CUIDADO É FUNDAMENTAL

Universidade Federal do Estado do Rio de Janeiro · Escola de Enfermagem Alfredo Pinto

INTEGRATIVE REVIEW OF THE LITERATURE

DOI: 10.9789/2175-5361.2016.v8i3.4629-4635

Produção científica da enfermagem acerca do cuidado de si: uma revisão integrativa

Scientific production of nursing about self-care: an integrative review

Producción científica de la enfermería a cerca del cuidado propio: una revisión integradora

Jamila Geri Tomaschewski-Barlem¹, Diéssica Roggia Piexak², Edison Luiz Devos Barlem³, Valéria Lerch Lunardi⁴, Aline Marcelino Ramos⁵.

How to quote this article:

Tomaschewski-Barlem JG; Piexak DR; Barlem ELD; et al. Scientific production of nursing about self-care: an integrative review. Rev Fund Care Online. 2016 jul/set; 8(3):4629-4635. DOI: http://dx.doi.org/10.9789/2175-5361.2016.v8i3.4629-4635

RESUMO

Objetivo: conhecer a produção científica da enfermagem acerca do cuidado de si. **Método**: realizou-se uma revisão integrativa, cujos dados foram coletados na base de dados Literatura Latino-Americana e do Caribe em Ciências da Saúde e na biblioteca Scientific Eletronic Library Online através dos descritores: enfermagem e cuidado de si. Foram encontrados 18 artigos que compuseram o *corpus* de análise, publicados entre 2003 e 2013. Para a análise dos dados utilizou-se de um quadro contendo variáveis relevantes para a caracterização dos artigos e da análise textual discursiva. **Resultados:** emergiram quatro categorias, as quais retratam o cuidado de si, o descuidado de si, o cuidado de si na formação profissional e o cuidado de si como princípio ético do trabalho da enfermagem. **Conclusão**: os achados deste estudo poderão contribuir para a produção de conhecimentos em enfermagem, ampliando a valorização do cuidado de si para o cuidar do outro.

Descritores: enfermagem; ética; saúde do trabalhador.

¹ Nurse, Ph.D. of the Graduate Program in Nursing (PPGEnf) – Federal University of Rio Grande (FURG), Member of the Study and Research Center in Nursing and Health (NEPES), CAPES/FAPERGS Scholarship. Address: General Osório Street, Rio Grande, Rio Grande do Sul, Brazil – ZIP CODE: 96200300. Telephone: (53) 32338864 – E-mail: jamila_tomaschewski@hotmail.com

² Nurse, Ph.D. of PPGEnf-FURG, Member of the Study and Research Center in Social Entrepreneurship of Nursing and Health, CAPES/REUNI Scholarship. Address: General Osório Street, Rio Grande, Rio Grande do Sul, Brazil – ZIP CODE: 96200300. Telephone: (53) 32338864 - E-mail: diessicap@yahoo.com.br

³ Nurse, Professor of PPGEnf-FURG, Deputy Director of Nursing – FURG. NEPES leader. Address: General Osório Street, Rio Grande, Rio Grande do Sul, Brazil – ZIP CODE: 96200300. Telephone: (53) 32338864 – E-mail: <u>ebarlem@gmail.com</u>

⁴ Ph.D. in Nursing. Professor of PPGEnf/FURG. Scholarship at Research Productivity of CNPq. Researcher of NEPES. E-mail: vlunardi@terra.com.br

⁵ Nurse. Master degree student at PPGEnf. Member of NEPES-FURG. Address: General Osório Street, Rio Grande, Rio Grande do Sul, Brazil. Telephone: (53) 32338864. E-mail: aline-ramos-@hotmail.com

DOI: 10.9789/21755361 . 2016.v8i2.4629-4635 | Tomaschewski-Barlem JC; Piexak DR; Barlem ELD; et al. | Scientific production of nursing...









ABSTRACT:

Objective: to learn about the scientific production of nursing care regarding self-care. **Method:** an integrative review was conducted, data were collected on the basis of Latin American Literature data and Caribbean Health Sciences Library and the Scientific Electronic Library Online, through the descriptors: nursing and self-care. Eighteen articles were found and used to constitute the analysis *corpus*. Such articles were published between 2003 and 2013. For data analysis a table containing relevant variables to the characterization of articles and discursive textual analysis. **Results:** four categories emerged concerning self-care, lack of care, self-care in professional training and self-care as an ethical principle of nursing work. **Conclusion:** the findings of this study may contribute to the production of knowledge in nursing, expanding the appreciation of self-care to care for others.

