethical criteria, the issue of confidentiality and the right to stop participating in the research, without this in any way affecting the care being received. The first step was getting to know the socio-demographic profile of the female participants.

The analysis of the results was based on the method of Collective Subject Discourse, which entailed organizing the verbal empirical data obtained
from the testimonies. To prepare the Collective Subject Discourse, it was necessary to build two methodological figures: Key Expressions and Central Ideas. The first consists of literal transcriptions of the discourse that reveal the essence of the testimonies. “Central Ideas” is a linguistic expression that describes, in a more authentic way, the meaning of each homogeneous set of Key Expressions. As a data processing technique, Collective Subject Discourse suggests a collective person speaking as though an individual subject from the discourse.\(^{(15)}\)

In the construction of this Collective Subject Discourse, isolated parts of the testimonies were added in, to form a discursive whole, where each party could be recognized as a constituent within the whole and vice versa.\(^{(15)}\) When a response had more than one Collective Subject Discourse, it was differentiated from the others using difference and antagonism or complementarity criteria, adhering to a consistency of ideas. Lastly, repetitions and particularities were removed from the individual discourses in order to structure the Collective Subject Discourse, which imparted naturalness and spontaneity to the collective thought.

The development of this study complied with national and international ethical guidelines for research involving human beings.

**Results**

People cannot be understood outside the context of time and place in which they interact and are never isolated from the influence of everything happening around them, according to Levine. Human beings are influenced by their immediate circumstances and undergo experiences throughout their entire lives, which leave marks on their minds, bodies and spirits.

Of the 16 women who participated, nine were from 25 to 44 years of age. In terms of marital status, eight were separated or divorced from their mates. Insofar as education, ten women had completed 12 years of education. Of the participants, 11 had paid activities, three were housewives and two were retired. Half of them were white, seven were brown and one was black.

Four Central Ideas emerged from the data analysis related to the consequences of violence, according to the principles of conservation of health in Levine’s Nursing Theory, described in the Collective Subject Discourses, based on the testimonies of the women.

The first Central Idea shows the consequences of violence that undermine the conservation of energy of women:

“My sleep is restless; I wake up several times a night. I feel worn down, I’m tired, and my body aches. When he [the mate] beat me, I didn’t eat for four days, and I had to breastfeed my son. I feel weak and without any energy. I’ve lost weight. I’m constipated and have a stomach ache.” (CSD 1)

The consequences of violence that undermine the conservation of structural integrity are seen in the second Central Idea, stemming from the second discourse:

“The beatings make me nervous and I eat a lot. I’m overweight, but I can’t stop eating. I had bruises on my arms. When he [the mate] tried to choke me, he left marks on my neck. He kicked me and I had purple marks on my back. He left me all bloody and I had to be hospitalized for a while. I started smoking again, something I didn’t want to do.” (CSD 2)

The third Central Idea shows the consequences of violence that undermine the conservation of personal integrity of women:

“I was destroying myself, I hated myself. I felt I wasn’t good for anything and I would say to myself, ‘what good am I if I can’t even make my husband like me?’ The psychological scars are the worst. You feel incapable and helpless. You don’t want others to know you’re experiencing violence. You get very disturbed by the mean words your husband says to you. I have low self-esteem.” (CSD 3)

The consequences of violence that undermine the conservation of social integrity can be seen in the fourth Central Idea:

“When he [the mate] would say he was going to do something bad to my family I’d go crazy. I’d rather he would kill me. My greatest regret is that I stopped working. I’ve lost my trust in men and think they’re...
all going to do the same thing and I back away. I’ve lost interest in everything. I stopped taking care of myself and didn’t leave the house. I stayed holed up in my room and didn’t want to see or talk to anyone. (CSD 4)

Discussion

The limitations of these results involve the employability of the methodology of Collective Subject Discourse as a discursive methodological strategy, which enabled a relatively limited understanding of a set of representations that comprised the specific imaginary construct of a group of women who had experienced violence.

Our results enable nurses to develop intervention initiatives for the care of women in situations of intimate partner violence, based on concepts from Levine’s Nursing Theory, related to the consequences of aggressive acts of violence against their health.

The characteristics of these women were similar to the profile of the female population in situations of violence in other studies. The majority were young, white, adult women of reproductive age, who were married or in common law marriages, had completed high school and were working in the job market. The aggressors were predominantly the intimate partner.

The negative impact on the women’s conservation of energy was characterized by sleep and rest disorders, physical fatigue, constant tiredness, inadequate nutrition, weakness, lack of energy and disorders of the intestinal tract. Conservation of energy is a protective factor for the integrity of the functional system of individuals, which addresses their health from a holistic angle. Among the damages arising from violence to women’s health are mutilations, fractures, sex-related problems and obstetric complications. Violence also leads to a higher risk of accidents and smoking. These women generally overuse medication, especially antibiotics and anti-inflammatory drugs.

In the care provided by nurses to women in situations of violence, as far as conservation of energy, an anamnesis and physical examination are essential for checking the following: vital signs, nutritional assessment related to frequency and availability of food, physical exercise, bowel and bladder elimination pattern and evaluation of menstrual cycles. The focus of these parameters was to identify aspects of energy conservation and expenditure related to the suffering, leading the women to seek nursing care.

In the discourse of the participants, injuries were referred to, such as bruises, abrasions, dislocations and lacerations. In regard to disease processes and inflammatory and immunological responses, they reported body pain, obesity, panic attacks, bouts of gastritis and ulcers. Conservation of structural integrity is the process of restoration and maintenance of the organism, which has defense mechanisms to protect the individual against possible tissue losses, thereby preventing the entry of microorganisms, avoiding a physical breakdown and promoting recovery. Among the damages arising from violence to women’s health are mutilations, fractures, sex-related problems and obstetric complications. Violence also leads to a higher risk of accidents and smoking. These women generally overuse medication, especially antibiotics and anti-inflammatory drugs.

In the care administered by nurses to women, in terms of conservation of structural integrity, it is essential in the physical examination to inspect and observe skin integrity, to check for the presence of skin lesions. At the time of the anamnesis and clinical background, women may reveal the disease processes experienced and inflammatory and immunological responses, and referrals should be made to support networks.

The personal consequences for the participants in the study were feelings of annihilation, sadness, discouragement, loneliness, stress, low self-esteem, inability, powerlessness, anger and worthlessness. The principle of conservation of personal integrity is the preservation of individuality and privacy. A study conducted in hospitals indicated the following effects of violence upon women: irritability, decreased self-esteem, professional insecurity, sadness,
loneliness, anger, lack of motivation, relationship difficulties, desire to quit their jobs and family relationship difficulties.(24)

With respect to the conservation of personal integrity of women, nurses are responsible for ensuring their privacy and involving them in the decision-making process, providing an embracing environment, attentive listening and sensitivity toward the problem. However, women who share their life experiences with others also preserve their identity as unique beings. Human beings have a public persona and a private persona, details of which are often not divulged even to those closest to them. When these women recognize, in the nurse, a professional willing to help and guide them, this facilitates the process of strengthening their self-esteem and autonomy.

The women expressed fear that their mates could cause harm to their families, especially their children; they regretted having quit outside jobs; and they found it difficult to engage in relationships with other people due to lack of interest. The conservation of social integrity is based on the fact that all individuals live in society and their behavior is related to social groups.(10) In a state of weakened health, these women feel lonely, and think back to family and friends, with these being essential to their recovery. The nurse, within social support networks, has the role to encourage and help reinsert the women into their new context, understanding them as beings who have been dominated, exploited and suffered, and whose story is shrouded in subjectivity.(25)

In terms of conservation of social integrity, the information obtained by nurses is relevant for establishing personal possibilities and social and family resources, building alternatives and actions that strengthen bonds of care and support, and expand the support networks related to security, justice and social assistance.

**Conclusion**

In this study, the analysis of the consequences of intimate partner violence found links with the principles of the conservation of health in Levine’s Nursing Theory, in relation to the undermining of conservation of energy and structural, personal and social integrity. The results were characterized by physical, psychological and emotional disturbances, influencing the conservation and integrity of the health of these women in a way that had a degrading, aggressive and destructive effect on their self-esteem and state of complete independence. There is a need for inclusion of nurses in the comprehensive care of women’s health and in humanistic care, as well as in embracing these women, in order to strengthen their autonomy and self-esteem. Through Levine’s Nursing Theory, it was possible to expand knowledge in the field of nursing care with possibilities for intervention and actions focused on reducing the impact of violence against women.

**Acknowledgments**

The authors thank the Coordination for the Improvement of Higher Education Personnel (CAPES) for granting a scholarship during the 16 months of the master’s program at Escola de Enfermagem Anna Nery, Universidade Federal do Rio de Janeiro, between 2011-2013.

**Collaborations**

Netto LA worked on the preparation of the project, concept and design of the research, literature review, data collection and analysis, interpretation of the results and drafting of the article. Moura MAV contributed with guidance and direction of the article through a critical relevant review of its intellectual content. Queiroz ABA, Tyrrell MAR and Bravo MMP collaborated on the final approval of the version to be published.

**References**


2. Garcia-Moreno C, Jansen HA, Ellsberg M, Heise L, Watts CH; WHO


Breastfeeding self-efficacy: a cohort study

Autoeficácia na amamentação: um estudo de coorte

Erdnaxela Fernandes do Carmo Souza¹
Rosa Áurea Quintella Fernandes²

Abstract
Objective: Evaluate the clinical use of the Breastfeeding Self-Efficacy Scale as predictive of early weaning and verify if women who had higher self-efficacy scores breastfed for longer periods.

Methods: Cohort study developed with 100 postpartum mothers. Research instrument used: Breastfeeding Self-Efficacy Scale-Short Form. The feeding was monitored on the 7th, 15th, 30th, 45th and 60th day, by phone.

Results: The mean duration of exclusive breastfeeding was 53.2 days (SD 14.2). Most mothers (82.3%) had scores compatible with high self-efficacy for breastfeeding, none had low efficacy. There was no statistically significant difference in the comparison of mean duration of exclusive and non-exclusive breastfeeding, with the scores of medium and high efficacy.

Conclusion: Findings did not enable the confirmation of the use of the scale as a predictor of risk of early weaning. No relation was observed between higher scores of high efficacy and longer periods of exclusive breastfeeding.

Keywords
Maternal-child nursing; Obstetrical nursing; Breastfeeding; Infant nutrition; Self-efficacy

Descritores
Enfermagem materno-infantil; Enfermagem obstétrica; Aleitamento materno; Nutrição do lactente; Autoeficácia

Submitted
April 29, 2014
Accepted
July 29, 2014

Corresponding author
Rosa Áurea Quintella Fernandes
Teresa Cristina square, 229, Guarulhos, SP, Brazil. Zip Code: 07023-070
fernands@uol.com.br

DOI
http://dx.doi.org/10.1590/1982-0194201400076

¹Hospital Samaritano, São Paulo, SP, Brazil.
²Universidade Guarulhos, Guarulhos, SP, Brazil.
Conflicts of Interest: there are no conflicts of interest to declare.
Introduction

The World Health Organization (WHO) and the United Nations Children’s Fund (UNICEF) have undertaken efforts to protect, promote and support exclusive breastfeeding (EBF), so that mothers are able to establish and keep it for the first six months of life of the baby. But this reality in Brazil is still far from being achieved, since the prevalence of exclusive breastfeeding in the first 6 months is only 41%, according to the latest survey conducted in the Brazilian capitals and the Federal District (DF).

Breastfeeding (BF) is considered, worldwide, one of the fundamental pillars for promoting and protecting the health of children and its social impact can be quantified through the reduction of medical consultations, hospitalizations and medical treatments, since the child in EBF has lower risk of becoming ill. The obstacles to breastfeeding are numerous, but generally the allegations to its abandonment involve myths and misinformation, even among women with higher socioeconomic status, which confirms the importance of guidance and interventions from healthcare professionals in supporting nursing mothers.

The advancement of public health policies in encouraging BF is increasingly evident. The outlining of these actions is notorious and covers a great part of the women using the public health network. On the other hand, women who do not use this network and are assisted in private institutions not always can count on professional support to help them during the difficulties in BF, especially after discharge.

