Original Article
doi: https://doi.org/10.1590/1983-1447.2019.20180483

Care for the person with oncological wound: permanent education in nursing mediated by educational technologies

Cuidado à pessoa com ferida oncológica: educação permanente em enfermagem mediada por tecnologias educacionais

Cuidado a la persona con herida oncológica: educación permanente en enfermería mediada por tecnologías educacionales

Camila Vicente[a]
Lúcia Nazareth Amante[b]
Maristela Jeci dos Santos[c]
Ana Graziela Alvarez[b]
Nádia Chiodelli Salum[d]

Como citar este artigo:
Vicente C, Amante LN, Santos MJ, Alvarez AG, Salum NC. Care for the person with oncological wound: permanent education in nursing mediated by educational technologies. Rev Gaúcha Enferm. 2019;40:e20180483. doi: https://doi.org/10.1590/1983-1447.2019.20180483.

ABSTRACT

Objective: To recognize how educational technologies are not up-to-date and do not care about head and neck oncology.
Methods: Qualitative, exploratory-descriptive research. Held with 12 nurses, at a cancer reference center in the south of the country, in July/2017. Through a semi-structured interview and data analyzed by Minayo Thematic Analysis.
Results: Results of two categories: "The techniques of updating the nurse" and "The use of educational technologies in the nurses' daily life". In this context, a version of the present in the training of students stands out, since the data of secondary education are permanent, evidencing a small use of technological resources for this purpose.
Conclusion: It is suggested to integrate the use of technologies with lifelong education in order to become popular in professional practice.
Keywords: Nurses. Oncology nursing. Education, continuing. Wounds and injuries. Mobile applications.

RESUMO

Objetivo: Reconhecer as tecnologias educacionais utilizadas no processo de atualização dos enfermeiros no cuidado à pessoa com ferida oncológica de cabeça e pescoço.
Métodos: Pesquisa qualitativa, exploratório-descritiva. Realizada com 12 enfermeiros, em um centro de referência oncológica do sul do país, em julho/2017. Por meio de uma entrevista semiestruturada e dados analisados pela Análise Temática de Minayo.
Resultados: Resultou-se em duas categorias: "As implicações da atualização do enfermeiro" e "O uso de tecnologias educacionais no cotidiano do enfermeiro". Destaca-se neste contexto, a escassez da abordagem do conteúdo na formação dos enfermeiros, a importância da atualização dos profissionais por meio da educação permanente, evidenciando a pouca utilização de recursos tecnológicos para esta finalidade.
Conclusão: Sugere-se a integração do uso de tecnologias com a educação permanente, a fim de alcançar os diversos benefícios reconhecidos na prática profissional.
Palavras-chave: Enfermagem oncológica. Educação continuada. Ferimentos e lesões. Aplicativos móveis.

RESUMEN

Objetivo: Reconocer cómo las tecnologías educativas no se actualizan y no se preocupan por la oncología de cabeza y cuello.
Métodos: Investigación cualitativa, exploratorio-descriptiva. Realizada con 12 enfermeros, en un centro de referencia oncológica del sur del país, en julio / 2017. Por medio de una entrevista semiestructurada y datos analizados por el Análisis Temático de Minayo.
Resultados: Resultados de dos categorías: "Las técnicas de la actualización del enfermero" y "El uso de tecnologías educativas en el cotidiano del enfermero". Se destaca en este contexto una versión del presente en la formación de los estudiantes, ya que los datos de la enseñanza media son permanentes, evidenciando una pequeña utilización de recursos tecnológicos para esta finalidad.
Conclusión: Se sugiere una integración del uso de tecnologías con la educación permanente, a fin de tornarse popular en la práctica profesional.
Palabras clave: Enfermería oncológica. Educación continua. Heridas y lesiones. Aplicaciones móviles.

[a] Universidade Federal de Santa Catarina (UFSC), Hospital Universitário Polydoro Ernani de São Thiago, Residência Integrada Multiprofissional em Saúde. Florianópolis, Santa Catarina, Brasil.

[b] Universidade Federal de Santa Catarina (UFSC), Departamento de Enfermagem. Florianópolis, Santa Catarina, Brasil.