Descriptors: nursing; ethics; worker's health.

RESUMEN:

Objetivo: conocer la producción científica en la area de enfermería acerca del autocuidado. **Método:** se realizó una revisión integradora, se recogieron datos sobre la base de datos Literatura Latinoamericana y de Caribe en Ciencias de la Salud y en la Biblioteca Scientific Electronic Library Online, a través de los descriptores: enfermería y autocuidado. Se encontraron 18 artículos publicados entre 2003 y 2013 que compusieron el *corpus* de análisis. Para el análisis de los datos se utilizó un cuadro que contiene las variables relevantes para la caracterización de los artículos y análisis del discurso textual. **Resultados:** cuatro categorías surgieron, que retratan el autocuidado, descuido de sí mismo, el cuidado de uno mismo en la formación y el cuidado de uno mismo como un principio ético del trabajo de enfermería. **Conclusión:** los hallazgos de este estudio pueden contribuir con la producción de conocimiento en enfermería, la ampliación de la apreciación del auto-cuidado para cuidar a los demás. **Descriptores:** enfermería; ética; salud del trabajador.

INTRODUCTION

In their actions, workers of nursing include attitudes that require constant reflections in the ethics area, since their practice relates care in multiple dimensions - which requires rethinking attitudes as professionals committed to caring as the essence of doing. Thus, it becomes a priority to understand and appreciate the meaning of self-care as potential for the care of others.¹

Self-care is an ontological condition for nursing, since "offering a significant presence to others, requires an interest, an awareness of their own strengths and weaknesses [...], and also to take the reality in their hands".^{2:75} Health professionals, especially the nursing staff, need to be urged to think and rethink care actions toward others and, undoubtedly, to selfcare in order to provide potential benefits in caring not only for the patients they assist but also to the health team and for themselves.³

However, many times it's noticed that the nursing work is full of situations that seem to imply exhaustion, stress and self-carelessness. Among such situations are: the nature of the work, direct contact with suffering and pain situations, It is noteworthy that self-care is being undervalued by health professionals, who often seem to neglect it when caring for others. However, care requires knowledge and commitment to others and themselves.³ From this perspective, some concerns have emerged: how nursing professionals perceive self-care? How do they exercise self-care? How to provide excellence care to others without self-care?

Based on these concerns, subsidies to answer the following research question were sought in the literature: what is the scientific production of nursing about self-care? The objective of this research was the following proposition: knowing the scientific production of nursing about self-care.

METHODS

Integrative review, which consists of organizing, cataloging and summarizing the results presented in the materials selected for analysis. Six stages were followed: definition of the research question, search in databases, categorization of studies, assessment of studies included in the review, interpretation of results, synthesis of the produced knowledge.⁷

To select the articles, the database Latin American and Caribbean Health Sciences (LILACS) and the electronic library Scientific Electronic Library Online (SciELO) were used. A reading of the abstracts of the articles found was performed in order to identify those articles relevant to the theme. The inclusion criteria selected articles in Portuguese, published between 2003 and 2013, available online in their full extension. Abstracts published in proceedings, theses, dissertations and books were excluded. The descriptors applied in the selection process were: nursing and self-care, with a crossed approach. The research was conducted by online access in June 2013.

In LILACS, 126 articles were found, however, only 16 were selected and in SCIELO 78 were found, but only 13 were selected as relevant for this review, as they met the preestablished inclusion criteria. It was noticed that 11 articles were common in LILACS and SciELO, resulting then in five articles exclusively found in LILACS and two exclusively found in SCIELO. Thus the *corpus* of this integrative review consisted of 18 articles.

For data analysis, a table was elaborated containing: number for article identification, article title, publication journal, year of publication, article type. Afterwards, discursive textual analysis was applied, which was developed through a fragmentation process of the read material seeking to integrate analysis and synthesis - based on a thorough reading - describing and interpreting meanings and organizing the findings into categories.⁸

This study did not need to be submitted to a research ethics committee because it is an integrative review and used public domain sources. After characterizing the articles, four categories were built from the guiding principles concerning the production of nursing knowledge about self-care - the dimensions of self-care; the (lack of) self-care, revealing another dimension; the construction of self-care in professional training; and the dimension of increasing selfcare - an ethical dimension.