In this context, it becomes necessary to reformulate strategies, mainly from the private health network, to promote, protect and support EBF, reinforcing the adherence of women who are able to be assisted in the private health network. These mothers generally receive breastfeeding support while hospitalized, however, almost no institution has resources available to maintain this support after delivery in the domicile, or has breastfeeding outpatient services. These deficiencies may favor early weaning in this segment.

Therefore, the institutions and professionals in the private health network are faced with the challenge of implementing breastfeeding care practices during the prenatal, delivery and postpartum periods, mainly because of the need for professional support mothers have in the first days after birth, a phase that is a defining moment to overcome a series of obstacles to breastfeeding and to avoid its abandonment.

Following up mother and baby at a breastfeeding outpatient service, until the tenth day after discharge, represents a strategy that can contribute to reverse an inadequate indication of formula supplementation, or even a possible breastfeeding interruption. Unfortunately, there are only a few private health services that promote monitoring of both mother and child after discharge.

Learning the willingness of mothers to breastfeeding can be a way to predict whether they will maintain the recommended breastfeeding period, which would help professionals to identify difficulties and weaknesses and establish supportive interventions. The application of a breastfeeding self-efficacy scale could point out the mothers with more weaknesses, in the aspects required in the process of breastfeeding, and allow interventions during provision of nursing care that occurs after childbirth, intending to provide support for successful breastfeeding.

A study associated longer periods of EBF with the determination of the mothers to breastfeed, and it recommended attention from health professionals to the absence of mothers’ determination to breastfeeding, so that interventions can be performed to consolidate this practice.

The objective of this study was to evaluate the clinical use of the Breastfeeding Self-Efficacy Scale as predictive of early weaning and to verify if the women who had higher self-efficacy scores breastfed longer than those who had lower scores.

Methods

This is a cohort study conducted in a large private hospital, located in an upscale neighborhood of the
city of São Paulo. The sample was defined by convenience and comprised 100 postpartum women who gave birth in the period between November 2010 and April 2011, and who met the following inclusion criteria: being in postpartum (48-72 hours after delivery); having agreed to participate in the study for up to 60 days after the baby’s birth; having a landline or mobile phone number; being breastfeeding exclusively during hospitalization.

The survey instrument used was the Escala de Autoeficácia na Amamentação, the Brazilian version of the Breastfeeding Self-Efficacy Scale-Short Form (BSES-SF). This scale has been validated in Brazil by Dodt in 2008, who applied it in a public hospital in Ceará.(7) This instrument is clinically useful for nurses to apply in the postpartum period, mainly due to short hospital stays. The scale helps to recognize mothers who are likely to succeed in breastfeeding, providing them with positive reinforcement, as well as those who may need interventions before discharge, in order to provide appropriate and effective assistance.(8)

The scale consists of three dimensions (magnitude, generalization and strength) and is based on four sources of information (personal experience, observational or vicarious experience, verbal persuasion and emotional and physiological state).(9) In each rated item, the woman gave a score ranging from 1 to 5 points (1 - Strongly disagree 2 - Disagree, 3 - Sometimes agree, 4 - Agree and 5 - Strongly agree).

For data collection, the women were interviewed once during hospitalization and after childbirth they were contacted by telephone on the 7th, the 15th, the 30th, the 45th and the 60th day to monitor breastfeeding continuity.

For statistical analysis, the data were compiled and analyzed using the SPSS (Statistical Package for Social Sciences), version 16.0. The Kolmogorov-Smirnov test was used to evaluate the adhesion of the dependent and independent continuous variables to the normal distribution curve. The Pearson’s correlation coefficient was calculated, and ANOVA was employed to compare the duration of breastfeeding among women with different degrees of self-efficacy in breastfeeding. The chi-square test was used for the association between problems in each stage of BF monitoring. In all analyzes, the level of significance used was p ≥ 0.05.

The study development complied with all national and international ethical guidelines for research involving human subjects.

**Results**

The sociodemographic profile of the mothers who participated in the study can be outlined as follows: mean age of 32.8 years, ranging from 17 to 44 years; most of them (94.6%) are married, Catholics (53.1%), have paid working activities (90%) and completed higher education (70%). A total of 47% were primipara, 43% secundipara, 87% of the deliveries were caesarean and 95.3% reported not having received any guidance on breastfeeding during prenatal care.

The mean time of EBF was 53.2 days (SD 14.2), ranging from 15 to 60 days (Table 1).

**Table 1. Frequency of feeding during the postpartum periods analyzed**

<table>
<thead>
<tr>
<th>Type of feeding</th>
<th>7th Day n(%)</th>
<th>15th Day n(%)</th>
<th>30th Day n(%)</th>
<th>45th Day n(%)</th>
<th>60th Day n(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exclusive</td>
<td>100(100.00)</td>
<td>92(92.00)</td>
<td>84(84.00)</td>
<td>81(81.00)</td>
<td>79(79.00)</td>
</tr>
<tr>
<td>Supplemented</td>
<td>8(8.00)</td>
<td>15(15.00)</td>
<td>14(14.00)</td>
<td>15(15.00)</td>
<td></td>
</tr>
<tr>
<td>Formula</td>
<td>1(1.00)</td>
<td>5(5.00)</td>
<td></td>
<td></td>
<td>6(6.00)</td>
</tr>
</tbody>
</table>

At the start of monitoring, in the seventh postpartum day, 100% of the women practiced EBF. However, by the 15th day, 8% of mothers had introduced a complement, therefore practicing mixed feeding. On the 30th day, 15% of mothers supplemented breastfeeding with formula and 1% had weaned the baby. Exclusive breastfeeding showed a progressive decline reaching 79% at 60 days (Table 2).
Breastfeeding self-efficacy: a cohort study

The score of the breastfeeding self-efficacy scale varies from 14 to 70 points. When the respondent obtains between 14 and 32 points, she is considered to have Low efficacy; between 33 and 51, Moderate; and between 52 and 70, High efficacy.

Most mothers (82.3%) had scores compatible with high self-efficacy for breastfeeding (52-70 points) and there was no mother with low efficacy (Table 3).

The relationship between self-efficacy and the duration of breastfeeding was assessed by measuring the correlation of the scale scores (BSES-SF) and the feeding time in days, as well as by comparing the time of breastfeeding among women with moderate and high self-efficacy.

There was no statistically significant difference in the comparison of mean time of exclusive and non-exclusive breastfeeding, within moderate and high efficacy scores.

Table 2. Scores obtained by mothers in the application of breastfeeding self-efficacy scale

<table>
<thead>
<tr>
<th>Score of self-efficacy: (n= 130)</th>
<th>n(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (14-32)</td>
<td>-</td>
</tr>
<tr>
<td>Moderate (33-51)</td>
<td>23(17.70)</td>
</tr>
<tr>
<td>High (52-70)</td>
<td>107(82.30)</td>
</tr>
<tr>
<td>Total</td>
<td>130(100.00)</td>
</tr>
<tr>
<td>BSES-SF</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td>Total Score</td>
<td>60.57(5.07)</td>
</tr>
</tbody>
</table>

Table 3. Comparison of the duration of breastfeeding with the mean scores of the breastfeeding self-efficacy scale

<table>
<thead>
<tr>
<th>Breastfeeding duration</th>
<th>Breastfeeding Self-efficacy</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Moderate (Mean (SD))</td>
<td>High (Mean (SD))</td>
</tr>
<tr>
<td>Exclusive breastfeeding</td>
<td>56.10(10.6)</td>
<td>53.00(14.5)</td>
</tr>
<tr>
<td>Non-exclusive breastfeeding</td>
<td>60.00(0.0)</td>
<td>58.70(5.3)</td>
</tr>
</tbody>
</table>

SD - Standard deviation

Discussion

The limitations of the findings of this study are related to the fact that the sample was originated from only one service with specific characteristics, and the monitoring of EBF was performed only up to the 60th day after delivery.

In the sample studied, the findings did not enable to verify the self-efficacy scale as predictive for early weaning. On the other hand, its clinical applicability was verified as a reliable instrument to assess the perception of mothers about their breastfeeding self-efficacy, enabling professionals to identify mothers who are susceptible to succeed in breastfeeding, as well as those who may need intervention before hospital discharge.

The sociodemographic profile of the participants is consistent with the neighborhood where they reside, economically differentiated. The percentage of cesarean sections (87%) is high, even for an institution that primarily assists patients using private health network, a result compatible with a 2010 study which identified a 63.6% rate of surgical births with an increasing trend, in these services. (10)

The need for implementation of strategies that enable women, assisted in the private network, to have access to guidance on breastfeeding is evidenced by the high percentage of pregnant women who received no information on the subject.

The mean duration of EBF was 53.2 days. This result is consistent with that identified in the last national survey of prevalence of breastfeeding in Brazilian state capitals and the Federal District, held in 2008, which identified a median EBF period of 54 days.

The expectation was to find longer periods of EBF, since the mothers not only obtained moderate and high scores of breastfeeding self-efficacy, but also belong to a more privileged social class and presented high level of schooling, points considered important to maintain EBF.

The monitoring of EBF began on the 7th day after delivery and 100% of women were exclusively breastfeeding their children. However, EBF showed a progressive decline, reaching 79%, at 60 days.
A study that monitored EBF up to 180 days after delivery revealed a higher number of abandonment after 60 days, and the percentage of mothers who exclusively breastfed up to the 60th day (70.4%) is slightly lower than that found in the present study (79%).(11)

Rates of exclusive breastfeeding in Brazil are on the rise, but still below what is recommended by the WHO, which is 180 days. The percentage of 79% of children being exclusively breastfed, identified in this study, can be considered adequate, since the WHO attributes this concept when 50% to 89% of children under six months of age are exclusively breastfed.(11) The application of the scale allowed to identify that mothers presented high and moderate efficacy and none of them obtained results consistent with low self-efficacy.

These results signaled that the mothers who participated in this study would probably maintain EBF for longer periods, a fact that was not consolidated at the end of monitoring.

A study that used the same scale (Short Form) in 294 postpartum women also noted the absence of mothers with low efficacy. However, since the mothers were not followed up, it was not possible to compare the results.(7)

The comparison of the mean time of exclusive and non-exclusive breastfeeding, with the scores of moderate and high efficacy showed no statistically significant difference, which indicates that, in this study, the self-efficacy of the mothers did not influence the duration of breastfeeding.

Nevertheless, these results differ from those of the original study, conducted in Canada, which evaluated maternal confidence in breastfeeding among 130 Canadians and found that the higher the BSES score, the greater the likelihood of the women maintaining exclusive breastfeeding at 6 weeks postpartum (p < 0.01).(12)

Another longitudinal study carried out in Australia with 300 pregnant women evaluated the influence of changeable factors in prenatal and breastfeeding duration. The scale was applied in the last trimester of pregnancy, at the 1st week postpartum and at baby’s 4 months of life, and the results revealed that mothers who intended to breastfeed for less than 6 months were 2.4 times more likely to stop BF in 4 months than those who intended to breastfeed for more than 12 months. Similarly, the association of the BSES score with the duration of exclusive breastfeeding showed that mothers with higher self-efficacy scores were more likely to breastfeed longer, both one week and four months postpartum, than those presenting low self-efficacy in feeding (p <0.05).(13)

Conclusion

The results did not confirm whether the scale may be used as a predictor of risk of early weaning. In addition, no relation between greater scores of high efficacy and longer periods of exclusive breastfeeding was observed.

Collaborations

Souza EFC and Fernandes RAQ contributed to the project design, analysis and interpretation of data, drafting of the article, critical revision of the relevant intellectual content and final approval of the version to be published.

References


Risks related to drug use among male construction workers

Risco relacionado ao consumo de drogas em homens trabalhadores da construção civil

Aroldo Gavioli¹
Thais Aidar de Freitas Mathias²
Robson Marcelo Rossi²
Magda Lúcia Félix de Oliveira²

Abstract

Objective: To identify the prevalence of risk related to drug use among workers of a construction company and to evaluate how it relates with sociodemographic variables.