[c] Secretaria de Estado da Saúde, Centro de Pesquisas Oncológicas (CEPON). Florianópolis, Santa Catarina, Brasil.

[d] Universidade Federal de Santa Catarina (UFSC), Hospital Universitário Polydoro Ernani de São Thiago. Florianópolis, Santa Catarina, Brasil.

INTRODUCTION

Cancer is considered a public health problem. It is the second leading cause of death in Brazil, with approximately 600.000 new cases from 2016 to 2017, and estimates show an increase in the number of cases each year, especially in developing countries, such as Brazil[1].

Early diagnosis can lead to the cure of up to 80% of cases; however, 60% of these patients discover the diagnosis in the late stage of the disease[2]. Among the complications caused by the exacerbated proliferation of cells, the main ones are caused by late diagnosis, like the development of oncological wounds that can be found in 5 to 10% of people with cancer[3-4]. Head and neck cancers contribute the most to this complication because they present advanced disease symptoms resulting from an aggressive or metastatic cancer in late diagnosis[2].

Oncological wounds, especially those present in the head and neck region, have an impact on people's lives due to changes in the image, as well as socioeconomic, biological, and psychological factors. Thus, nursing care must be carried out with a multi-professional team, aiming at an individualized attention directed towards the approach of these aspects[4].

The assistance for this cases is still conducted empirically and with the knowledge of the treatment of other types of wounds, both by the nurse and the multi-professional team[2]. Thus, the nurses need to update their knowledge through continuous training on the subject, aiming to acquire knowledge and technical competence to evaluate and treat these wounds, considering the technological and scientific advances to provide integral and quality care to the patient and family[3].

To this end, the Permanent Education in Health (EPS) is as a strategy to promote personal, social, and cultural development. It is a part of the teaching-learning processes centered on the subjects who learn, which are considered as active and autonomous agents, the managers of their own education. Historically, EPS has only recently become a public policy in Brazil, instituted in the field of health by Administrative Rule GM/MS No. 198/2004, which defines the National Policy of Permanent Education in Health (PNEPS) as a strategy for the training and development of health professionals[5].

PNEPS incorporates learning and teaching within the institution, aiming to transform professional practices to achieve a better quality of service, bringing as a perspective a learning process based on the problems experienced by professionals during their practice and from the patients demands[5].

Among the several strategies to conduct EPS, the use of technologies is considered positive in the labor market, since it contributes to the training and updating of these professionals, since knowledge updating is extremely necessary[6]. Among these technologies, Information and Communication Technologies (ICT) are being regularly used by companies and institutions in the work and education process, because they provide empowerment and enable the collection, distribution, and sharing of information[7], and as such, are seen as more effective and accessible in monitoring the speed of knowledge production[8].

By using technology in permanent education, it is possible to contribute to the promotion of socio-educational development and directly influence the improvement of qualification, and consequently, of professional practice, bringing innovations and new ways of providing assistance, leading to transformations in the reality of practice[5,8].

It has been observed, however, that technological advance is not always immediately implemented in the health care, leading to a difference between the production of ICT and its use in training the nurses. In this context, in order to know the reality of a reference center for the care of people with cancer wounds, the following research question was created: Which educational technologies are used in the process of training the nurses to care for people with head and neck oncology wounds?

Thus, the objective of this study was to recognize the educational technologies used in the process of training the nurses in the care of the person with head and neck oncological wounds.

METHODS

The research is one of the stages of the project related to a conclusion monograph of the undergraduate nursing course, entitled "The wound dressing care practice in the assistance of People with Head and Neck Oncology Wounds: An Approach to the Permanent Education of Nurses"[9], approved by the Committee on Ethics in Research with Human Beings (CEPSH) at the Universidade Federal de Santa Catarina and by the Research Ethics Committee of the Oncology Research Center (CEPON), under protocols 2.098.737 (05/09/2017) and 2.054.577 (06/04/2017), respectively. The research followed what is recommended by Resolution n.466, from December 12, 2012, of the National Health Council. The participants were instructed about the aspects of the research and any doubts were clarified, and those who accepted participating in the study were asked to sign the Free and Informed Consent Form (FICF). They were identified with the letter E, followed by an ordinal

number (E1, E2, E3, [...]; E12) in order to maintain the anonymity and secrecy of the information.

