

THE PERMANENT EDUCATION IN THE TRAINING OF NURSES IN THE SURGICAL CENTER: INTEGRATIVE REVIEW

A educação permanente no treinamento do enfermeiro de centro cirúrgico: revisão integrativa
La educación permanente en la formación de enfermeras en el centro quirúrgico: examen integrador

Mariângela Belmonte Ribeiro¹

ABSTRACT: Objectives: To Identify in the literature how the permanent education of the nurses of the operating room is held and to suggest a training roadmap. **Method:** Integrative review of articles indexed in the Virtual Health Library (VHL) and Google Scholar between 2002 and 2015. The descriptors used were the following: education in nursing, continuing education, training and surgical center. **Results:** The search led to 14 articles covering 4 main themes: continuing or permanent education as an important development for training on processes and technology; the nurse as educator and researcher; evaluation of the teaching-learning process; and distance education as an important tool for surgical center nurse training. **Conclusion:** Studies focused on the training of surgical center nurses are performed by means of distance education and the importance of on-the-job training using a script was reinforced.

Keywords: Education, nursing. Education, continuing. Inservice training. Surgicenters.

RESUMO: Objetivos: Identificar, na literatura, como é realizada a educação permanente do enfermeiro de Centro Cirúrgico (CC) e sugerir um roteiro de treinamento. **Método:** Revisão integrativa de artigos alojados na Biblioteca Virtual em Saúde (BVS) e no Google Acadêmico entre 2002 e 2015. Foram utilizados os descritores controlados: educação em enfermagem, educação continuada, capacitação em serviço e CC. **Resultados:** A busca permitiu a escolha de 14 artigos que abordaram 4 temas principais: a educação continuada ou permanente como importante desenvolvimento para a capacitação em relação aos processos e à tecnologia; o enfermeiro como educador e pesquisador; avaliação do ensino aprendizagem; e a educação a distância (EaD) como importante ferramenta para treinamento do enfermeiro de CC. **Conclusão:** Conclui-se que os estudos voltados para o treinamento do enfermeiro de CC são realizados na EAD; e foi apontada a importância do treinamento *in loco* seguindo um roteiro proposto.

Palavras-chave: Educação em enfermagem. Educação continuada. Capacitação em serviço. Centro Cirúrgico.

RESUMEN: Objetivos: Identificar, en la literatura, como se lleva a cabo la educación permanente de la enfermera del centro quirúrgico y sugerir un itinerario formativo. **Método:** Revisión Integrativa de los artículos alojados en la Biblioteca Virtual de Salud (BVS) y Google Scholar entre 2002 y 2015. Se utilizaron los descriptores controlados: educación en enfermería, educación continua, formación y quirófano. **Resultados:** La búsqueda ha permitido la selección de 14 artículos que abordaron 4 temas principales: la continua o permanente educación como un desarrollo importante para la creación de capacidad en relación con los procesos y la tecnología; la enfermera como educador e investigador; evaluación de centros quirúrgicos; la enseñanza y el aprendizaje; y la educación a distancia como una herramienta importante para la formación de enfermeras centros quirúrgicos. **Conclusión:** Se concluye que los estudios se centraron en el centro de formación enfermera quirúrgica se llevan a cabo en la educación a distancia; y fue nombrado la importancia de la formación *in situ* siguiendo una hoja de ruta propuesta.

Palabras clave: Educación en enfermería. Educación continua. Capacitación en servicio. Centros quirúrgicos.

¹Nurse. Master in nursing by the Professional Master's Degree Program of the São Camilo University Center. Specialist in Surgical and Central Center of Sterilized Material by the University of São Paulo (USP). Nurse in Moriah Hospital – São Paulo (SP), Brazil. E-mails: mauribe@terra.com.br, mariangela.ribeiro@hospitalmoriah.com.br

Received: 28 Nov. 2016 – Approved: 18 Apr. 2017

DOI: 10.5327/Z1414-4425201700020007

INTRODUCTION

To meet today's demands, it is necessary to rethink the work process in the operating room, aimed at an integrated assistance focused on patient safety with planning, education, and training¹.

Similarly, owing to the new demands of health organizations, nursing is also changing, and nurses need to expand their knowledge continuously².

Health education leads to the transformation of the collective knowledge of those involved in the work process within the health care field, creating a dynamics in the process of making and remaking³.