Methods: A cross-sectional study conducted with 418 workers who were given the Alcohol, Smoking and Substance Involvement Screening Test. Multinominal logistic regression was used as a measure of association.

Results: Tobacco, alcohol, cannabis, cocaine and inhalants were the most used drugs. Moderate and high risks were related, respectively, to the use of tobacco (32.5% and 5.7%), alcohol (26.8% and 6.9%), cannabis (2.6% and 2.4%) and cocaine (1.2% and 0.5%).

Conclusion: Tobacco and alcohol were the main drugs used by workers. The level of risk related to the use of tobacco, alcohol, cannabis and cocaine were high when compared to that of the general population.

Keywords
Substance-related disorders; Mass screening; Primary care nursing; Occupational health nursing; Workers

Descritores
Transtornos relacionados ao uso de substâncias; Programas de rastreamento; Enfermagem de atenção primária; Enfermagem do trabalho; Trabalhadores

DOI
http://dx.doi.org/10.1590/1982-0194201400077

¹Hospital Universitário Regional de Maringá, Maringá, PR, Brazil.
²Universidade Estadual de Maringá, Maringá, PR, Brazil.

Conflicts of interest: there are no conflicts of interest to declare.
Introduction

The relationship between work and drug use is still little understood in Brazil, where the problem is in fact underreported. Studies point to an increase of violent events in the workplace when there is drug use among workers. Currently, such use is recognized as the main responsible factor for traumatic injury, and the burden imposed on the Brazilian health system by health problems results in elevated social and economic costs.

Being a common phenomenon of the workplace, drug use results in increased illness, work-related injuries, absenteeism and disability, all of which contribute to reducing productivity. In this context, construction work is a business activity of great importance in the global economic scenario. However, together with its importance in the economy, it also presents a harsh reality regarding working conditions: it is considered one of the most hazardous activities or work worldwide and in Brazil, it is responsible for the highest rates of fatal and non-fatal work-related injuries and of years of potential life lost.

A case study on severe work-related accidents that happened in the state of Paraná, Brazil, and were recorded in the Brazilian Notifiable Diseases Information System (SINAN, as per its acronym in Portuguese) from 2007 to 2010, found that approximately 14% of total severe and fatal work-related accidents had happened among construction workers. As responsible for this high rate of work-related accidents among this professional category, we emphasize the elevated level of occupational risks, stress and psychic suffering related to the temporary nature of the job, high staff turnover and precarious work contracts.

A study that aimed at studying discrimination and social prejudice experienced by construction workers in a metropolitan region of Brazil observed a high prevalence of aggressive, depressive and unhealthy behaviors, such as drug use. Such behavior was associated to the experience of rejection within the context of social discrimination. These findings indicate that construction workers should be the subjects of drug use prevention programs.

Methods

A cross-sectional study was carried out in 15 work sites of a construction company in the municipality of Maringá in Paraná, a state in the south of Brazil. This municipality is located 426 km away from the state capital, and had an estimated 385 thousand inhabitants in 2013. Maringá is a medium-sized city with great agricultural production and a developing industrial area (although there are some large industries) and well-developed service and commerce sectors.

The sample comprised 446 men who worked for a construction company and who were directly involved with building construction. Workers were divided into two professional categories: semi-official, better known as laborers, and official, represented by masons, carpenters, reinforcing iron and rebar workers, painters, electricians, finishing workers, and others. Criteria for inclusion were: male workers with a formal work contract, 18 years or older; criteria for exclusion were: absenteeism, refusal to participate in the study, and those who worked on the higher strata of the building, which could pose danger to the researcher and the worker.

Upon receiving the construction company’s permission to conduct the study, the researcher was taken to the work sites and introduced to the workers, who were instructed as to the objectives of the study. Once the participants signed the free and informed consent form, the interviews were conducted, which took place between March and June 2012. Interviews were divided into two sections: worker sociodemographic information and the Alcohol, Smoking and Substance Involvement

In the effort of detecting the level of risk related to drug use among male construction workers, this study aimed at establishing the sociodemographic profile of workers at a construction company in a municipality of the state of Paraná, Brazil. It also aimed at identifying the risk related to such drug use, as well as verifying the association between the risk related to drug use and sociodemographic variables.
Screening Test (ASSIST), by the World Health Organization (WHO).

The following sociodemographic variables were used: age, education level, marital status, skin color, municipality of residence, wages, living conditions, children, time of service in construction, family income, professional category and absenteeism related to drug use.

The ASSIST-WHO instrument was translated and validated in Brazil and consists of eight questions about the use of nine classes of abuse drugs (tobacco, alcohol, cannabis, cocaine, amphetamines, sedatives, inhalants, hallucinogens and opioids). Its questions assess the frequency of use for each abuse drug (in lifetime and in the last 3 months) through the following variables: problems related to drug use; concern of people close to the user; interference with role responsibility; failed attempts to quit or cut down drug use; compulsion to use; and injecting drug use. Each answer corresponds to a score ranging from zero to 8, and the total sum can vary from zero to 39.[11,12]

In terms of defining the risk related to alcohol use, a score from zero to 10 on the test is considered lower risk; from 11 to 26 moderate risk; and when higher than 27 points, it represents high risk up to the progression of dependence. For the other abuse drugs, the scores required for each category are: 0-3 points; 4-26 points and higher than 27 points, respectively. Thus, a range of problems associated to substance use can be identified, which include acute intoxication, regular use or dependence and high risk of injecting behavior. Scores falling within the intermediate range of the ASSIST indicate the use of hazardous or harmful substances (moderate risk) and the highest scores indicate substance dependence (high risk).[11,12]

The data collected were compiled using the IBM Statistical Package for the Social Science (SPSS®) software, and the independent variables were dichotomized so that a descriptive statistical analysis and multinominal logistic regression could then be conducted. The objective of this method was to investigate the variables associated to the results (dependent variable: level of risk provided by the ASSIST score, classified as lower, moderate and high, for tobacco, alcohol and illicit drugs). To this end, lower risk was established as the baseline of the dependent variable and backward stepwise regression was used, with a 95% significance level. For the significant variables in the final model, odds ratio and its respective confidence intervals were adopted as a measure of association.[13]

The development of this study complied with ethical guidelines for research involving human beings.

Results

A total of 418 workers who met the inclusion criteria were interviewed. Twenty-eight workers left the study due to absenteeism (13 workers), leave of absence due to work accidents (5 workers), refusal to participate (4 workers) and due to an inaccessible/hazardous workplace (6 workers).

The mean age of the sample was 41.1 (±12.6) years, being that the youngest was 18 and the oldest, 74. Most workers (64.5%) were in the 36 to 74 year age group. When separated by professional category, the mean age of official workers was 43.1 (±11.3) years and the mode, 52 years. The mean age of semi-official workers was 38.3 (±13.6) years and the mode, 23 years.

As observed, 73.7% of workers had up to 8 years of schooling (elementary school), 78.9% were married or lived with a partner, 54.5% were white, 96.6 were catholic and 50.2% from municipalities neighboring Maringá. Most earned less than three minimum monthly wages, were home owners (58.4%), had children 79.2%, had over 10 years of experience with construction work (79.2%), with a family income lower than R$2,400.00/month (67.7%) and were official construction workers (65.1%). Semi-official workers (laborers) represented 34.9% of our sample. When asked if they had missed work due to hangovers after a period of drug abuse, 76.3% replied affirmatively (Table 1).

The prevalence of drug use in lifetime was 91% for alcohol, 72.4% for tobacco, 18.2% for cannabis and 6.7% for cocaine. Inhalant drugs, especially solvents, were mentioned by 5.2% of the interviewed workers. Other drugs were used by 1.5% of
Risks related to drug use among male construction workers, and 5.4% reported never having used or experimented with any drug of abuse.

Table 1. Construction workers according to sociodemographic variables

| Variables             | n(%)
|-----------------------|------
| Age                   |      
| 18-35                 | 148(35.4) |
| 36-75                 | 270(64.6) |
| Years of schooling    |      
| Up to 8 years         | 308(73.7) |
| More than 8 years     | 110(26.3) |
| Marital status        |      
| With partner          | 330(78.9) |
| Without partner       | 88(21.1)  |
| Skin Color            |      
| White                 | 228(54.5) |
| Not white             | 190(45.5) |
| Religion              |      
| Has a religion        | 404(96.6) |
| No religion           | 14(3.4)   |
| Residency             |      
| Other municipalities  | 210(50.2) |
| Maringá               | 208(49.8) |
| Wages                 |      
| More than 3 minimum monthly wages* | 330(79.4) |
| More than 3 minimum monthly wages | 86(20.6)  |
| Living conditions     |      
| Home owner            | 244(58.4) |
| Not home owner        | 174(41.6) |
| Children              |      
| With children         | 331(79.2) |
| No children           | 87(20.8)  |
| Time of service       |      
| More than 10 years    | 239(57.2) |
| Less than 10 years    | 179(42.8) |
| Family income         |      
| Less than R$ 2,400.00/month | 283(67.7) |
| More than R$ 2,400.00/month | 135(32.3) |
| Professional category |      
| Official              | 272(65.1) |
| Semi-official         | 146(34.9) |
| Absenteeism due to drug use |      
| Yes                   | 319(76.3) |
| No                    | 99(23.7)  |

* The minimum monthly wage in 2012 was R$ 622.00

The data relative to the prevalence of risk associated to drugs of abuse, as classified by the ASSIST-WHO, are presented as follows. When considering tobacco use, 38.2% of workers were classified as presenting risk for health problems due to substance use, of which 32.5% presented moderate risk and 5.7%, high risk. When considering alcohol use, 33.7% of workers had related risks, of which 26.8% were moderate, and 6.9% were high. With respect to illicit drugs, we identified a prevalence of risk associated to cannabis in 5.0% of workers, of which 2.6% presented moderate risk and 2.4%, high risk. Furthermore, the prevalence of risk associated to the use of cocaine was identified among 1.7% of workers, of which 1.2% presented moderate risk and 0.5% with high risk (Table 2).

Table 2. Construction workers according to classification of risk related to drug use

<table>
<thead>
<tr>
<th>Drug of abuse*</th>
<th>Related risk</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco</td>
<td>Lower</td>
<td>258(61.8)</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>136(32.5)</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>24(5.7)</td>
</tr>
<tr>
<td>Alcohol</td>
<td>Lower</td>
<td>277(66.3)</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>112(26.8)</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>29(6.9)</td>
</tr>
<tr>
<td>Cannabis</td>
<td>Lower</td>
<td>397(95.0)</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>11(2.6)</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>4(1.0)</td>
</tr>
<tr>
<td>Cocaine</td>
<td>Lower</td>
<td>411(98.3)</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>5(1.2)</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>2(0.5)</td>
</tr>
</tbody>
</table>

*More than one answer possible

Multinominal logistic regression analysis of moderate and high risk with respect to the worker’s sociodemographic variables demonstrated a significantly higher chance of risk related to (in the moderate and high levels) the use of tobacco among workers who reported episodes of absenteeism, not being home owners and belonging to the semi-official category. On the other hand, having less than 10 years of experience with construction work represented a protective factor for the risk related to tobacco use at the moderate and high level. An association was found between belonging to the 36 to 74 age group and moderate level of risk. On one hand, it represents a protective factor for the moderate risk level, and on the other it is associated to increased chances of elevated risk levels (Table 3).

Regarding the risk related to alcohol use, a significant association was also observed between moderate and high risk with work absenteeism, not owning residency and having less than 8 years of schooling (Table 3).

The low number of construction workers who reported the use of illicit drugs found in this study could have influenced the statistical analysis. Thus, the use of cannabis and cocaine were grouped into one category (illicit drugs). Factors associated with higher chances of moderate and high risk related to the use of illicit drugs were absenteeism and belonging to the semi-official professional category (Table 3).
Discussion

The limitation of this study regards the use of data collected in a less than ideal situation, i.e., at work. This situation could have resulted in lack of sincerity, for the theme touches on illegality, and this could have led to an underestimation of data. On the other hand, this method does have its advantages, for the use of standardized instruments helps professionals to establish the limits for defining harmful drug use.