This is an exploratory and descriptive study, with a qualitative approach, carried out in a reference center for the treatment of cancer in Santa Catarina, which is also a WHO reference center for palliative medicine in Brazil, known as CEPON.

CEPON has 41 nurses who work in the care of oncology patients, among whom 12 nurses were selected by convenience. This method is generally used when researchers need potential participants to come forward and identify themselves, when there is not an interest in forming a representative sample of people, but rather getting a diverse group, with the goal of extracting as much information as possible from a small number of informants[10].

The inclusion criteria considered included professionals who work directly with the care of patients with head and neck oncological wounds, who perform the clinical evaluation of people with oncological wounds and make the therapeutic choice about the dressing. And the exclusion criteria were: being a nurse in the institution for less than six months, since it is necessary to work for a reasonable time to become aware of the service routines; professionals who were absent due to license, diseases and/or vacations at the time of data collection were also excluded.

Data collection occurred in July 2017, through individual interviews, at a previously agreed place and time, following a semi-structured script organized in two parts. The first part of the script collected information about the identification (Ex: E1, E2), length of service, degree, and time since their graduation; the second part is related to the recognition of nurses training process and the use of educational technologies in the work process. The interviews were audio-recorded, and then transcripted.

Data was organized into tables in the *Microsoft Word*® program. The answers related to the first stage of the questionnaire were divided into the topics "Category", "Quantity" and "Details". And the information regarding the second stage of the script was separated according to each question in the topics "Identification", "Response", "Central Meaning", and "Summary Word(s)".

After setting up the theoretical corpus through the organization of the data, the analysis occurred considering Minayo's Thematic Analysis, which consists in three stages: pre-analysis of the information obtained by skimming, data analysis, and interpretation.

RESULTS AND DISCUSSION

In the survey, 12 nurses were interviewed. Most were female with post-graduation courses, including specializations and one with master's degree. The age ranged from 29 to 46 years old, the time since their graduation varied from 5 to 22 years, and the length of service in the institution from 1 to 14 years. Four of these nurses work in the outpatient clinic, and eight in the hospitalization units.

The data analyzed resulted in two categories. The first called "The implications of training the nurse for the care of people with head and neck oncological wounds" was about the training process through the permanent education of the institution and the knowledge acquired by professionals. The second category, "The use of educational technologies by nurses in the daily care of people with head and neck oncological wounds" sought to show the use of educational technologies in the nurses' daily routine, and to known the opinion of the professionals about their use in the work process routine .

The implications of training the nurse for the care of people with head and neck oncological wounds

The accelerated process of scientific and technological modernization has generated new ways of building knowledge and establishing relationships with the work environment. In this context, EPS actions aim at updating the knowledge of professionals in the work environment, in order to improve clinical practice, and also to fill in the gaps in their training process[5]. This gap was identified in this study, where the contact with the topic of head and neck oncology wounds was minimal during the graduation course, and further studies of this matter took place after the admission of nurses at the institution studied, as well as observed by the study carried out in Primary Health Care[3].

> *At graduation there was nothing specific, we had classes about dressings, but it was in general, not specific to oncology. I learned through courses here in the institution, and also through our specialist in stomas, she always gives advice. (E4)*

> *Very little in graduation. Graduation shows you the way, and you have to research, you have to study. To really learn depends on the day-to-day, but if you do not dedicate, do not sit, read, and do not exchange ideas or knowledge with people who know more than you, you cannot become a good professional. You can be a good professional from the moment that your knowledge is fixed and I can pass on my knowledge. Because every day is a new article, every day is a new experience, every day new dressings are on the market, if we do not know we cannot go forward. (E9)*

EPS actions provides several benefits, allowing, in the short term, to provide conditions for improvements in the technical performance of nurses, preventing failures and valuing science as a source of knowledge. In the medium-to-long term, it can favor the critical reflection of work, articulating the theoretical framework with the professional practice[11].

The institution studied, as a reference center for cancer treatment in Santa Catarina, adopts EPS actions focused on updated knowledge in the oncology area, aimed at preparing these professionals for the clinical practice. This educational model is one of the most appropriate methods for the context, capable of generating changes in the assistance models, in the work process and in the way of applying the educational activities in service, through the identification of daily necessities and the development of the professionals[5].