RESULTS AND DISCUSSION

Article characterization

The 18 selected articles were found in the following journals: Revista Texto & Contexto Enfermagem (5); Revista Latino-Americana de Enfermagem (4); Revista Brasileira de Enfermagem (3); Revista Gaúcha de Enfermagem (2); Revista da Escola de Enfermagem da USP, Cogitare Enfermagem, Revista Mineira de Enfermagem – REME, Escola Anna Nery Revista de Enfermagem (1 in each one).

Regarding the type of publication, there were eleven research articles - ten were qualitative and one was quantitative - five were reflection articles, and two of experience report. The articles were published between 2004 and 2013, being the year of 2007 the one holding most of the publications (4 articles), followed by 2006 (3), then 2005, 2008, 2009 and 2010 (2 articles), and 2004, 2011 and 2013 (1 article). Here there are some of the variables approached in the study and the results (Table 1).

Table 1: researched articles published between 2003 and2013; Brazil, in 2013.

N⁰	ARTICLE TITLE	jOURNAL	YEAR
1º	Moral suffering in the daily nursing: hidden traces of power and resistance	Revista Latino- Americana de Enfermagem	2013
2º	Perceptions about self- caring, health promotion and overweight among nursing students	Escola Anna Nery Revista de enfermagem	2011
3º	Autonomy in the intensive care unit: let´s start by taking care of us	Revista Brasileira de Enfermagem	2010
4º	Multiple relations of nursing care: the emergence of "our" care	Revista Latino- Americana de Enfermagem	2010
5⁰	Taking care of yourself, of others and of "us" through the complexity perspective	Revista Brasileira de Enfermagem	2009
6 <u>°</u>	Care, self-care and care for yourself: a paradigmatic understanding for nursing care	Revista da Escola de Enfermagem da USP	2009
7º	Spirituality in self-care for nursing professionals in intensive care	Revista Latino- Americana de Enfermagem	2008

N⁰	ARTICLE TITLE	jOURNAL	YEAR
8º	Work, daily life and the nursing professional: the meaning of lack of self-care	Cogitare Enfermagem	2008
9º	Nursing professional: understanding self-care	Revista Gaúcha de Enfermagem	2007
10º	Expanding self-awareness: the caregiver looking in the mirror	Revista Gaúcha de Enfermagem	2007
11º	The construction of the knowledge of the nursing student: a social-ethical approach	Revista Brasileira de Enfermagem	2007
12º	Caring for the caregiver: perceptions and conceptions of nursing assistants about self-care	Texto e Contexto Enfermagem	2007
13 <u>°</u>	The notion of self-care and the concept of self-care in nursing	Texto e Contexto Enfermagem	2006
14º	Caring for the student and teaching nursing care relationships	Texto e Contexto Enfermagem	2006
15º	Self-care: essential for nurses	Revista Mineira de Enferrmagem	2006
16º	Leisure in the life of nursing students in the context of self-care for caring others	Texto e Contexto Enfermagem	2005
17⁰	Self-care as an ethical principle of nursing work	Texto e Contexto Enfermagem	2005
18º	Self-care as a condition for the care of others in the health practice	Revista Latino- Americana de Enfermagem	2004

Self-care dimensions

The fifth and ninth articles show that the exercise of self-care is influenced by social, cultural and environmental aspects - and also by the professional training of individuals. This exercise includes the care perceived as essential to the nursing team of professionals to promote social, physical and emotional balance while developing their activities.

The exercise of self-care is an essential act, revealed by the infinite and complex variety of actions the subject performs during his existence. As a human construction, it is the result of a social process envolving customs, habits, attitudes, beliefs and values, - representing the self-valuing, the sensitivity and the commitment to themselves.⁹

Therefore, it is emphasized by the tenth article that the certainty regarding the chosen profession and the satisfaction with the activities professionals perform are essential for nursing professionals to exercise self-care. Frequently, when there is dissatisfaction with the chosen profession or adaptive difficulties related to the multiple situations of the profession, the professional may suffer which is likely to affect other professionals, the working environment, the different subjects with whom they interact and the care provided.