Few Brazilian studies have focused on monitoring the risk related to drug use among workers. Most of them discuss instrument validation, for this technology has only recently been disseminated. Most studies used the CAGE test (an acronym regarding its four questions - Cut down, Annoyed by criticism, Guilty and Eye-opener) and the AUDIT, the Alcohol Use Disorders Identification Test, which only investigates alcohol use and dependence.(1) This limits the comparability of prevalence of risk related to drug use in general and among men, particularly construction workers. For this reason, the findings of the present study were compared with national population-based surveys to investigate the risk levels related to other drugs of abuse.

In the present study, alcohol and tobacco were confirmed as the main legal abuse-causing substances; cannabis and cocaine were the main illicit abuse-causing substances. Regarding the prevalence of high levels of risk related to tobacco use, which indicate dependence, although there was an expressive prevalence among workers, it was still lower than the levels found in national surveys. Such surveys observed a prevalence of 12.2% among men in the South region of Brazil(14) and 16.9% in Brazil in general.(15) However, taking into consideration individuals with moderate and high levels of risk, which indicate harmful and continued use, the workers in our study presented an expressively higher number than those found in the national surveys, reaching values two to three times higher.

Regarding the prevalence of levels of risk related to the use of alcohol, a lower number of

Table 3. Results of the multinomial logistic regression analysis for the effect of the selected variables on the levels of risk related to drug use

<table>
<thead>
<tr>
<th>Drug of abuse</th>
<th>Variable</th>
<th>Category</th>
<th>Moderate Risk</th>
<th>High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco</td>
<td>Absenteeism</td>
<td>Yes</td>
<td>1.8</td>
<td>15.1</td>
</tr>
<tr>
<td></td>
<td>Residence</td>
<td>No owned</td>
<td>2.4</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td>Professional category</td>
<td>Semi-official</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>Time in profession</td>
<td>&lt;10 years</td>
<td>0.3</td>
<td>0.2</td>
</tr>
<tr>
<td></td>
<td>Age (years)</td>
<td>36 to 74</td>
<td>0.4</td>
<td>2.3</td>
</tr>
<tr>
<td>Alcohol</td>
<td>Absenteeism</td>
<td>Yes</td>
<td>3.9</td>
<td>30.0</td>
</tr>
<tr>
<td></td>
<td>Residence</td>
<td>No owned</td>
<td>1.8</td>
<td>4.3</td>
</tr>
<tr>
<td></td>
<td>Schooling</td>
<td>&lt;8 years</td>
<td>2.1</td>
<td>1.0</td>
</tr>
<tr>
<td>Illicit drugs</td>
<td>Absenteeism</td>
<td>Yes</td>
<td>4.3</td>
<td>4.1</td>
</tr>
<tr>
<td></td>
<td>Professional category</td>
<td>Semi-official</td>
<td>2.0</td>
<td>5.1</td>
</tr>
</tbody>
</table>

OR – odds ratio; IC95% – confidence interval of 95%
workers fulfilled the criteria for dependence (high risk level). The survey for the South region of Brazil found 14.9% of male individuals to be dependent. On the other hand, the latest national survey in 2012 showed that 10.5% of individuals of the general population were dependent. However, if we calculate the number of individuals included in the intermediate range of risk (moderate level), we observe that the construction workers present a higher prevalence of harmful and continued alcohol use, reaching two to three times higher values than those found in the national surveys.

With respect to cannabis, the prevalence of high risk (an indicator of dependence) observed was greater than that found among men in the South region of Brazil in 2006, which was 1.1%. However, this prevalence was lower than that observed in the latest survey of 2012, with 4.4% of male individuals. If we add to this number individuals who score in the intermediate ranges (moderate risk), we observe that, among construction workers, the frequent and continued use of cannabis can be considered higher than that observed in the general population in the surveys mentioned above.

The last national survey on drug use indicated a 2% prevalence of cocaine dependence among the Brazilian population. Among the construction workers, there was a prevalence of individuals with high risk (dependence indicator) related to the use of this substance lower than that of the general population. However, if we add to this number those individuals who fulfill the criteria for moderate levels of risk (with frequent and continued use), we observe that workers presented a prevalence similar to that found in the national survey.

In another study on the prevalence of drug use among public construction workers of the state of Minas Gerais, there were similarities regarding which were the most used drugs, as well as the high level of use in lifetime. However, the authors did not stratify the data according to risks related to drug use, only according to the frequency of use. Nonetheless, an interesting piece of information was the number of individuals who were classified as needing to be referred to intensive treatment, which were 7.5%, 21.5%, 3% and 2.5%, respectively, for the use of tobacco, alcohol, cannabis and cocaine. When comparing the data, we observe that the workers in our study presented a lower prevalence of continued drug use.

The association between absenteeism and drug use, as was observed in this study, has already been investigated by other studies. Individuals who frequently use alcohol tend to be more absent at work, since such use can result in “hangovers,” leading to the absence of partial or full days of work. Moderate and high levels of risk were associated to more days absent due to medical consultations or sick leaves. Absenteeism causes direct effects that are not only felt by employers, but also by other workers who need to take on additional tasks in order to compensate for their absent coworkers. This increased workload harms and overloads these workers.

The sociodemographic characteristics of the participants of this study portray the reality of construction workers in Brazil. These characteristics include, for example, low education and socioeconomic levels, which in this study were associated to moderate and high risk of tobacco, alcohol and illicit drug use. These characteristics can lead to factors that predispose the individual to a higher risk of involvement and drug use.

We also found an association between the use of tobacco and illicit drugs with the semi-official category, consisting of younger workers who are still learning their trade. With regards to the use of alcohol and illicit drugs, other studies have shown that younger people tend to drink alcohol in higher levels or with greater risk, and that this group is considered as being at the highest risk for health problems due to alcohol, tobacco and illicit drugs. Thus, the prevalence of use patterns among this demographic segment should be especially monitored.

An important factor regarding drug use among construction workers is that work sites consist primarily of men, for the work activities...
require conditions considered to be masculine, such as physical strength. We present the hypothesis that men are more solicited for this type of work activity because they are more prone to adventure and risk-taking. Our results corroborate that of other studies that have shown a greater prevalence of drug use and dependence among men. Historically, drug use is a profile associated to the male population, for it is a manner of establishing and maintaining bonds with other men of the same social status.\(^{(17,20)}\)

A study conducted in Maringá analyzing the profile of hospital morbidity, found the 56.1% of total hospitalizations consisted of men, primarily young and adults, between the ages of 20 and 59. This study found that mental disorders, 21.5% and injuries and intoxication, 25.1% were the main diagnoses for hospitalized men from Maringá in the three year period from 2009 to 2011.\(^{(21)}\) These findings are in agreement with the conclusion of the present study that the male population is more vulnerable to some types of mental disorders, which include drug abuse diagnoses and externally caused lesions, frequently related to drug use.

The fact that an expressive number of interviewed workers presented high use in lifetime, continued use and moderate and high risk levels of drug use emphasizes how vulnerable this professional category is to drug use. Such use is considered by the WHO as the main preventable cause of death and years of potential life lost.\(^{(22)}\) In this sense, an instrument such as the AS-SIST-WHO, which allows for screening the risk related to drug use, easy to apply and interpret, and that allows for brief interventions and result feedback, is an important option for the prevention and early detection of drug use among construction workers.\(^{(23)}\)

In light of the results of the present study, we observe the importance of this type of screening with standardized instruments by healthcare, nursing, worker’s health and primary care teams. This technology can be very useful in the detection, early intervention and, consequently, prevention of this type of drug use among workers, for one of the greatest difficulties found by health professionals regarding drug use in the community consists in determining the limits which define drug abuse.\(^{(1,11)}\)

The results of this study can also help construction companies that wish to implement prevention programs that assess the impact of measures for controlling drug use. In the nursing field, this study indicates the need for the team to consider the working environment as a whole, not only focused on the classic occupational hazards or on the treatment of drug users. Nursing professionals must also consider the male population in the work place and their actions, which will help reduce drug use and increase safety and health, not only with regards to construction work, but also in the most diverse occupational realities. It is necessary for the nursing professional to be aware of the morbidity profile of the male population, in order to raise more awareness among adult men about the benefits of acting towards disease prevention.\(^{(21,24)}\)

**Conclusion**

Tobacco and alcohol were the main drugs used among workers. The level of risk related to the use of tobacco, alcohol, cannabis and cocaine was high when compared to those of the general population.

**Acknowledgements**

The authors thank the workers and the Construction Worker Labor Union of Maringá, SINTRACON, and the staff of the Committee for Incentive of Formality in Civil Construction, especially Ms. Mary and all of the construction workers.

**Collaborations**

Gavioli A contributed with the project conception, development of the research and drafting of the article. Rossi RM collaborated with the sampling plan, statistical analysis and data interpretation. Mathias TAF and Oliveira MLF contributed with the critical review of its intellectual content and the final approval of the version to be published.
References


The effect of Reiki on blood hypertension

Efeito do Reiki na hipertensão arterial

Léia Fortes Salles¹
Luciana Vannucci²
Amanda Salles³
Maria Júlia Paes da Silva¹

Abstract

Objective: Determining the immediate effect of Reiki on abnormal blood pressure.

Methods: An experimental, double-blind study, in which were included 66 hypertensive patients, randomized to the three following study groups: control, placebo and experimental. The intervention lasted 20 minutes, the control group remained at rest, the placebo group received an imitation of the studied technique (mock Reiki) and the experimental group received the Reiki technique. Blood pressure was measured before and after the intervention by the same person with the same instrument.

Results: There was a decrease in blood pressure in the three groups and the reduction was greater in the experimental group, followed by the placebo and the control group. The ANOVA model for repeated measures showed a statistically significant difference among the groups (p <0.0001).

Conclusion: Reiki had a positive effect on reducing abnormal blood pressure, suggesting to be a complementary technique for the control of hypertension.

Keywords
Hypertension; Therapeutic touch; Complementary therapies; Mind-body therapies; Integrative medicine

Descritores
Hipertensão; Toque terapêutico; Terapias complementares; Terapias mente-corpo; Medicina integrativa

Submitted
May 9, 2014
Accepted
June 23, 2014

Universal Trial Number: U1111-1152-4520
Registro Brasileiro de Ensaios Clínicos: REQ 2270

¹Escola de Enfermagem, Universidade de São Paulo, São Paulo, SP, Brazil.
²Vigilância em Saúde, Prefeitura de São Paulo, São Paulo, SP, Brazil.
³Fundação Getúlio Vargas, São Paulo, SP, Brazil.
Conflicts of interest: no conflicts of interest to declare.
Introduction

Due to the rapid aging of the world population, the profile of mortality started to be characterized by complex and costly diseases, common to the advanced age and represented mainly by chronic degenerative diseases. Among them, cardiovascular diseases are a major public health problem throughout the world and, in recent decades, according to official records, the first cause of death in many countries.

The increase in chronic diseases leads to a new global health challenge, which is finding new and more effective ways to prevent the onset of these diseases and its disabilities.

Complementary therapies with its holistic dimension can be useful tools for coping with this challenge, to the extent that they assists in maintaining homeostasis throughout life.

The abnormal blood pressure is the most common sign of hypertension that is recognized as the main risk factor for cardiovascular morbidity and mortality. The main cause of mortality in Brazil and worldwide is found in the group of cardiovascular diseases.

Hypertension affects more than a billion people worldwide and the prognostics indicate that by 2025 the number of people with this problem may increase by 29%. In Brazil, it is a highly prevalent disease, with rates ranging from 22% to 44%.

There are several risk factors that contribute to hypertension, the main ones being obesity, alcohol consumption, sedentary lifestyle and smoking. Habits, lifestyle and adherence to treatment have strong influence in disease control.

The harmony, quantity and balance of Vital Energy in the body are essential for the health and proper functioning of the being. At birth we have a certain level of this energy, however, at spending various amounts of it day-to-day without having a satisfactory recovery, one will probably face physical, emotional and mental imbalances, and/or diseases.

Reiki that means universal vital energy, is a Japanese technique that aims to assist in restoring the energetic system of the body, by stimulating the natural healing processes of the body. These processes can be used to induce relaxation and treat health problems. Reiki practitioners use the approach by slight hand contact to facilitate the opening of their own energy channels and those of the patients.