In this institution, EPS offers professionals training and updating activities that allow for the acquisition of specific knowledge, qualifying professionals for the care of oncological wounds[12]. Among these educational activities are the courses and training, as well as the study groups, which allow the discussion of cases, exchange of experiences, and improvement of knowledge, showing that learning is consolidated from the moment there is a reflection between the theoretical content and the practical experience. It should be emphasized that knowledge is not only the result of obtaining theoretical background, but rather the combination of this knowledge with the know-how of practice acquired by professional experience[13].

We have periodical courses about dressing, of stoma care, of various subjects and we are learning, along with the day to day practice. (E1)

The trainings that we do daily makes us have a better standard. And here we have enough training and lots of classes, we end up discussing and exchanging experiences between us too, so this, I think, is what makes our work acceptable. (E9)

The permanent education in the institution ends up stimulating the professionals to seek other types of knowledge, […] to be doing this kind of activity day-to-day, makes us to provide a better service. (E9)

The EPS standards established by the researched institution allows for the triangulation of teaching methods with the inclusion of media resources, both to maintain the updating of its professionals and to include those who have just been hired[5].

Despite the great potential of EPS, it was possible to observe that most professionals rely exclusively on these updates and knowledge offered by the service, with little demand for knowledge outside the work environment.

We learn everything here. (E1)

[…] I try to update myself here in the institution. Well, the permanent education program offers the internal courses here […] when you have an update, or some company representative who comes to bring some material and call us to evaluate a product or give technical advice and see how the product is reacting on the patient. The institution offers space for representatives to show what is the current and best product in the market. […] the market acts together with us. Also, our nurse specialist in Stomatherapy, she always seeks to bring updates here to the institution, through lectures and courses. (E10)

This situation can be related to the fact that not all nurses seek specialization courses and updated training, requiring the institution to develop strategies to stimulate professionals in the theoretical and practical progress[12]. This can also be explained by the lack of time of professionals, who spend most of their day in the institution, so they take advantage of the trainings offered in this environment and do not look for other alternatives to study outside work.

Taking into account a hospital specialist in oncology, an easy access to information, and the rapid production of new scientific evidence, the requirements are increased, and professionals are expected to be more and more qualified to work in the field[12]. In this context, knowledge and skill development by nurses should be improved in post-graduation courses, qualifications, training, upgrades, courses, and congresses[3].

Thus, the fact that this theme is seldom addressed in the professional formation was highlighted, emphasizing the need to constantly search for new knowledge and updates. This learning is strengthened due to the EPS process offered by the institution, complemented by the practice and the exchange of experiences with other professionals.

The use of educational technologies by nurses in the daily care of people with head and neck oncological wounds

The tools to update knowledge in oncological nursing can be used in different ways. However, the ICT is increasingly present in the life of professionals[10]. In the health and nursing fields, it has been increasing in recent years, with

the benefits of being easy, assiting and improving the quality of services; improvements in efficacy, effectiveness and safety of care; favoring the exchange of experiences and communication of information; aiding in the administration of working time; helping in the evaluation of clinical parameters, and contributing to problem solving and decision making[14-15]. However, the study showed that most professionals do not use these technologies in everyday life, even though they recognize that they can be positive in practice.

Among the different tools cited as ways of assisting the nurse in clinical practice, some educational technologies stand out. Taking into consideration the different ICTs available, professionals reported regular use of the internet, as well as online groups in social medias and photographic records.

> *Permanent education is a tool that assists our work. We have a social media group about wounds, the professional specialist in stoma is the coordinator of the group and if we have any doubt we talk to her. Also, we put questions in the WhatsApp group, and sometimes we take a picture, we get the patient's authorization, we put the authorization on the medical record and we discuss the best product for that wound. (E10)*

> *Nowadays, the internet. It's on the internet that you look for new knowledge. Review something and even look for figures and articles if you want to. (E4)*

The Internet is a tool that enables the socialization of information and is essential for the use of many ICTs, also being the basis for innovations in the education practices, reducing the restriction of access and facilitating the search for reliable information[6].