The ninth article elucidates that the self-care, in the understanding of nursing professionals - is related to satisfying the needs of the individual, such as: sleeping, resting, physical and leisure activities, as well as the maintenance of affective relationships in social life, either they're established among family, friends or co-workers. Nevertheless, the ninth and tenth articles point out to the importance attributed by nursing professionals to personal appearance, since they consider the aesthetic as a way of self-care - stressing that often professionals take care of others according to the care they have for themselves.

The search for knowledge, as indicated by the fifth and ninth articles, displays a great relevance in the practice of selfcare, since new knowledge fosters a extended comprehension of reality - and may result in potential benefits for personal satisfaction, self-esteem, learning, communication and interpersonal relationships. Knowledge can also foster a sense of security towards the exercise of autonomy in decision making, whether it is in relation to others care, to the health team¹⁰ or even to self-care, valuing one's actions and behavior.

As forms of self-care, the seventh, the tenth and the twelfth articles highlight the importance of beliefs, spirituality, prayer, contact with nature and with superior forces as factors which may help in coping with difficulties in work. Such factors may help towards providing wellbeing and expanding awareness in what concerns the importance of self-care - as well as the understanding of the meaning of care.

Spirituality can be understood as an interaction among the self-knowledge of the human being with his spiritual dimension - which allows connection with themselves, with others and with nature.¹¹ From this perspective, it's worth noting that the nursing staff in the exercise of their practice seeks to understand the human being as a whole that requires different kinds of caring. Thus, it's necessary to understand the spiritual care as one of the caring kinds that must be provided. However, the nurse can only acknowledge the spiritual care as essential if he/she considers himself/herself as a spiritual being - explaining that the spiritual dimension is inherent to human beings.¹²

The sixth, the twelfth and thirteenth articles addressed the concept of self-care as one of the aspects of healthy living, which is constituted by actions directed to oneself or to the environment. However, beyond the notion of self-care the articles also presents the notion of caring for yourself, emphasizing that these two concepts are linked and influence the actions of nursing staff.

It is important to emphasize that the fourth and fifth articles unveiled self-care - person/professional in the spiritual, biological, physical, aesthetic, loving, social and cognitive dimensions of care, corroborating with the other aforementioned articles. Similarly, the fourth, the third and the eighth articles revealed that there is an impossible division among the "I - as a professional" and the "I - as a human being" in care relations with others. The thirteenth article points out that the self-care has a political dimension and therefore a sense of ethics as aesthetics of existence. In nursing, care is the "aesthetic field of the profession, that is, the art of the profession", involving the different relationships, self-perception and the perception of the environment - as well as the understanding of others.¹³ Thus, the professionals, through taking care of themselves, may create opportunities for a reflection regarding their way of being and acting.

The (lack of) self-care - revealing another dimension

The fifth, eighth and ninth articles state that many times the self-care seems to be overlooked by the nursing professionals, maybe because of the lack of time to leisure activities, to eat properly, to care for their appearance or to spare time for themselves. However, these articles indicate that the nursing professional, being trained directed to the care of others, cannot show the same concern for the self-care.

It seems to be common among nursing professionals, the practice of being more concerned with the care of others than with the self-care - which basically remains into the background because of the limited time and the little importance attached to this dimension.¹⁴ It is highlighted that in the eighth and ninth articles the organization and the work environment contribute significantly to the lack of selfcare, noting that the work overload, the higher requirements, conflicts and difficulties in interpersonal relationships, insufficient salary and the double working hours make impossible to provide self-care of the professional.

Besides the nature of the activities performed, the frequent work overload and apparently inappropriate environments, there are very few actions for the protection and care for the health of the nursing staff^{4,15} - actions that ensure conditions for this self-care of the professional and for the development of his/her activities with safety and excellence. In care practice is essential that the professional take care of himself - care that can fed from "professional development and the search for bio-psychological and social harmony of the caregiver".¹⁶⁴⁷

The fourth article showed that nursing professionals feel cared when taking care of others - which makes them practice less self-care. However, as the seventh, ninth, twelfth, fourteenth and fifteenth articles state, taking care of themselves is essential to enable the professional to feel good in the workplace and therefore to provide excellence care to others.^{17,18}

Construction of self-care in professional training

The eleventh article emphasizes the importance of commitment in the search and knowledge construction

during training while nursing students, which has positive effects for care practice and the ethical, political and social training. Also, the second and eleventh articles point out that in the exercise of their autonomy the nursing student seeks subsidies in a constant process of discovery, needing to understand and value the self-care involving the personal and professional dimension - needing to interact with others. However, the second article reinforces the need to promote the health of the nursing student, understanding self-care as a requirement to take care of others.