Individualized training is indicated as a proposal for health education, which enable the follow-up of the new employee before assuming his functions⁴.

Nursing education involves training the team on the improvement of techniques and technologies.

Knowledge can be acquired using films, group dynamics, virtual environment, computer programs, and in person presentations⁶.

The distance education became a training tool for the OR nurse and its advantages are the following: it is carried out in the workplace, professionals do not need to leave their job activities for too long, and the content of the training are provided by means of videos and teleconferences⁷.

The integrative review on how the permanent education of OR nurses is performed is necessary to contribute to the improvement of the care provided, as well as to the teaching, research, and administrative functions of OR nurses.

OBJECTIVES

To identify in literature how the permanent education of OR nurse is performed; and propose a training script for the operation room nurse.

METHOD

This is an integrative review on how the OR nurse is trained which used the six step methodological framework: problem formulation, establishment of inclusion and exclusion criteria, data collection from the texts, data evaluation collected, analysis and interpretation of data, and presentation of results⁸. The guiding question of this study was "How the permanent education of OR nurses is performed in institutions, with the new technologies and routines?"

Data were collected from January to June 2016. The *Biblioteca Virtual em Saúde* (BVS) was chosen for providing significant content from scientific materials of reference databases in health, such as *Literatura Latino-Americana de Ciências da Saúde da América Latina e do Caribe* (LILACS), *Literatura Internacional em Ciências da Saúde* (MEDLINE), *Biblioteca Cochrane*, *Scientific Electronic Library On-line* (SciELO) and *Base de Dados de Enfermagem* (BDENF). The descriptors in health sciences (acronym in Portuguese – DeCS) were used in combinations: education AND nurse AND operation room; continuing education AND nurse AND operation room; permanent education AND nurse AND operation room.

In order to expand the research because of the small numbers of articles found in literature involving training of OR nurses, Google Scholar was searched using the following combinations: continuing education AND permanent education; nurse AND operation room.

This extended period from 2002 to 2015 was justified by the scarce production related to articles focusing on OR nurse training.

Article titles that contained the words continuous or permanent education were analyzed, since many authors use these words as synonyms, in addition to nursing, operation room or perioperative, for the initial selection of the articles.

Subsequently, the abstracts of the articles were reviewed. After this reading, some articles were not included because they had the education as subject, but with focus in a specific training that did not meet the objectives of the study. We selected articles in Portuguese and English that contained information about how the permanent or continuing education of OR nurse was carried out. These articles also need to have full versions online, whether of free access or not.

Articles on nursing education which could contribute to the training of OR nurses were included, owing to the lack of studies involving education for OR nurses.

Articles which did not address the study subject and which were written in other languages than English were excluded.

For classification of levels of evidence of the articles, the following scale from 1 to 6 was applied:

- level 1 (C1): evidence from the meta-analysis of multiple controlled and randomized clinical studies;
- level 2 (C2): evidence from individual studies in experimental design;
- level 3 (C3): evidence from nearly experimental studies;
- level 4 (C4): evidence from descriptive studies (non-experimental) or qualitative approach;
- level 5 (C5): evidence from case reports or experience;
- level 6 (C6): evidence based on expert opinions⁹.

Article classification is a recommendation to any review study because it enriches and strengthens the conclusions regarding the topic searched.

After reading 14 articles and evaluating the data extracted from each text, data on authors, journal name or newspaper publication, country of origin, type of study, results, and level of evidence were included in a table.

The search provided a total of 357 items with the combinations shown in the flowchart (Figure 1).

RESULTS

Chart 1 shows the main characteristics of the studies included in the integrative review.

After reading 62 abstracts, 18 articles were selected, which were read in full; and studies have undergone an evaluation by the other inclusion criteria. Four articles were excluded: two did not respond to the research question and the other

two had insufficient data regarding the research objectives. Finally, 14 articles were chosen.

With regard to the articles characteristics, 13 articles were published in Portuguese and one in English. The year of publication ranged from 2002 to 2015. For the presentation of the results, a chart was organized with the following information: authors, newspapers or magazines, origin, types of study, nine descriptive studies (C4 level of evidence), a reflection study (C5 evidence level), a case report (C5 evidence level), two review studies (C4 evidence level), and a case study (C5 evidence level)⁹.