Reiki stimulates the body to balance itself, primarily by stimulating the immune system, predisposing it to an own re-establishment according to one’s personal state. Beyond the physical aspect, the vital energy acts on psychological and emotional aspects, improving the willpower to change habits that are often deleterious to health, such as smoking, inappropriate feeding patterns and maintaining depressive thoughts and behaviors.

The nursing care aims at a comprehensive customer care, and by using Reiki, the nurses expand the possibilities of care in a simple, safe and noninvasive way.

The Nursing Council was the first council among health professions to approve and recognize the use of complementary therapies when establishing and recognizing Alternative Therapies as a specialty and/or qualification of nursing professionals.

Among the Nursing diagnoses proposed by the NANDA that justify the application of Reiki, there are the following diagnoses: Energy field disturbance; Insomnia; Sleep deprivation; Fatigue; Anxiety; Stress overload and Acute and chronic pain.

In several studies carried out by nurses, the decrease of migraine, pain, fatigue, anxiety, nausea and vomiting were found as results of the application of Reiki, as well as the increase in relaxation and accelerated cicatrization as possible benefits, besides the increase in willingness to modify unhealthy habits and styles of life. It is known that healthy habits help in controlling and maintaining the blood pressure at adequate levels.

There are few studies using complementary techniques for reduction of cardiovascular risk factors. A case study describes the reduction of blood pressure with techniques of the Traditional Chinese Medicine, specifically acupuncture, Tai Chi and Chi Kung. The few randomized and controlled studies with energy techniques like Meditation, Therapeutic Touch, Pranic Healing and Reiki suggest that
they reduce anxiety and stress, factors that contribute to the imbalance of blood pressure.\(^{(10)}\)

A study conducted in the laboratory with stressed rats showed a greater and statistically significant reduction in frequency of heart rates with the application of Reiki, in comparison with an intervention imitating the technique (placebo). None of the interventions affected the blood pressure. The study authors conclude that Reiki favors homeostasis and reduces the activity of the sympathetic nervous system.\(^{(11)}\)

Another study demonstrates that Reiki has been effective in decreasing the heart rate in myocardial post-infarction patients, suggesting the vagal action of the technique.\(^{(12)}\)

A randomized double-blind study of patients with burnout syndrome concludes that the application of Reiki decreases the levels of IgA (immunoglobulin A) and diastolic blood pressure, and also, that there is a statistically significant correlation between the intervention duration and the decrease of blood pressure.\(^{(6)}\)

A systematic review on the therapeutic effect of Reiki concluded that there is still no way to evaluate the effectiveness of therapy and that further research with appropriate methodologic designs are necessary.\(^{(13)}\)

With the increasing use of integrative practices worldwide, further research in this area is necessary in order that such practices can be safely and effectively followed. Therefore, the aim of the present study was observing the immediate effect of Reiki on abnormal blood pressure.

**Methods**

This is a randomized, cross-sectional, descriptive and double-blind clinical trial, in which nor the participants and neither the person checking the blood pressure have knowledge of who belongs to each group.

The survey was carried out in a health institution in the city of São Paulo, southeastern region of Brazil. In total, 170 hypertensive patients were included in the study. Using 80% confidence interval and 5% error was reached a sample size of 66 patients, who were divided into three groups: control, placebo and experimental.

The inclusion criterion was blood pressure at or above 140x90 mmHg on the day of survey. The exclusion criteria were: being under 18 years old and the presence of symptoms consistent with hypertensive emergency, regardless of the pressure level.

After the medical consultation, patients referred by the clinic and who had blood pressure greater than or equal to 140x90 mmHg were invited to participate in the study. The volunteers were randomized and formed three groups: experimental, placebo and control.

Randomization was performed using sealed and shuffled envelopes containing one of the three groups, which were distributed and open at the moment each patient was admitted in the study.

The experimental group received Reiki. The placebo group received a ‘mock Reiki’ applied by someone without training in Reiki, but previously trained and following the established protocol in points of the body that were not energy centers or meridians, in random order and intercalated with periods without movements. The control group remained only at rest. The intervention lasted 20 minutes in all groups and the blood pressure was measured immediately before and after the intervention, by the same person and with the same instrument.

Although blood pressure had already been checked by the clinic physician, it was measured again, in order that both measurements (before and after the intervention) were performed under the same conditions: same instrument, professional and place, with prior rest of 15 minutes. All results were recorded in the clinical record.

At the end of the experiment, the subjects of the placebo and control groups were invited to experience the actual reiki technique, according to availability of dates and times.

Data were analyzed by number and percentage. The Chi-squared and ANOVA tests were used for statistical treatment to verify the homogeneity between the groups. The ANOVA model was used to analyze the effect of the intervention in the three
groups (treatment p-value) and whether there was difference in outcomes among the groups (interaction p-value).

The development of study followed the national and international standards of ethics in research involving human beings.

**Results**

Sixty-six subjects who met the inclusion criteria were enrolled in the study: 22 in the control group, 22 in the placebo group and 22 in the experimental group.

The Chi-squared and ANOVA tests showed that the groups were homogeneous in relation to variables such as gender and age.

The maximum and mean initial values of blood pressure were higher in the Reiki group (mean of 161.0 and 128.4, respectively) and the initial minimum blood pressure value was higher in the control group (mean of 97.3). The statistical test choice took these differences into account.

The volunteers have lived with hypertension for 12 years on average, and although their blood pressure values were equal to or above 140 x 90 mmHg, almost all reported following the recommended diet and using the prescribed medication.

The majority of the sample was comprised of female volunteers (66.6%) with a mean age of 60 years.

The result showed a reduction in blood pressure in all three groups (treatment p-value <0.001), but it was more pronounced in the experimental group. A statistically significant difference was also demonstrated among groups, highlighting the experimental group result (interaction p-value <0.001), as shown in table 1.

The reduction in blood pressure was greater in the experimental group, followed by the placebo group and the control group, as shown in table 2.

**Table 1. Comparison of maximum, minimum and mean blood pressure (BP) values in the three groups by the ANOVA model**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Pre-treatment Mean (SD)</th>
<th>Post-treatment Mean (SD)</th>
<th>p-value*</th>
<th>Treatment</th>
<th>Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum BP</td>
<td>Reiki</td>
<td>161.00(19.03)</td>
<td>147.36(19.4)</td>
<td>&lt; 0.001</td>
<td>0.004</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Placebo</td>
<td>151.23(9.27)</td>
<td>146.82(11.71)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>154.05(13.19)</td>
<td>150.50(15.79)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum BP</td>
<td>Reiki</td>
<td>95.91(6.55)</td>
<td>88.18(10.53)</td>
<td>&lt; 0.001</td>
<td>0.006</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Placebo</td>
<td>91.82(5.68)</td>
<td>90.00(6.36)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>97.27(8.41)</td>
<td>95.23(10.17)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean BP</td>
<td>Reiki</td>
<td>128.45(10.75)</td>
<td>117.77(12.72)</td>
<td>&lt; 0.001</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Placebo</td>
<td>121.52(5.44)</td>
<td>118.41(7.96)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>125.66(9.61)</td>
<td>122.66(11.78)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*ANOVA for repeated measures

**Table 2. Maximum, minimum and mean blood pressure (BP) values before and after the intervention in the three groups**

<table>
<thead>
<tr>
<th>Group</th>
<th>Maximum BP before</th>
<th>Maximum BP after</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reiki</td>
<td>161.0</td>
<td>147.4</td>
<td>13.6</td>
</tr>
<tr>
<td>Placebo</td>
<td>151.2</td>
<td>146.8</td>
<td>4.4</td>
</tr>
<tr>
<td>Control</td>
<td>154.0</td>
<td>150.5</td>
<td>3.5</td>
</tr>
<tr>
<td>Reiki</td>
<td>95.9</td>
<td>88.2</td>
<td>7.7</td>
</tr>
<tr>
<td>Placebo</td>
<td>91.8</td>
<td>90.0</td>
<td>1.8</td>
</tr>
<tr>
<td>Control</td>
<td>97.3</td>
<td>95.2</td>
<td>2.1</td>
</tr>
<tr>
<td>Reiki</td>
<td>128.4</td>
<td>117.8</td>
<td>10.6</td>
</tr>
<tr>
<td>Placebo</td>
<td>121.5</td>
<td>118.4</td>
<td>3.1</td>
</tr>
<tr>
<td>Control</td>
<td>125.6</td>
<td>122.8</td>
<td>2.8</td>
</tr>
</tbody>
</table>
Discussion

The sample size may have not described the effect of all the involved variables, which was considered a limitation of the study results. However, the result contributes to analyze the effect of complementary therapies on episodes of arterial hypertension.

The average age of volunteers is within the age group described in the literature of patients with hypertension. Usually, women are the ones that most seek medical attention, but as both genders are affected by hypertension, it is not surprising that in this study there was a large presence of men, corresponding to approximately 36.4% of the sample.

A decrease in blood pressure was expected in the three groups, with different gradations between the greater and the smaller reduction for the experimental, placebo and control groups, respectively. The control group rested for 20 minutes, and it is known that resting may help in lowering blood pressure. The placebo group received a mock Reiki and although the person responsible for the intervention was not initiated in the Reiki technique, she emits energy, as all living beings do. Finally, the experimental group received the Reiki technique, which resulted in greater decrease in blood pressure as expected in the hypothesis, corroborating the earlier presented study.

The reduction in blood pressure can result from the energy balance of the body and the vagal action of the technique that facilitates homeostasis, which is an assumption shared by other authors.

The intervention time was set as 20 minutes, because it is known that the lack of time is a factor that causes people not to participate in researches. And although in one of the studied articles the intervention duration had a statistically significant correlation with the decrease in blood pressure, we observed reduction even with the 20 minutes established in the present study.

Forming a placebo group to increase the scientific evidence of the study results was not an easy task. We all have energy that is in constant interaction with the environment and surrounding people. Thus, it takes a lot of awareness and self-knowledge to avoid this energy from suffering influence from the environment and direct it in situations where others are in need of energy, which is a frequent fact in health institutions.

Patients who had not received the Reiki technique were invited to return and try it. On this occasion, the initial and final blood pressure was also measured, and the fact that in most people the initial blood pressure was lower than at the time of the study (when volunteers had a medical consultation) called the attention. This reinforces the concept of the white coat syndrome.

Randomized and double-blind studies with energy and integrative practices that concomitantly take care of emotional dimensions step into a recent paradigm in the line of research based on evidence.

More research is needed, both to strengthen the results of this investigation, as to expand knowledge and clarify other points, like the minimum time needed to benefit from the technique and the lasting of results.

Conclusion

Reiki had a positive effect on the reduction of abnormal blood pressure, suggesting to be a complementary technique for the control of hypertension.

Acknowledgements

Thanks to Carmem Luisa Pelosini Mazelli for the collaboration and management, to the staff of the institute where data collection was carried out, and to the statistician Bernardo dos Santos for performing the data analysis.

Collaborations

Salles LF and Vannucci L contributed to the project design, implementation research, discussion of the data and drafting and revision of the article. Silva MJPS collaborated with the project design, data discussion, drafting and revision of the article and Salles A with implementation of the research, discussion of the data and writing the article.
References


7. Conselho Federal de Enfermagem. Resolução COFEN 197. [Internet].


Craniocerebral trauma in motorcyclists: relation of helmet use and trauma severity

Traumatismos craniocerebrais em motociclistas: relação do uso do capacete e gravidade

Viviane da Cunha Dutra¹
Rita Catalina Aquino Caregnato¹,²
Maria Renita Burg Figueiredo¹
Daniela da Silva Schneider¹

Abstract

Objective: Relating the helmet use with the severity of craniocerebral trauma in injured motorcyclists treated at a trauma hospital.

Methods: A cross-sectional, retrospective study. The study population consisted of 188 records of service to injured motorcyclists in a four-month period. The Glasgow Coma Scale was used to characterize the severity of trauma.