In a profession where the work, which is care in the nursing case, induces anxiety, it is essential that vocational training gives the process of self-knowledge and support to perform the work, allowing the professionals to overcome the fears and anxieties related to the process of self-care and caring for others.¹⁹

The fourteenth article mentions as one of the results that nursing students continue to develop interpersonal skills - such as sensitive listening, empathy, compassion during their entire life, and such development can be made possible through a continuous process. It is noteworthy that it's essential to create teaching strategies that act towards the expansion or development of these interpersonal skills, since maybe not all of them have such skills.

The process of nursing training must provide visualization of the different contexts that may exist, so that the new professionals are able to seek and trace subsidies - both theoretical and practical - for possible issues that may arise in the profession.^{20,21}

The sixteenth article shows that the artistic, social and intellectual leisure must be a part of the nursing students life and may contribute as an important component of playfulness in the formation of future nurses. Thus, the pleasure in the daily lives of the students is discussed as a playful content that can cause reflections in working life and in nursing care practice - enabling the student to meet careful appreciation of elements of self-care so that he/she can take care of others.

It is noteworthy that the performance of leisure activities can help to develop communication, interpersonal relationships, as well as the alleviation of tensions inherent to training, contributing to improve the quality of life of nursing students and providing opportunities to self-care.¹⁶

Thus, multiplying the discussions about care and the different ways of being and acting is essential to foster in the nursing staff - especially in nursing students - the need for self-knowledge and recognition, in order to "value the self-care to be able to care for others".^{16:47}

Increasing self-care - an ethical dimension

The first, third, sixth, eighth, thirteenth, seventeenth and the eighteenth articles mention the notion of self-care, as the theoretical reference of Michel Foucault. Thus, the expression "self-care" is used to "reference and translate a complex and rich notion that the Greeks used to describe a series of attitudes related to self-care, regarding minding and worrying about themselves.^{22:153}

However, the first, third, seventeenth and eighteenth articles, using part of the theoretical reference of Foucault's work, search specifically to think of self-care as an ethical principle of nursing work. According to the sixth article, the ethical acting in nursing work is mainly guided by the professional's relationship with himself - through values such as respecting his life and the life of others - and with the profession - regarding the work environment, the team of workers, and the ethics in relationships with those who are cared.

For Foucault, caring for yourself is understanding yourself as a subject of instrumental action in certain situations, relationships with others, attitudes and behaviors, and especially the relationship with yourself.²² The "self-care is highlighted as a set of modifier experiences of the subject, with the purpose to establish an ethical way of living and active aesthetic for themselves."^{23:142}

The first and eighteenth articles emphasize that as soon as the professionals demand of themselves the freedom to think about how they exercise their profession, they will create the possibility to find ways to encourage self-care and take care of others. Similarly, the third article regards autonomy and highlights the choices as self-care possibilities. Nevertheless, the eighth article states that bringing to surface the power relations experienced and perceived in the workplace as ethically incorrect would be a way to self-valuing as a human being and professional.

CONCLUSION

This study has helped understanding the nursing knowledge production about the self-care, approximating the main variables involved in the characterization of articles and reflecting on the four categories that emerged from the results of publications: self-care, lack of care, self-care in professional training and self-care as an ethical principle of nursing work. Thus, studies show that self-care is permeated by social, cultural and environmental aspects, and also by the professional training. It's noteworthy that self-care is essential to enable the professional to feel good in the workplace and to provide excellence care to others.

Regarding to professional training, the commitment, knowledge and the exercise of autonomy are important as ways for students to understand and enhance the exercise of self-care. Self-care as an ethical principle of nursing work reinforces the need to create opportunities to find ways to encourage professional relationships with themselves, with the profession, with the work team and with those who receive care. In conclusion, the findings of this study may contribute to the production of research and knowledge in nursing, increasing the value of self-care to take care of others.