The year with highest number of publications (three) was 2008, followed by the years 2012 and 2007, with two publications each. The other articles were published between 2002 and 2015.

On the basis of the critical analysis of the articles, four thematic categories were identified concerning education for nursing or OR nursing, as follows: continuing or permanent education as an important development for training in

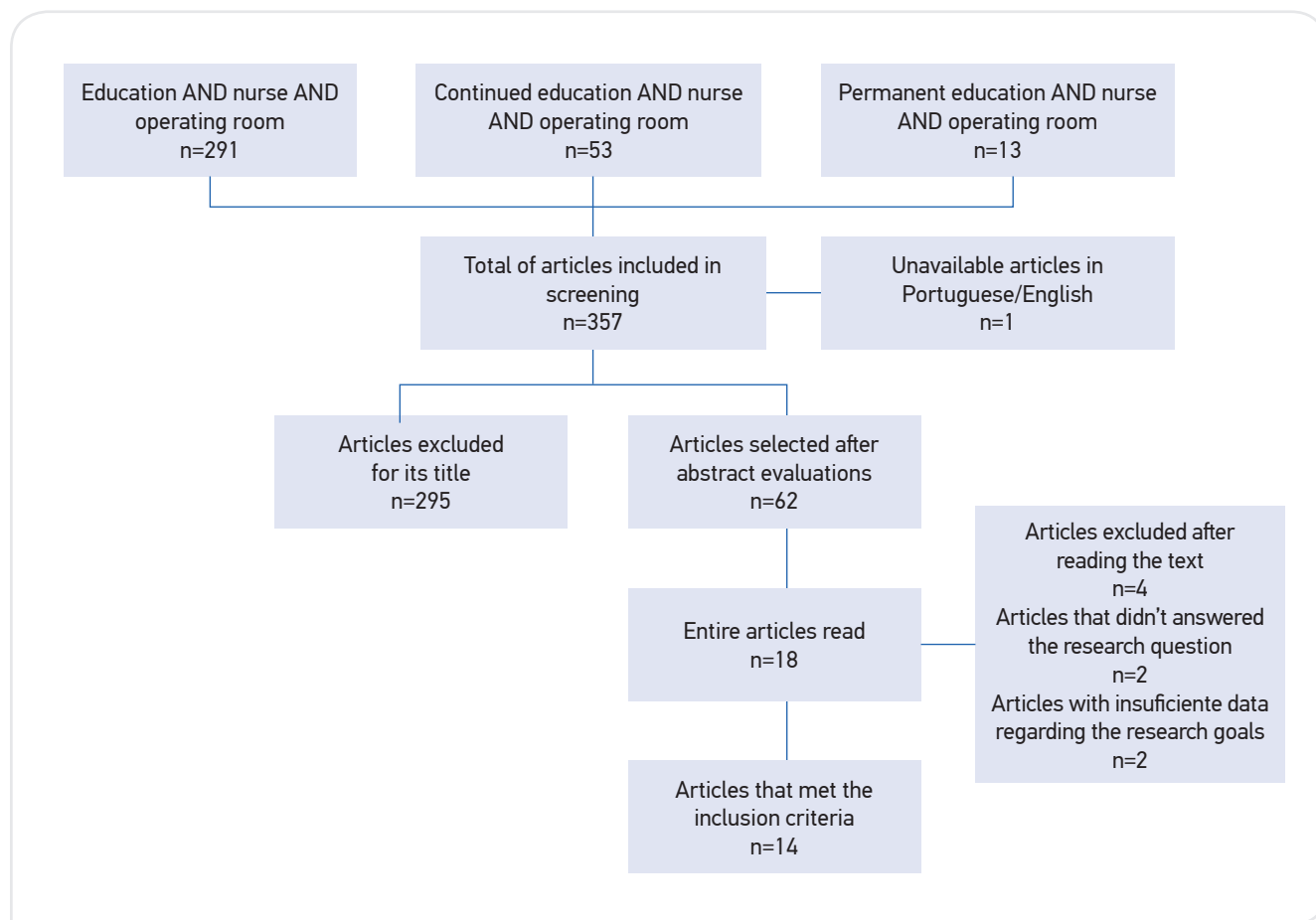


Figure 1. Flowchart of the scientific articles survey process.