> *The Internet is a good tool, depending on what you are going to search, on the sources you are going to use, but it is a good tool. WhatsApp is a very good communication tool, we use a lot here in the sector, when there is a question, we put it in the group, another person with another point of view suggests something.*

The photographic record is another well-known technology, used as a form of documentation that assists in the care of people with oncological wounds. The ease and agility of this type of registry makes it indispensable for the follow-up and treatment of patients with oncological wounds. Using this, the evaluation can be performed by several professionals, discussing and favoring the best diagnostic and therapeutic behavior. In addition, the technology allows for comparisons with the previous situation, facilitating the evaluation of the evolution and providing a perception of a better conduct, besides being used in teaching and research activities[16].

> *Every time we go to do a dressing, we take a picture and we go to the stomatologist to see if she agrees with us. We follow the evolution daily, that's important. The size, if it progressed, regressed. […] And we can see if it has a good evolution or not. […]. So, it serves as a very interesting comparison for our field. (E9)*

Although EPS was cited as a tool that assists the nurses' daily routine, most participants did not associate the ease of using the technologies to the education process, considering that this interconnection generates the improvement of the communication and diffusion of knowledge in different spaces and times[17].

In this sense, only one of the nurses recognized the importance of apps in permanent education about oncological nursing, as pointed out by the literature, where it is claimed to be an important tool to access, collect and document information about the patient in his own bed, to carry out steps of the nursing process and to monitor the need for assistance of professionals in patient care actions[18].

> *I think applications are good tools. Today, regarding the patient safety and quality of service; applications, educational materials, health education, permanent education, the institution needs to have these things. Because this is what stimulates professionals to seek other types of knowledge […]. (E9)*

In nursing, mobile devices can be applied in different ways (remote monitoring, diagnostic, and decision support), being tools that can assist in the practice of these professionals, in particular, by the absence of barriers of time and space for their use[14,19]. But for this, this device must be based on scientific knowledge and elaborated dynamically, with easy access and associated with the reality of the institution. In addition, they should have images, informative alerts, direct contact with the team for discussions, space for photographic registration and comparison of evolutions.

> *The application is not our practice, but I think it makes the job much easier. It is a tool that will be positive. I think it helps the day to day routine, just like any other application for the health area or other area. I think it has to be an easy*

access application with simple words […], concepts, links, categories or subcategories that lead to certain alerts, what kind of material and why. Also, if you have bleeding, what to do with it, what the indications are, where to take the patient or where to refer to. (E9)

It should contain the contact with another professional to ask questions, or […] send the photos of the dressing directly to our team while doing it. And of course. Always with the authorization of the family member and patient. Sending the photo and evaluating it in a group. That would make it much easier. (E4)

The app is welcome. If it is not a very extensive tool, not tiresome, more objective and dynamic, easy for you to fill, directing, I think it is feasible. Nowadays, the technology, is already proven that comes to facilitate, to shorten the time, to speed up the service. You can have a Check Box, where you can mark which characteristics the patient is presenting and in the end direct what you can use. If it is updated by the IT (Information Technology) sector of the institution, and according to the products that we have in stock, linking it with reality. (E10)

It can be observed that there is still little use of technologies as educational tools in the nurses' daily routine. This result may be a reflection of the resistance of some nurses related to their use in clinical practice, which is perceptible in the research questions, and may assume that some professionals may use it incorrectly without applying the scientific knowledge acquired over the course of their career.

So, I do not have much contact. I find it very interesting, but I still think that the person needs to study and have knowledge. Because in the end people do not want to think, they want it written in the box: this one is used for this and this for that. And, in the wound care there will never be just one way to do it. (E8)

This situation can be related to the lack of knowledge, inexperience with the use of these tools, or even, to the degradation of the work routine. However, the use of these technologies in nursing must take into account the human being. It is not possible to generalize behaviors, but rather it is necessary to adapt according to the situation and individuality of each individual being cared for[20].

The correct use of technologies, combined with the knowledge previously acquired by the professionals, may help in clinical practice and is necessary to raise awareness about the insertion of technologies in the health education process, in order to show the different ways of using them as a beneficial source in their daily lives.