Results: The profile is 84.6% of males and 55.3% aged between 18 and 29 years. Regarding the use of helmet at the time of the accident, 51.6% used, 6.4% did not use, 17.6% used it inappropriately, and there were no records in 24.5%. Among the 51.6% of motorcyclists who used the protective gear, 86.6% had mild craniocerebral trauma, 12.4% had moderate, and 1% severe. The most serious injuries occurred in motorcyclists in which there were no records on helmet use.

Conclusion: The motorcyclists who used the helmet, had mild craniocerebral trauma in 44.7% of cases, moderate trauma in 6.4%, and severe trauma in 0.5%. Victims without records of the situation of helmet use had severe trauma (p≤0.000).

Keywords
Accidents, traffic; Emergency medical services; Brain injuries; Motorcycle

Descritores
Acidentes de trânsito; Serviços médicos de emergência; Traumatismos craniocerebrais; Motocicletas

Submitted
July 3, 2014
Accepted
July 29, 2014
Introduction

In recent years, the economic stability in Brazil enabled the growth of various sectors producing consumer goods, with a 250% increase in the automotive, motorcycle and truck market.\(^{(1)}\) In this context of expansion, the increase in the production of cars and motorcycles is found not only in Brazil but worldwide.\(^{(2-5)}\)

The use of motorcycle as a means of transportation and labor is a phenomenon caused by the easiness in purchasing and maintaining it, combined with its agility, what explains the growth of sales in this market.\(^{(6)}\) The increasing number of vehicles, especially motorcycles, traveling in cities and highways of the country brought negative consequences, as increased occurrences and a large number of accident victims.\(^{(2,7)}\)

The Brazilian traffic is one of the most dangerous in the world, with an accident for every 410 vehicles in circulation, while in Sweden the ratio is 1/21,400 vehicles. These numbers reflect a problem of serious consequences for society, considering the morbidity, such as partial or total disability, in addition to result in high costs.\(^{(8)}\) Traffic accidents cost the public coffers around R$ 28 million per year, not counting the indirect costs.\(^{(1,3)}\)

Accidents that victimize motorcyclists are a public health problem of great magnitude and transcendence, with strong impact on morbidity and mortality of the population. On the set of injuries from external causes, the craniocerebral trauma stands out in terms of magnitude, especially as a cause of death and disability particularly for productive young people.\(^{(2,9)}\)

The initial evaluation of patients who are victims of craniocerebral trauma includes the Glasgow Coma Scale, data related to the accident and computerized tomography. This scale determines the severity of craniocerebral trauma by quantifying the neurologic findings that result from the score sum of the eye opening assessment, verbal response and motor response, evaluating the depth and clinical duration of unconsciousness and coma.\(^{(10)}\)

The use of safety equipment, especially the helmet, is an important factor to alleviate the implications resultant of a motorcycle accident, which is observed when the victim receives emergency care. Hence, the correct use of this protection item is essential. The helmet aims to cushion the shock from the impact.\(^{(11)}\)

In a motorcycle collision, the riders are thrown from the vehicle. The movement of their heads forward is interrupted when hitting an obstacle, but the brain continues until hitting the inside of the skull and then bounces back, reaching the opposite side, which may result in a minor or fatal injury.\(^{(11)}\) Motorcyclists who do not wear helmets are at a much higher risk of traumatic injuries in the head and brain, or a combination of them. Helmets create an additional protective layer for the head by protecting users from some of the most severe forms of traumatic brain injury.\(^{(11)}\) Therefore, victims of motorcycle accidents suffer fewer injuries with the use of protective helmets, reducing the risk of injuries in the head by two thirds, and by half in the cervical spine.\(^{(3)}\)

The leading cause of death among users of motorcycles and bicycles are injuries to the head and neck. In European countries, head injuries contribute with roughly 75% of deaths among users of motorized two-wheelers; in some countries of low and middle-income, it is estimated that head injuries are responsible for 88% of deaths. Fractures of the nose, jaw, sinking of the face and skull, and injuries to the eye and dental arch are among the most common occurrences.\(^{(11)}\)

Given this context, arose the interest in investigating the issue: Is the severity of craniocerebral trauma related with the helmet use in motorcycle accidents? In order to answer the question of research was defined the objective of correlating the helmet use with the severity of craniocerebral trauma, by using the Glasgow Coma Scale in injured motorcyclists treated at a trauma hospital.

Methods

This is a quantitative retrospective cross-sectional study carried out in the emergency room of a trau-
ma hospital located in Porto Alegre / RS, Brazil. This institution is a reference in trauma in the north region of the city, and part of the Unified Health System (SUS - Sistema Único de Saúde).

The population consisted of records of patients victims of motorcycle accidents treated at the hospital emergency room with a diagnosis of craniocerebral trauma, between 01/10/2012 and 31/01/2013. The sample considered all the patients admitted in the emergency hospital during the study period defined for the survey. Inclusion criteria were records of patients injured by motorcycle with a medical diagnosis of craniocerebral trauma, regardless if there were records on helmet use. In this service, an average of 200 victims of motorcycle accidents are assisted every month, of which 25% have craniocerebral trauma. There was no need for sample size calculation, since all records of patients who entered the hospital because of a motorcycle accident with craniocerebral trauma in the study period were selected (100%), resulting in 188 records. A spreadsheet in Excel was elaborated as a tool for data collection with the following variables: age, gender, helmet use, severity of craniocerebral trauma and position occupied in the vehicle.

The Statistical Package for the Social Sciences version 13.0 was used for analysis of the collected data. Data were analyzed using tables and simple percentages. The Fisher’s exact test was used for the verification of significant association between the variables. In the analysis of results, the maximum level of significance assumed was 5% (p≤0.05).

The development of the study met national and international standards of ethics in research involving human beings.

**Results**

In relation to the profile of the sample, 84.6% of the 188 patients were male, and 55.3% were aged between 18 and 28 years.

Regarding the use of helmet, in 51.6% of the sample there were records of helmet use; in 17.6%, there were records of inappropriate use because the equipment fell off at the time of the accident; and in 6.4%, the helmet was not used. It is noteworthy that in 24.5% of cases there was no record whether the equipment was used or not.

The distribution of victims of motorcycle accidents with craniocerebral trauma in relation to helmet use and the variables age, gender, position of the motorcyclist, site of trauma, and injury severity are presented in table 1.

It is observed that the age group between 18 and 28 years accounted for most of the victims who lost the equipment during the crash.

The 188 victims suffered 277 traumas to the head region, corresponding to more than one trauma per patient. They all had head trauma, as well as trauma to the jaw, face and neck. Eye and dental trauma also occurred, though less frequently. The lesions on the face can be associated with no use of protective equipment or improper use. There was also the occurrence of nose and jaw trauma in victims who were using the helmet. The trauma to the jaw was more frequently observed in victims who used the helmet improperly. Trauma to the face and neck were more common in victims with no records of protective equipment use.

Through the results of the Fisher’s exact test, it was found a significant association of helmet use with the Glasgow variable. For this variable, it was observed that patients wearing helmets were associated with the mild rating (13-15 points); those in which helmet use was considered inappropriate were associated with the moderate score (9-12 points); and the severe rating (3-8 points) was associated with those in which there was no record of helmet use (p≤0.000).

Table 2 presents the victims of motorcycle accidents with craniocerebral trauma in relation to the severity of trauma assessed by the Glasgow Coma Scale with the following variables: month, age, gender, position, and site of trauma.

Regarding the severity of craniocerebral trauma suffered by the victims, 141 (50.9%) were classified as mild; 40 (14.4%) as moderate; and seven (2.5%) as severe. The predominant age group of victims...
Craniocerebral trauma in motorcyclists: relation of helmet use and trauma severity

In relation to the position in the vehicle, it was found that 83% of victims were drivers and 17% were in the backseat. In total, were identified 21 victims of mandibular fractures (11%) among drivers; 15 with face trauma (8%); 14 with nose trauma (7%), followed by neck trauma in 13 (7%), denoting the inappropriate use of protective equipment.

### Table 1. Distribution of victims of motorcycle accidents with craniocerebral trauma in relation to helmet use

<table>
<thead>
<tr>
<th>Variables</th>
<th>Category</th>
<th>Helmet use</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes n(%)</td>
<td>No n(%)</td>
<td>Inappropriate n(%)</td>
<td>Not informed n(%)</td>
<td>p-value</td>
</tr>
<tr>
<td>Age</td>
<td>7 – 17</td>
<td>9(4.8)</td>
<td>2(1.0)</td>
<td>1(0.5)</td>
<td>3(1.6)</td>
<td>0.332&lt;sup&gt;NS&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>18 – 28</td>
<td>50(26.6)</td>
<td>6(3.2)</td>
<td>22(11.7)</td>
<td>26(13.9)</td>
<td>0.554&lt;sup&gt;NS&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>29 – 39</td>
<td>29(14.9)</td>
<td>3(1.6)</td>
<td>3(1.6)</td>
<td>9(4.8)</td>
<td>0.118&lt;sup&gt;NS&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>40 – 50</td>
<td>7(3.7)</td>
<td>1(0.5)</td>
<td>6(3.2)</td>
<td>7(3.8)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>51 – 60</td>
<td>3(1.6)</td>
<td>--</td>
<td>1(0.5)</td>
<td>1(0.5)</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>82(43.6)</td>
<td>9(4.8)</td>
<td>30(16.0)</td>
<td>38(20.2)</td>
<td>0.000*</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>15(8)</td>
<td>3(1.6)</td>
<td>31(16)</td>
<td>8(4.2)</td>
<td></td>
</tr>
<tr>
<td>Position</td>
<td>Driver</td>
<td>82(43.6)</td>
<td>11(5.9)</td>
<td>30(16)</td>
<td>33(17.5)</td>
<td>0.118&lt;sup&gt;NS&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Backseat</td>
<td>15(8)</td>
<td>1(0.5)</td>
<td>31(16)</td>
<td>13(6.9)</td>
<td></td>
</tr>
<tr>
<td>Trauma</td>
<td>Skull</td>
<td>97(35.0)</td>
<td>12(4.3)</td>
<td>33(11.9)</td>
<td>46(16.6)</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Eye</td>
<td>3(1.1)</td>
<td>2(0.7)</td>
<td>2(0.7)</td>
<td>3(1.1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nose</td>
<td>9(3.2)</td>
<td>1(0.4)</td>
<td>3(1.1)</td>
<td>3(1.1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jaw</td>
<td>10(3.6)</td>
<td>3(1.1)</td>
<td>6(2.2)</td>
<td>4(1.4)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Face</td>
<td>4(1.4)</td>
<td>2(0.7)</td>
<td>3(1.1)</td>
<td>8(2.8)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dental</td>
<td>3(1.1)</td>
<td>3(1.1)</td>
<td>1(0.4)</td>
<td>2(0.8)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neck</td>
<td>5(1.8)</td>
<td>--</td>
<td>3(1.1)</td>
<td>6(2.2)</td>
<td></td>
</tr>
<tr>
<td>GLASGOW</td>
<td>Mild</td>
<td>84(44.7)</td>
<td>6(3.3)</td>
<td>14(7.4)</td>
<td>37(19.7)</td>
<td>0.000*</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>12(6.4)</td>
<td>5(2.7)</td>
<td>18(9.5)</td>
<td>5(2.7)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Severe</td>
<td>1(0.5)</td>
<td>1(0.5)</td>
<td>1(0.5)</td>
<td>4(2.1)</td>
<td></td>
</tr>
</tbody>
</table>

NS – not significant; N/A – Not applicable as this is a multiple answer variable

### Table 2. Distribution of victims of motorcycle accidents in relation to the severity of craniocerebral trauma by the Glasgow Coma Scale

<table>
<thead>
<tr>
<th>Variables</th>
<th>Category</th>
<th>Mild n(%)</th>
<th>Moderate n(%)</th>
<th>Severe n(%)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7 – 17</td>
<td>136(69)</td>
<td>20(1.1)</td>
<td>--</td>
<td>0.550&lt;sup&gt;NS&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>18 – 28</td>
<td>76(40.1)</td>
<td>23(12.2)</td>
<td>5(2.7)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>29 – 39</td>
<td>35(18.6)</td>
<td>7(3.7)</td>
<td>5(2.7)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>40 – 50</td>
<td>15(8.0)</td>
<td>5(2.7)</td>
<td>1(0.5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>51 – 60</td>
<td>2(1.1)</td>
<td>3(1.6)</td>
<td>1(0.5)</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>119(63.3)</td>
<td>33(17.5)</td>
<td>--</td>
<td>0.723&lt;sup&gt;NS&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>22(11.7)</td>
<td>7(3.7)</td>
<td>7(3.7)</td>
<td></td>
</tr>
<tr>
<td>Position</td>
<td>Driver</td>
<td>114(60.6)</td>
<td>35(18.6)</td>
<td>--</td>
<td>0.399&lt;sup&gt;NS&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>Backseat</td>
<td>27(14.4)</td>
<td>5(2.7)</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>Trauma</td>
<td>Skull</td>
<td>141(50.9)</td>
<td>40(14.4)</td>
<td>7(2.5)</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Eye</td>
<td>7(2.5)</td>
<td>2(0.8)</td>
<td>1(0.4)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nose</td>
<td>15(5.4)</td>
<td>--</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jaw</td>
<td>13(4.7)</td>
<td>9(3.2)</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Face</td>
<td>16(5.8)</td>
<td>1(0.4)</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dental</td>
<td>3(1.1)</td>
<td>3(1.1)</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neck</td>
<td>15(5.4)</td>
<td>2(0.8)</td>
<td>--</td>
<td></td>
</tr>
</tbody>
</table>

NS – not significant; N/A – Not applicable as this is a multiple answer variable

with mild, moderate and severe trauma was also between 18 and 28 years.