Chart 1. Summary of studies found in relation to training for nursing and training of Operating Room Nurses.

Authors	Magazines/ newspaper	Origin	Type of study	Results	Level
Pereira et al. ¹ (2013)	<i>Revista de Pesquisa Cuidado é fundamental Online</i>	Brazil	Qualitative, descriptive and exploratory	Were classified in five categories that indicates, in nursing work process: multiple comprehensions on management process; the implications of power relations; understanding of the same as the nursing process, continuing education and technology seen as a necessity for the development of that process.	C4
Bezerra ² (2012)	<i>Revista Eletrônica de Enfermagem</i>	Brazil	Descriptive exploratory	Nurses believe in continuing education and most develop this activity annually; the predominant teaching and learning strategies are: exposure dialogue and questioning of cases; Programs include technical and behavioral skills and the evaluation is done through audit.	C4
Silva et al. ³ (2010)	<i>Revista Gaúcha de Enfermagem</i>	Brazil	Theoretical reflection	Such articulation presents an educational design for the sake of worker's awareness of the contributions in different ways to receive and pursue continuing education in health and work Nursing.	C5
Siqueira e Kurcgant ⁴ (2005)	<i>Revista de Enfermagem da USP</i>	Brazil	Research report	The program has been showing good results regarding the individualization of training and participation of nurses from the institution.	C5
Puggina et al. ⁵ (2015)	<i>Revista Espaço para a Saúde</i>	Brazil	Descriptive exploratory with qualitative approach	Highlights the difficulty of professionals to participate in activities for lack of people to replace them, the lack of optimization of time and personal interest. As for the strategies is the planning of actions with the teams. It is emphasized that the permanent health education must be understood as a tool to promote the improvement of workers and constructive changes in working process.	C4
Oliveira ⁶ (2007)	<i>Revista Brasileira de Enfermagem</i>	Brazil	Descriptive	Indicates that the continuing health education is one of the strategies for professional training through collective work among teachers. Alternatively the distance allows to build a new approach to their development.	C4
Castro e Takahashi ¹⁴ (2008)	<i>Revista de Enfermagem da USP</i>	Brazil	Qualitative content analysis shed	Results showed the opinion of nurses in three distinct categories: (1) difficulties perceived in the process of assessment of learning in relation to the availability of time; negative feelings towards the evaluation; and lack of concern with the results of the training are the challenges to be worked on a daily basis; (2) methodology developed in the process of learning assessment should consider different learning abilities, their experience and life history, and previous knowledge; (3) evaluation of the teaching-learning process as an accurate indicator of past actions and control the quality of education adopted in training.	C4
Silva et al. ¹⁵ (2008)	<i>Mundo Saúde</i>	Brazil	Descriptive exploratory	It is hoped that can help improve their performance and professional development and to improve the self-esteem of nurses in educational activities, not only the unit itself but possibly other promoted by the continuing education.	C4
Silva e Sieffert ¹⁶ (2009)	<i>Revista Brasileira de Enfermagem</i>	Brazil	Case study Prospective quali-quantitative	Reflections emerged on the development of educational processes in nursing were suggested, identifying challenges overcome by the group. To make the education of nursing professionals an ongoing process, one must consider the daily work as axis of the educational process, source of knowledge and object of transformation that emphasizes collective and interdisciplinary participation.	C5
Galvão et al. ¹⁷ (2002)	<i>Revista Latino-Americana de Enfermagem</i>	Brazil	Review article	Evidence-based practice; general concepts, importance and barriers to their implementation in professional practice in order to encourage the surgical nurses to seek scientific knowledge through the development of research and use of its results.	C4

Continue...

Chart 1. Continuation.