CONCLUSION

The objective of this research was reached, since it was possible to study the reality of the nurses of a reference institution in oncology in the state of Santa Catarina, focused on the use of educational technologies in the process of updating these professionals' knowledge on the care of people with head and neck oncology wounds.

The study shows that nursing care for people with head and neck oncology wounds is a poorly addressed subject in graduation courses, showing a deficit in the academic training of these nurses. Most of the knowledge of these professionals is acquired during practice, through the EPS offered at the institution. Therefore, giving updated training to the professionals to offer quality in the service provided stands out as something essential.

The institution offers different forms of access to knowledge updates of the professionals in the service, which are seen as important tools and aid in the work process. However, the institution does not seem to link the technological methods to permanent education, despite the nurses recognizing the benefits brought to the professional practice. This study recommends the institution to seek the integration of the use of educational technologies in professional practices for this purpose.

This study is a small step in the construction of knowledge about the subject, since it was carried out in a single cancer reference center, covering a small number of nurses, which may limit its results. In this context, more studies that can discuss the theme are necessary, in order to encourage professionals and institutions to adopt sources of technology as a mean to conduct permanent education in health, thus helping in the professional practice.

The work helped to recognize the reality about the trainings and educational technologies used by the nurse in the care of the person with head and neck oncological wounds. Based on this analysis, this study recommends integrating technology into the existing permanent education program, considering all the benefits that it provides to the professionals, especially when associated to the existence of an information system in the institution.

This work helped in making this applicable through the design of an app, which started with the elaboration of the structure of a software in the form of a flowchart that presents the steps of this instrument, in addition to the elaboration of a practical manual that will aid in the evaluation, choice of therapy, and clinical reasoning during

the care practice. Also, the submission of this article works as a mean for the dissemination and encouragement to carry out more researches and furthering knowledge on the theme, since it is still scarce.