In relation to the position in the vehicle, it was found that 83% of victims were drivers and 17% were in the backseat. In total, were identified 21 victims of mandibular fractures (11%) among drivers; 15 with face trauma (8%); 14 with nose trauma (7%), followed by neck trauma in 13 (7%), denoting the inappropriate use of protective equipment.

#### Discussion

Although the results of this research are limited by a small sample, not comprehensive of an annual assessment, data are considered to be representative of the studied phenomenon, contributing to the clarification of the issue, and pointing out evidence to confirm results of other researches. Nurses participate in health care from primary to tertiary levels.
The results support the planning and development of preventive and recovery actions for the nursing practice and may result in decreased morbidity and mortality. When the accident occurs, nurses provide care in all stages, engaging from pre-hospital care to rehabilitation. Therefore, with more evidences, the actions both on prevention and care to victims will be better, since motorcyclists have the second highest rate of hospitalization due to traffic accidents, second only to pedestrians.\textsuperscript{(12)}

A surprising aspect of this research refers to the fact that although in Brazil the legal minimum age for obtaining a motorcycle license is 18 years, five of the drivers were aged between 16 and 17 years.\textsuperscript{(13)}

The profile of the study sample was of 84.6% male, mostly aged between 18 and 28 years, which is in line with other studies showing high rates of accidents involving male motorcyclists,\textsuperscript{(4,5,14,15)} and their involvement in traffic accidents for being drivers of vehicles in possession of a license, who have learned to drive when underage.\textsuperscript{(16)} The age between 18 and 28 years is primarily related with driving permission, making this a high-risk population by the inexperience in driving, the impulsive characteristic of the age, and other factors such as consumption of alcohol and other drugs, together with poor supervision by the State.\textsuperscript{(15)} A study carried out in the city of Fortaleza-CE with victims of motorcycle accidents had similar results, with predominance of the male gender, and age range between 18 and 29 years. Youngsters are more frequent victims because they present certain sociocultural behaviors, assuming greater risk in driving.\textsuperscript{(15)}

When relating the variables investigated in this study, a more significant relationship between helmet use and the classification of craniocerebral trauma became evident. The majority of victims (51.6\%) which used the equipment effectively was affected by less severe trauma, presenting the following craniocerebral trauma classification, according to the Glasgow Coma Scale: 44.7\% mild, 6.4\% moderate and 0.5\% severe. In cases where the victim used the helmet inappropriately, the traumas were on average 10.7\% mild, 12.2\% moderate and 1\% severe, observing the double of moderate and severe trauma percentages in these victims. The Glasgow severe classification was higher in those victims in which there was no recording of information on helmet use at the time of the accident. The omission of information about the use of the helmet at the accident site is supposedly related to future legal barriers arising from the record of non-use of protective equipment.

A study carried out in Australia\textsuperscript{(17)} found a reduction of 66\% in the probability of intracerebral lesions for motorcyclists and cyclists who wore helmets. In another study conducted in Taiwan,\textsuperscript{(18)} motorcyclists without helmets were more than four times more likely to suffer head injuries, and ten times more prone to brain damage.

A study carried out in the state of Pernambuco, in Brazil, showed that the head/neck were the second most affected body part in motorcycle drivers treated in the emergency room after the accident, while the effective use of helmet significantly reduced the severity of these lesions.\textsuperscript{(14,19)} In another study, in the state of Rio Grande do Norte (also in Brazil), it was found that motorcycles were responsible for 53.2\% of the accidents, with 38.8\% of motorcyclists with mild and moderate lesions, and 83.2\% with mild trauma.\textsuperscript{(20)} These data corroborate the numbers found in this study and emphasize the importance of using protective equipment for preventing lesions of greater severity.

Researchers in Michigan, United States, studied the impact of helmet use on motorcycles drivers with hospital costs. Despite the mandatory helmet use in this state, 19\% of drivers were not using at the time of collision. Bikers without helmets suffered more injuries in the head and neck, and had the highest rates of serious injury.\textsuperscript{(11)} In this study, 51.6\% were using the equipment and 83\% were motorcycle drivers. In a Brazilian study carried out in Pernambuco, 80.1\% were using the helmet;\textsuperscript{(14)} half the drivers in Kenya, and 20\% of the backseat passengers wore helmets;\textsuperscript{(5)} in Jamaica 49.9\% were wearing helmets at the time of the accident.\textsuperscript{(4)} As Brazil is a country with great cultural differences, it is observed that the percentages found in the present study, carried out in a city in the southern region, were different from the percentages found in...
in another study held in the northeast region; the rates found in this study are more similar to numbers found in Kenya and Jamaica.

In this research, in addition to patients presenting craniocerebral trauma, 89 associated injuries also occurred: eye, nose, jaw, face, dental and neck, and the victims who were not wearing a helmet, or lost it, had two or more traumas. The mandatory and proper use of the safety device (helmet) by motorcyclists contributes with lower incidence of soft tissue injuries and fractures of the face,\(^\text{(14,20)}\) which was confirmed in this study.

Failure to use helmet or its improper use constitute an illegal act, since from 1982, helmet use became mandatory according to the Brazilian legislation. The Article 244 of the Brazilian Traffic Code, considers the nonuse of helmet a very serious offense, with penalties such as fines and suspension of driving rights, and as an administrative measure, the retention of the National Driver’s License (CNH - Carteira Nacional de Habilitação).\(^\text{(13)}\) Safety equipment such as helmets are not often used by motorcyclists, making education and supervision measures necessary.\(^\text{(12)}\)

**Conclusion**

This study allowed relating the helmet use with the severity of craniocerebral trauma of injured motorcyclists who received care at a reference center in trauma. The results showed 51.6% of motorcyclists wore helmets at the time of accident. There was a significant association between the Glasgow Coma Scale evaluation and the severity of craniocerebral trauma, showing that among bikers who correctly used the helmet 44.7% had mild trauma, 6.4% had moderate and severe trauma occurred in 0.5%. Victims without records of use/nonuse of helmet had severe trauma (\(p \leq 0.000\)).

The highest prevalence occurred among males, aged between 18 and 28 years, and who occupied the position of motorcycle drivers.

It is necessary to expand educational strategies associated with effective public policies and more rigorous supervision of helmet use, in order to reduce the high rates of accidents involving motorcyclists without helmet use, since all studies show its effectiveness by attenuating the severity of injuries. It is also important to raise awareness of health professionals in relation to recording the use of helmet at the time of pre-hospital care.

**Acknowledgements**

We thank the institutional support received for the study.

**Collaborations**

Dutra VC; Caregnato RCA; Figueiredo MRB and Schneider DS declare to have contributed to the project design or analysis and interpretation of data; in drafting the article or critical revision of the relevant intellectual content; and final approval of the version to be published.

**References**

9. Feitosa MS, Faria AL, Figueira MS, Nakamiti MC, Santos TC. Traumatismo cranioencefálico: morbidade e a mortalidade [Internet]. Paraíba:


Nursing actions in homecare to extremely low birth weight infant

Ações de enfermagem na assistência domiciliar ao recém-nascido de muito baixo peso

Anelize Helena Sassá¹
Maria Aparecida Munhoz Gaíva²
Ieda Harumi Higarashi³
Sonia Silva Marcon³

Abstract

Objective: To describe nursing actions implemented in a home context for the needs presented by the families of extremely low birth weight newborns.

Methods: This convergent care research was carried out with nine families who were visited in their home. For data collection we used semi-structured informal interviews and observation of participants during the first six months after hospital discharge. Data were analyzed using the thematic modality.

Results: Care needs of families during daily home care were related mainly to doubts and insecurities specific to extremely low birth weight premature babies and the care and guidance required for follow-up of newborns in general.

Conclusion: Nursing actions in a home context involve child evaluation, guidance, demonstrations, clarifications, referrals, and stimulation for puericulture follow-up with specialists. These actions also include facilitating family empowerment and gradual autonomy of care.

Keywords
Pediatric nursing; Maternal-child nursing; Infant, very low birth weight; Home nursing; Nursing care

Corresponding author
Sonia Silva Marcon
Colombo Avenue, 5790, Maringá, PR, Brazil. Zip Code: 87020-900
soniasilva.marcon@gmail.com

DOI
http://dx.doi.org/10.1590/1982-0194201400080

¹Secretaria Municipal de Maringá, Maringá, PR, Brazil.
²Universidade Federal de Mato Grosso, Cuiabá, MT, Brazil.
³Universidade Estadual de Maringá, Maringá, PR, Brazil.

Conflicts of interest: none reported.
Introduction

Premature infants with extremely low birth weight (≤1500g) are becoming more frequent. Worldwide, almost 14 million children are born prematurely every year, meaning that more than 1 in 10 births are pre-term.\(^1\) This is mainly due to improvements in obstetric care and the increase in multiple gestations stemming from more access to and use of assisted reproduction.\(^2\)

The health of these babies becomes compromised soon after birth. They are exposed to a variety of risks related to their weight and gestational birth age; they require intensive care, as well as systematic follow-up of growth and development for long periods. This follow-up helps improve their prognosis in the face of increased vulnerability due to chronic conditions from childhood to adolescence.\(^3,4\)

Although technological advances in neonatal care have helped improve survival of even smaller and more immature babies, follow-up of these children after discharge is indispensable.\(^5\) However, in Brazil, this follow-up is limited and little is known about how often it occurs; in addition, few studies have addressed the interventions implemented for these babies and their families at home.\(^6\)

The importance of hospital care for these children, care in daily life, daily duties at home, and regular, multidisciplinary follow-up after hospital discharge are critical for satisfactory growth and development, despite the limitations that might exist.

For this reason, it is fundamental that health professionals identify the needs of low birth weight children, state goals for their care, and support mothers and families with demands of home care.\(^7\) In the home context, nurses have an important role for providing guidance and support to the family, particularly the mother, for daily life care, and these professionals must ensure individualized, continuing care that is adapted to the family’s specific needs.

Because care after hospital discharge is fundamental for maintenance of the baby’s health, this study sought to describe nursing actions implemented in the homes of families of extremely low birth weight newborns.

Methods

This descriptive study with a qualitative approach used a convergent care research method.\(^8\) Participants were nine families of extremely low birth weight newborns from the surveillance program of Baby at Risk in May to October 2010. The study was conducted in the city of Maringá, state of Paraná, in the southern region of Brazil. We included babies whose birth weight was ≤1,500g.