Authors	Magazines/ newspaper	Origin	Type of study	Results	Level
Sena et al. ¹⁸ (2013)	<i>Revista Gaúcha de Enfermagem</i>	Brazil	Descriptive with qualitative approach	Most of the of care refers to the orientation of the patient in preoperative period. Care were directed to the physical aspects at expense of the psychological, in disagreement with the assistance methodology adopted in the hospital, supported by the Theory of Basic Human Needs.	C4
Oliveira e Servo ⁷ (2004)	<i>Revista Sitientibus</i>	Brazil	Review article	The distance education in the presentation of the limits and possibilities, as a lifelong learning strategy for OR nurse on new technologies, training of professionals in the workplace, reaching a large number of people and groups, continuing processes of access to knowledge.	C4
Ortiz et al. ¹⁰ (2008)	<i>Revista Cogitare de Enfermagem</i>	Brazil	Descriptive with quantitative approach	Results showed that the majority (59%) had a specialist degree and worked for over 10 years in perioperative care. It was observed that 88% had computer at home and 100% of them had access to the internet, however, only 35% used. As for experience with distance education, 53% said they have no experience. Most participants (88%) were interested in the availability of distance education courses.	C4
Vigeant et al. ¹⁹ (2008)	<i>Journal Nurses</i>	English	Review article	The use of video in training can be classified into three categories: the use of video to show content; the use of video for self analysis and the integration of video in multimedia teaching programs.	C4

processes and technology; the nurse as educator and researcher; evaluation of teaching learning; and distance education as an important tool for OR nurse training.

In a study with 17 nurses working in perioperative care, 88% of participants showed interest in participating in a course of distance education, making suggestions for topics and having the possibility of reconciling time and add new knowledge¹⁰.

The research showed a lack of studies on how OR nurses are trained. On the basis of the nursing work according to Sanna model¹¹, a script for nursing training was developed in two stages: attend and participate in the pre-operative care, as well as to teach, research and administer to develop the nursing staff.

Attend and participate

- To be aware of the flowchart of the OR and the recovery room, as well as the location and operation of the support areas (pharmacy, clinical engineering, central sterile material, pathology lab and clinical analysis, computer system).
- To be aware of the standard operating procedures and how to get access.
- To receive the patient in the OR, checking full name and date of birth.
- To verify the terms: surgical, anesthetic and blood transfusion when needed.
- To verify the demarcation of the surgical site, where applicable, on the importance of the *checklist* of safe surgery¹².
- To be aware of the importance of pre-anesthetic evaluation according to the profile of the patients assisted by the institution.
- To prepare *kits* for anesthesia and monitoring.
- To assist anesthesia with notions regarding the types of anesthesia; actions of anesthetic drugs, adverse reactions, complications and pain control, which can be prepared in two parts: theoretical (with videos and lessons) and practical.
- To prepare different types of invasive monitoring.
- To attend the operating room (OR) in case of cardiac arrest.
- To be aware of the OR installation routine, as well as of the request flow of the surgical kit at the pharmacy and devices in the central sterile material, and the equipment in OR and how these should be tested.
- To be aware of the responsibility of the nursing technician and his or her activities as circulating nurse during the surgical procedure.
- To refer the patient to the recovery room or intensive care unit (ICU).

- To reinforce the importance of infection control in the operating room, use of barriers and antiseptic procedures. Surgeries do not occur in absolutely sterile conditions. There is always the possibility of penetration of microorganisms, both from exogenous (air, professionals, equipment etc.) and endogenous sources (from the patient itself)¹³.
- To fill out the safe surgery *checklist* with the multidisciplinary team, focused on patient safety.
- To be aware of the surgical positions and the main types of surgical positioning and accessories used for protection (positioners).
- To perform nursing recording in OR of all operative period with details of anesthesia, positioning, surgery, and description of special and consigned materials to avoid claim denials by the insurance companies.
- In case of complications, must report the details of the care provided by the professional staff.
- To be aware of the functioning of the equipment and its use for each surgical procedure.
- To develop abilities on computer system used in the institution.
- To be aware of the admission routines of care in patient care in the recovery room.

Teaching, research and administration

- Training and retraining of the routines with the team and with new employees.
- Review and development of new Standard Operational Procedures (SOPs).
- Team sizing, as well as elaboration of time off and vacations schedules and daily activities of employees.
- To be aware of the flow of the surgical schedule and the operation of the daily routine of surgical map, as well as distribution of procedures in operating theaters.
- To verify the request by the surgical map in order to predict and provide materials and equipment for each procedure.
- To ensure adherence of the multidisciplinary team to the safe surgery *checklist*¹².
- To be aware of the indicators and participate, so that the goals are achieved.
- To acquire knowledge concerning health accreditations.
- To work on the reduction of costs in the OR, thus avoiding the waste with the opening of materials.
- To participate in the preparation of scientific papers for publication of research in nursing.