REFERENCES

- Brandão ES, Santos I, Cavalcanti ACD, Santana RF, Queluci GC, Azevedo SL. Uma sociopoética do autocuidado: comportamento de estudantes de enfermagem visando à promoção da saúde. Rev Gaúcha Enferm. 2009; 30: 280-8.
- Backes DS, Sousa MGM, Mello ALF, Nascimento KC, Lessmann JC, Erdmann AL. Concepções de cuidado: uma análise das teses apresentadas para um Programa de Pós-Graduação em Enfermagem. Texto contexto – enferm. 2006; 15(spe): 71-8.
- Baggio MA. Relações humanas no ambiente de trabalho: o (des) cuidado de si do profissional de enfermagem. Rev Gaúcha Enferm. 2007; 28: 409-15.
- Murofuse NT, Abranches SS, Napoleão AA. Reflexões sobre estresse e Burnout e a relação com a enfermagem. Rev Latino-Am Enfermagem. 2005; 13(2): 255-61.
- Cardozo CRC, Barlem ELD, Lunardi VL, Tomaschewski-Barlem JG, Vidal DAS, Botelho LR. Conflitos éticos que repercutem no trabalho da enfermagem em unidades obstétricas. Rev enferm UFPE on line. 2012; 6(7):1523-9.
- McCarthy J, Deady R. Moral Distress reconsidered. Nurs Ethics. 2009; 15(2):254-62.
- 7. Ganong LH. Integrative reviews of nursing research. Res Nurs Health. 1987; 10: 1-11.
- Moraes R, Galiazzi MC. Análise Textual Discursiva. 2ª ed. Ijuí (RS): Ed. Unijuí; 2011.
- 9. Guevara B, Zambrano GA, Evies A. Cosmovisión en el cuidar de si y cuidar del outro. Enferm Global. 2011; 10(1): 1-7.
- Domingues TAM, Chaves EC. O conhecimento científico como valor no agir do enfermeiro. Rev esc enferm USP. 2005; 39(spe): 580-8.
- Santos I, Caldas CP, Erdmann AL, Gauthier J, Figueiredo NMA. Cuidar na integralidade do ser: perspectiva estética/ sociopoética de avanço no domínio da enfermagem. Rev enferm UERJ. 2012; 20: 9-14.
- Selli L, Alves JS. O cuidado espiritual ao paciente terminal no exercício da enfermagem e a participação da bioética. Bioethinks. 2007; 1: 43-5.
- Teixeira ER. O ético e o estético nas relações de cuidado em enfermagem. Texto contexto – enferm. 2005; 14(1): 89-95.
- 14. Elias MA, Navarro VL. A relação entre o trabalho, a saúde e as condições de vida: negatividade e positividade no trabalho das profissionais de enfermagem de um hospital escola. Rev Latino-Am Enfermagem. 2006; 14(4): 517-25.
- 5. Felli VEA. A necessidade de monitoramento da saúde do trabalhador de enfermagem. Cogitare Enferm. 2013; 18(3): 429-31.
- 16. Santos VEP, Radunz V. O cuidar de si na visão de acadêmicas de enfermagem. Rev enferm UERJ. 2011; 19: 46-51.
- 17. Hardingham LB. Integrity and moral residue: nurses as participants in a moral community. Nurs philos. 2004; 5(1): 127-34.
- Pauly B, Varcoe C, Storch J, Newton L. Registered Nurses' perceptions of moral distress and ethical climate. Nurs Ethics. 2009; 16(5): 561-73.
- Oliveira RA, Ciampone MHT. A universidade como espaço promotor de qualidade de vida: vivências e expressões dos alunos de enfermagem. Texto contexto – enferm. 2006; 15(2): 254-61.
- Silva LF, Damasceno MMC. Modos de dizer e fazer o cuidado de enfermagem em terapia intensiva cardiológica- reflexão para a prática. Texto contexto – enferm. 2005; 14(2): 258-65.
- Oliveira BM, Mininel VA, Felli VEA. Qualidade de vida de graduandos de enfermagem. Rev bras enferm. 2011; 64(1): 130-5.
- 22. Foucault M. Hermenêutica do sujeito. São Paulo: Martins Fontes; 2006.
- 23. Portocarrero V. As ciências da vida: de Canguilhem a Foucault. Rio de Janeiro: Editora Fiocruz; 2009.

Received on: 07/03/2014 Required for review: No Approved on: 20/02/2015 Published on: 15/07/2016

Contact of the corresponding author:

Jamila Geri Tomaschewski-Barlem General Osório Street, Rio Grande, Rio Grande do Sul, Brazil ZIP CODE: 96200300. Telephone: (53) 32338864 E-mail: jamila_tomaschewski@hotmail.com