REFERENCES

1. Ministério da Saúde (BR). Instituto Nacional de Câncer José Alencar Gomes da Silva. Coordenação de Prevenção e Vigilância. Estimativa 2016: incidência de câncer no Brasil. Rio de Janeiro: INCA; 2015 [cited 2016 Aug 25]. Available from: http://www.inca.gov.br/estimativa/2016/estimativa-2016-v11.pdf.
2. Lisboa IND, Valença MP. [Characterization of patients with neoplastic wounds]. Rev Estima. 2016 [cited 2016 Aug 25];14(1):21-8. Portuguese. Available from: https://www.revistaestima.com.br/index.php/estima/article/download/116/pdf.
3. Azevedo IC, Costa RKS, Holanda CSM, Salvetti MG, Torres GV. [Family Health Strategy nurses' knowledge of assessment and treatment of oncologic wounds]. Rev Bras Cancerol. 2014 [cited 2016 Aug 21];60 (2):119-27. Portuguese. Available from: https://rbc.inca.gov.br/site/arquivos/n_60/v02/pdf/05-artigo-conhecimento-de-enfermeiros-da-estrategia-saude-da-familia-sobre-avaliacao-e-tratamento-de-feridas-oncologicas.pdf.
4. Castro MCF, Cruz PS, Grellmann MS, Santos WA, Fuly PSC. Cuidados paliativos a pacientes com feridas oncológicas em hospital universitário: relato de experiência. Cogitare Enferm. 2014 [cited 2018 Mar 15]:19(4) 841-4. Available from: http://revistas.ufpr.br/cogotare/article/view/37294/23967.
5. Ministério da Saúde (BR). Secretaria de Gestão do Trabalho e da Educação na Saúde. Departamento de Gestão da Educação em Saúde. Política Nacional de Educação Permanente em Saúde. 1. ed. Brasília, DF; 2009 [cited 2016 Aug 21]. Available from: http://bvsms.saude.gov.br/bvs/publicacoes/politica_nacional_educacao_permanente_saude.pdf.
6. Aires MB, Raggi FCAP. Contribuições das TIC na educação permanente para profissionais de enfermagem. Rev Refer. 2015 [cited 2018 Mar 15]:1-15. Available from: http://www.unifemm.edu.br/revistareferencia/wp-content/uploads/2015/02/FABRICIA-E-MYRTES-NOVA-REVISAO.pdf.
7. Souza MV, Giglio K, organizadores. Mídias digitais, redes sociais e educação em eede: experiências na pesquisa e extensão universitária. 1. ed. São Paulo: Edgard Blucher; 2015 [cited 2016 Sep 03]. p. 1-171. Available from: http://pdf.blucher.com.br.s3-sa-east-1.amazonaws.com/openaccess/midias-digitais/completo.pdf.
8. Guimarães EMP, Godoy SCB. Educação permanente: uso das tecnologias de informação e comunicação como ferramenta para a capacitação profissional [editorial]. Rev Min Enferm. 2008 [cited 2018 Mar 15];12(4):451. Available from: http://www.reme.org.br/artigo/detalhes/287.
9. Vicente, C. A realização do curativo no cuidado à pessoa com ferida oncológica de cabeça e pescoço: uma abordagem para a educação permanente dos enfermeiros [monografia]. Florianópolis (SC): Universidade Federal de Santa Catarina; 2017.
10. Polit D, Beck CT. Fundamentos da pesquisa em enfermagem: avaliação de evidências para a prática de enfermagem. 7. ed. Porto Alegre: Artmed; 2011.
11. Montanha D, Peduzzi M. Permanent education in nursing: survey to identify the necessities and the expected results based on the workers conception. Rev Esc Enferm USP. 2010 [cited 2016 Oct 20];44 (3):597-604. Available from: http://www.scielo.br/pdf/reeusp/v44n3/07.pdf.
12. Santos FC, Camelo SHH, Laus AM, Leal LA. The nurse that operates in oncology unit hospital: profile and vocational training. Enferm Global. 2015 [cited 2017 Sep 07];14(38):313-24. Available from: http://scielo.isciii.es/pdf/eg/v14n38/pt_revision3.pdf .
13. Kessler AI, Krug SBF. Do prazer ao sofrimento no trabalho da enfermagem: o discurso dos trabalhadores. Rev Gaúcha Enferm. 2012;33(1):49-55. doi: https://doi.org/10.1590/S1983-14472012000100007.
14. Tibes CMS, Dias JD, Zem-Marcarenhas SH. Mobile applications developed for the health sector in Brazil: an integrative literature review. Rev Min Enferm. 2014 [cited 2017 Sep 09];18(2):479-86. Available from: http://www.reme.org.br/artigo/detalhes/940.
15. Salvador PTCO, Oliveira RKM, Costa TD, Santos VEP, Tourinho FSV. [Technology and innovation for nursing care]. Rev Enferm UERJ. 2012 [cited 2016 Aug 26];20(1):111-7. Portuguese. Available from: http://www.facenf.uerj.br/v20n1/v20n1a19.pdf.
16. Gomes RS, Canineu PR. Creation and use of photographic database for monitoring patients with chronic skin lesions from leprosy. Rev Fac Ciênc Méd Sorocaba. 2016 [cited 2018 Mar 25];18(4):199-203. Available from: https://revistas.pucsp.br/index.php/RFCMS/article/viewFile/24319/pdf.
17. Saboia J, Vargas PL, Viva MAA. O uso dos dispositivos móveis no processo de ensino e aprendizagem no meio virtual. Rev Cesuca Virtual: Conh Front. 2013 [cited 2016 Dec 23];1(1):1-13. Available from: http://ojs.cesuca.edu.br/index.php/cesucavirtual/article/viewFile/424/209.
18. Tibes CMS. Aplicativo móvel para prevenção e classificação de úlceras por pressão [dissertação]. São Carlos (SP): Universidade Federal de São Carlos; 2014 [cited 2018 nov. 24]. Available from: https://repositorio.ufscar.br/bitstream/handle/ufscar/3287/6796.pdf?sequence=1.
19. Mosa ASM, Yoo I, Sheets L. A systematic review of healthcare applications for smartphones. BMC Med Inform Decis Mak. 2012;12:67. doi: https://doi.org/10.1186/1472-6947-12-67.
20. Meier MJ. Tecnologia em enfermagem: o desenvolvimento de um conceito [tese]. Florianópolis (SC): Universidade Federal de Santa Catarina; 2004.

Corresponding author:
Camila Vicente
E-mail: camilavicente.enf@gmail.com

Received: 12.24.2018
Approved: 04.16.2019