Data were collected from June 2010 to August 2011 by informal interviews and observation of participants during home visits in the first 6 months after hospital discharge that were scheduled according to care plan or at least once a month. The first contacts with families occurred during babies’ hospitalization, over the phone, at a hospital visit, or at home. Visits were previously scheduled according to the established care plan or at least one a month.

Follow-up and nursing care were done in person, over the phone, and electronically and was based on needs that emerged during each contact. Activities covered included guidance, clarification of doubts, management of breastfeeding, demonstration of care and procedures, physical exams, and assessment of child’s growth and development.

Perceptions concerning the doubts and needs of families and nursing management observed in the families’ presence were recorded in a field diary and were submitted to content analysis (thematic modality). Some of notes in the diary are used here to represent inferences from data analysis. Development of this study followed all national and international ethical and legal aspects of research on human subjects.

Results

The 10 babies in this study were born via cesarean deliver, weighed 655g to 1,479g, and were maintained in a neonatal intensive care unit for 15 to 109 days. All mothers were allowed to assume the care of their babies with regard to feeding and hygiene during hospitalization.
Content analysis of nursing care records identified the category “Clarifying doubts, supporting families in daily life care”. Families of extremely low birth weight babies shared the same idea: that the child, because of the birth conditions and long term hospital stay, must receive care that differs from that given to other children in the family in order to protect them and address their special needs for attention and care.

In the first days after discharge, families were concerned about continuing the care that the baby received during hospitalization, protecting the baby from infections, and identifying possible intercurrences early (italicized text was obtained from the nurses’ field notes; the identified theme is also listed).

Because of the fragility of babies and intercurrences that had already occurred, mothers were insecure and afraid of not perceiving whether the child was not well. They did their best to be awake during night and to be constantly alert. (Family strength and carefulness, first days after discharge).

For the anxiety showed by families, guidance was offered to prevent harms and promote health. In addition, for the doubts and experience faced by the families, we created and distributed explanatory pamphlets to help them identify possible signs and symptoms of harms to the baby’s health. Although each family had a specific doubt, pamphlets were produced and distributed to all families participating in the study in order to provide equal benefit with guidance.

Families were concerned about protecting the child from disease through vaccination. Therefore, during all visits, the brochure about child health was verified and parents were guided on the disease prevented by each vaccine, possible vaccine reactions, and eventual side effects. Vaccine reactions, such as fever, reduced appetite, pain and irritation at the injection site, and apathy, were common in the babies, and parents requested help from the nurses regarding what actions they should take to prevent or attenuate such reactions:

The mother asked if the second dose of the vaccine would cause more reactions and what she must do if they appeared. (Family carefulness, 3 months and 22 days after discharge).

The stimulus to obtain follow up of the baby with a specialist was also a main focus of nursing homecare. The nurses informed the families about the importance of these follow-up and puericulture visits in a basic health unit for late diagnosis, treatment, and prevention of dysfunction associated with the extremely low birth weight and high-complexity therapy used during hospitalization:

Although the mother already had the referral for ophthalmology consultation, she still had not scheduled the medical visit. She did not know the risks of retinopathy in prematurity. (Family carefulness, 23 days after discharge).

In addition, it was often necessary to guide families to help them to overcome barriers to scheduling medical follow-ups due to difficulty accessing the service and lack of training of professionals that provide support in basic care units:

The mother went to the basic health unit to schedule ophthalmoscopy [...] but the nurse thought that the mother was requesting the red reflex test. (Family friendship, 19 days after discharge).

After medical visits, parents felt they needed more clarification concerning information on their babies’ clinical conditions or the exams conducted:

The mother was concerned because on skull ultrasound a ventricular cyst appeared. [...] She wants to understand what that meant. (Family carefulness, 1 month and 14 days after discharge).

In addition, when mothers returned home with a prescription for a new medicine, they did not understand the importance of correctly following the treatment and requested explanations about its effects:

The baby was receiving an inhaled medication six times a day [...] The mother perceived improvement and decided by herself to reduce administration to four times a day. Soon the child returned presenting effort with breathing [...] After that, the mother asked about the reason for those medicines. (Family friendship, 4 months and 20 days after discharge).

In the case of the theme of family love, nursing follow-up at home enabled detection of shortcomings in the treatment prescribed for the baby be-
cause an important medicine, prescribed at hospital discharge, was not being administered:

[...] I found that in some papers of the baby a prescription of phenobarbital – administer 17 drops once a day. I asked why that medicine was not being administered and the mother reported that when she brought the prescription to the health unit pharmacy they said the medicine was to control her anxiety, and she thought it was not necessary because she was feeling well. (Family love, 4 days after discharge).

Mothers’ doubts were present at all follow-up periods, and these doubts were related to issues concerning hygiene/comfort and signs and symptoms presented by the babies. During physical exam and anthropometric measurement of babies conducted at home, mothers, parents and relatives took the opportunity to clarify doubts that emerged during the child’s care. They asked about such issues as fontanelle and sutures, the structure and development of the ears, and changes in the skin:

The mother observed that some parts of the child’s skull were softer [...]. I explained that sutures and fontanelle were still not totally calcified and asked her to touch them in order to understand this better. (Family carefulness, 1 month and 17 days after discharge).

Homecare also served to address families’ requests for support during intercurrences, for evaluations of the babies, for guidance, and for referral for needs detected:

The mother, concerned, called and requested me to go to her house. The baby was vomiting and refused to breastfeed [...]. The diaper had little mucous and small blood spots. [...] I explained to her that something can be affecting her bowel mucus. [...] I instructed her to keep ad libitum breastfeeding and to visit the pediatrician and to continue the observation. The next day, the mother called saying that the pediatrician confirmed all the information I gave her and prescribed only analgesics and observation. (Family affection, two months and eight days after discharge).

On the previous day, the child had apnea, cyanosis and hypotonia during a bath and the mother was very scared [...] I realized that she wanted me to follow up the baby’s bath, and she waited to give a bath to the baby during the home visit. (Family friendship, 21 days after hospital discharge).

Discussion

Limitations of this study are related to the methodological approach and small number of participants. For this reason, the results cannot be extrapolated to other populations.

However, the use of convergent care research, besides constituting a differential approach, enabled us to enhance the comprehension of needs for professional care presented by families of extremely low birth weight infants and possible actions to be developed in the home context. Therefore, our study contributed to nursing practice because it evidenced the need for improvement in nursing actions provided to the follow-up of these infants and their families at home.

The study data showed that mothers and other family members associated extremely low birth weight to a more fragile condition and an increased probability of severe disease even after hospital discharge. This association was the main reason for anxiety, apprehension, and insecurity, which affected families for long periods, and also caused doubts concerning the delivery of care to the babies at home. Hence, in the first day at home after discharge of the baby, families were worried about meeting the needs of the child, especially given what they experienced during hospitalization; these fears facilitated care but did not prevent anxiety related to their baby’s fragility.

Adequate preparation of families for discharge, stimulation and reinforcing the parents’ trust in their ability to take care of the child at home is extremely important.9-11 However, it is imperative that the baby’s clinical picture is stable, that parents have adequate physical and emotional reserves, and that parents have access to a service network that can be easily reached in case of any intercurrence and that offers support for the family to implement home care.12

Families’ doubts in relation to signs and symptoms presented by the baby, the baby’s characteristics, and risks and weakness were related to daily care at home. This home care required that families make continuous decisions that previously were guided by hospital staff. Many parents perceived
that, even after discharge, the baby had health risks and that, despite the advanced clinical stability, the threats of intercurrences and harms persisted\(^{15}\).

In addition, even facing a long period of experience in the hospital environment before discharge, we believe that the mother had gone through enough care situations to guide her in taking care of the child, but the reality at home is quite different. In the hospital the mother has the constant support of professionals, whereas at home she is often alone. Even mothers with other children associate prematurity with fragility of the baby, which triggers the need for specific and differentiated care; such care is possible by the extension of professional support at home.\(^{14}\)

To reduce these situations, guidance on particularities of extremely low birth weight babies was given. The assistance might be provided in a conventional manner that respected the context of the baby’s family and cultural practices. Homecare may favor promotion and protection of physical care and development of these children, who, without a doubt, had higher risks of changes related to birth weight.\(^{15}\)

A study that sought to identify difficulties perceived by mothers with regard to care of low birth weight infants and resources used to address health intercurrences showed that situations interpreted by mothers as “dangerous” were associated with great fear and, for this reason, constituted a reason to seek professional support.\(^{7}\) In this context, the planned discharge along with family and home visits of nurses helped reduce anxiety and fear.\(^{16}\)

Home care is based on interaction among health professionals, patients and their relatives, and it seeks to improve the autonomy and highlight skills of individuals by using educational actions, demonstration and/or execution of procedures in the families environment – their homes.\(^{17,18}\) In patients’ home, the professionals can understand the reality of the supported individuals, recognize their problems and needs\(^{17}\) and, in this way, adapt the knowledge and technical procedures to home care.

In case of extremely low birth weight babies, the constant contact with the family at home enables the nurse to be closer to the family,\(^{19}\) so that the professional can plan assistance that is based on the real needs of each family and is consonant with the context in which the child and family live. It can also strengthen the bond between parents and baby.\(^{20}\) Our study results highlighted that nurse actions to support, guide, and assist families at home reduced the insecurity and fear that are common within the first months after discharge. As a result, the nurses strengthened the families to provide the specific care that these babies need.

Reports in the literature emphasize that families felt more prepared and more secure in taking care of premature baby when they receive adequate support of a multidisciplinary team.\(^{21}\) Indeed, home care enabled the creation of strong bonds and mutual trust between professionals and families, thereby reducing suffering and increasing support of the family,\(^{21}\) offering strength and support for care,\(^{13}\) and helping reduce the morbidity and mortality of extremely low birth weight infants.

A randomized study in families of premature babies that conducted home visits during the first year of life showed long-term benefits of professional care at home related to lower risk of anxiety among caregivers when children already had reached preschool age; in addition, the intervention showed positive effects on the behavior and mental status of children.\(^{22}\)

Nursing homecare in the studied context enabled families to feel secure and trust the care delivery by nurses. The bond enabled mothers to feel free to request professional support. When mothers felt supported to face problems that appeared while caring for the baby at home, families experienced a new opportunity of learning that probably would be not possible at outpatient unit visit.

In our study, we found that nurses who availed themselves of information obtained from families during medical visits used a more accessible posture and language, answered questions that emerged, and enabled parents to better comprehend what was occurring with the baby. When mothers became calmer and better informed as a result of the nurses’ approach, they were able to be more attentive to identifying any specific care need.
Nurse’s sensibility and listening were important to identify families’ anguish. The availability of time to share care at home between nurse and family and the valorization of anxieties, doubts, and uncertainty enabled nurses to better understand the meaning of the experience according to the family’s point of view. In addition, it allowed nurses to plan actions with families, reduce their anguish, and eliminate difficulties found during care after the baby’s hospital discharge. Therefore, nursing homecare constitutes a key component for intervention for those taking care of extremely low birth weight babies.\(^{(10)}\)

This support is extremely important because families of extremely low birth weight babies, as a unit responsible for care, need to feel supported and protected after leaving the hospital environment in order to transition from the institutional environment to home environment, and from professional care to family care. Such transition must be done in a safe and calm manner, moderated by the presence and action of nurses in this new context of life and care.

**Conclusion**

Nursing actions in the home context involved the assessment of the child, guidance, demonstrations, clarifications, referrals, and stimulation for puericulture follow-up and consultation with specialists. They also involve an approach that facilitates empowering the family and gradual autonomy in delivery of care.

**Acknowledgements**

To the National Council for Scientific and Technological Development (CNPq) for the finance support given to research project and for the scholarship to Sonia Silva Marcon and to the Coordination for the Improvement of Higher Education Personnel (CAPES) for the scholarship given to Master Degree Studies of Anelize Helena Sassá.

**Collaborations**

Sassa AH declare that contributed to the project design, executing the research and drafting the manuscript. Gaiva MAM and Higarashi IH contributed to critical revision of important intellectual content. Marcon SS participated in project design, executing the research, critical revision of important intellectual content and final approval of the version to be published.

**References**

Nursing actions in homecare to extremely low birth weight infant