DISCUSSION

The literature review identified the most articles as descriptive studies and case reports. On the basis of the adopted methodological framework, study categories are classified in the levels of evidence C4 and C5.

This result showed that studies, such as cohort studies and systematic reviews with meta-analyses⁹ need to be developed to improve the number of scientific evidence on the subject of study.

Despite the fragility of the studies, these have important concepts and information that addresses the guiding question of the review.

The main issues identified in the critical analysis of the articles and their implications are presented and discussed next..

Development as researcher and educator

The importance of delivering teaching and learning in the workplace is emerging as an education tool in health organizations¹⁴.

The development of the nursing staff is on the scope of the nurse responsible for continuing education, who should have the support of other nurses of the institution; however, this nurse should be developed as an educator and share this knowledge with the entire nursing team¹⁵.

Continuing Education in Nursing, as methodological proposal, is considered important. Thus, the content developed should be focused on daily life, considering the daily work, the needs of the health field and institution, and technological evolution^{16,17}.

The implementation of evidence-based practice in perioperative nursing contributes to the improvement of care and to reduce costs¹⁷.

In OR, the nurse has the responsibility to ensure the quality of care in order to reduce damage to the patient, as well as to act as opinion maker and train his or her team¹⁸.

Education and technology

Distance education is a lifelong learning strategy for OR nurses, and an important tool to facilitate access to knowledge, in which learning occurs in the workplace, via teleconference or videoconference⁷.

For OR nurses, distance education have some weaknesses that may compromise the training, such as intense surgical agenda, which may hinder the output of the operating room nurse for training in computer, as well as difficulties regarding the use of the media⁷⁻¹⁰.

Training

With technology increasingly present in surgical procedures, preparing the nurse of the operating room for the use of this technology is a concern, but not cease to provide a humanized care to the patient¹.

The combination of teaching resources, such as movies, group dynamics, educational mannequins and simulated situations for discussions and evaluations of procedures, led to a greater involvement of the team in the training, with effective participation of the supervisor and newly hired nurse⁴.

In a study conducted in the hospitalization unit, which had the supervisor nurse following the training and the development of the newly admitted nurse, using a script⁴ was the basis for the construction of the OR nurse training script, as well as the use of video in training for OR nurses, in which knowledge is acquired through the simulation of practical experience and theoretical reference¹⁹.

Nurse educator profile

The instructor, as planner and executor of the process, should establish concrete relations between theory, practice and reality; being the OR a highly complex sector, the nurse educator should have knowledge and mastery the routines, both administrative and care routines, to train new nurses and the nursing staff.^{10,16}

The OR nurse, according to the *Associação Brasileira de Enfermeiros de Centro Cirúrgico, Recuperação Anestésica e Centro de Material e Esterilização (SOBECC)*, is a qualified professional to manage the needs involving the anesthetic-surgical procedure in all its stages. It is recommended for the nurse to be an expert in the field of knowledge in which he operates²⁰.

Process evaluation and learning

The evaluation of the teaching-learning process shows real results through reliable instruments such as weak points, difficulties and how to overcome these failures, thus improving such articulation¹⁴.

The technique of using video as self examination is an important tool for analysis and self knowledge¹⁹.

Limitations

The study showed a reduced number of articles, and publications have didactic references based on studies with poor levels of evidence (C4 and C5).

CONCLUSION

The two studies related to the OR nurse education showed the distance education as a training tool, and an article indicated the use of video as a tool for education

This search revealed a study that indicates the importance of *on-site* training for nurses in the inpatient care unit. The model can be adapted to the OR, because of the high complexity and technology increasingly applied to the equipment. It is important for nurses to receive training in their workplace.

Based on this article, a script has been submitted to the OR nurse, taking into account the care, educational, research and administrative aspects.

The assessment is of great importance for the return of investment in learning and was mentioned in several articles of the study, facilitating interaction between educator and collaborator, providing opinions about the training content, which in turn leads to improvements in the teaching-learning process.

REFERENCES

1. Pereira FCC, Bonfada D, Valença CN, Miranda FAN, Germano RM [Internet]. Compressão de enfermeiros de centro cirúrgico a respeito do seu processo de trabalho. *Rev Pesq Cuid Fundam*. 2013 [acesso 20 mar. 2016];5(1):3251-8. Disponível em: http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/1879/pdf_675
2. Bezerra ALQ. O contexto da educação continuada em enfermagem na visão dos gerentes de enfermagem e dos enfermeiros de educação continuada. *Rev Eletron Enferm*. 2002 [acesso 13 mar. 2016];4(1):66. Disponível em: <https://www.revistas.ufg.br/fen/article/view/734/794>
3. Silva LAA, Ferraz F, Lino MM, Backes VMS, Schmidt SMS [Internet]. Educação permanente em saúde e no trabalho de enfermagem: perspectiva de uma práxis transformadora. *Rev Gaúcha Enferm*. 2010 [acesso 13 abr. 2016];31(3):557-61. Disponível em: <http://dx.doi.org/10.1590/S1983-14472010000300021>
4. Siqueira ILCP, Kurcgant P [Internet]. Estratégia de capacitação de enfermeiros recém-admitidos em unidades de internação geral. *Rev Enferm USP*. 2005 [acesso 12 maio 2016];39(3):231-51. Disponível em: <http://dx.doi.org/10.1590/S0080-62342005000300002>

5. Puggina CC, Amestoy SC, Fernandes HN, Carvalho LA, Bão ACP, Alves FO [Internet]. Educação Permanente em Saúde: instrumento de transformação do trabalho de enfermeiros. *Rev Espaço Saúde*. 2015 [acesso 18 mar. 2016];16(4):87-97. Disponível em: <http://www.uel.br/revistas/uel/index.php/espacoparasaude/article/view/22580/11>
6. Oliveira MAN [Internet]. Educação à distância como estratégia para a educação permanente: possibilidades e desafios. *Rev Bras Enferm*. 2007 [acesso 13 abr. 2016];60(5):585-9. Disponível em: <http://www.scielo.br/pdf/reben/v60n5/v60n5a19>
7. Oliveira MAN, Servo MLS [Internet]. A educação à distância como estratégia da educação permanente do enfermeiro em centro cirúrgico frente as novas tecnologias. *Rev Sitientibus*. 2004 [acesso 5 mar. 2015];(30):9-20. Disponível em: http://www2.uefs.br/sitientibus/pdf/30/educacao_a_distancia_como_estrategia.pdf
8. Mendes KDS, Silveira RCCP, Galvão CM [Internet]. Revisão Integrativa: Método de pesquisa para a incorporação de evidências na saúde e na enfermagem. *Rev Texto Contexto Enferm*. 2008 [acesso 5 mar. 2016];17(4):758-64. Disponível em: <http://producao.usp.br/handle/BDPI/3509>
9. Stetler CB, Morsi D, Rucki S, Broughton S, Corrigan B, Fitzgerald J, et al. Utilization-focused integrative reviews in a nursing service. *Appl Nurs Res*. 1998;11(4):195-206.
10. Ortiz MCL, Ribeiro RP, Garanhani ML [Internet]. Educação à distância: uma ferramenta para a educação permanente de enfermeiros que trabalham com assistência perioperatória. *Rev Cogitare Enferm*. 2008 [acesso 8 jan. 2016];13(4):558-65. Disponível em: <http://revistas.ufpr.br/cogitare/article/view/13116/8874>
11. Sanna MC [Internet]. Os processos de trabalho em enfermagem. *Rev Bras Enferm*. 2007 [acesso 31 mar. 2017];60(2):221-4. Disponível em: <https://dx.doi.org/10.1590/S0034-71672007000200018>
12. Organização Mundial da Saúde [Internet]. Segundo desafio global para a segurança do paciente: cirurgias seguras salvam vidas. Rio de Janeiro: Organização Pan-Americana da Saúde/Ministério da Saúde/Agência Nacional de Vigilância Sanitária; 2009 [acesso fev. 2016]. Disponível em: http://bvsmms.saude.gov.br/bvs/publicacoes/seguranca_paciente_cirurgia_salva_manual.pdf
13. Lacerda RA. Controle de infecção em centro cirúrgico fatos, mitos e controvérsias. São Paulo: Atheneu; 2003.
14. Castro LC, Takahashi RT [Internet]. Percepção dos enfermeiros sobre a avaliação da aprendizagem nos treinamentos desenvolvidos em um hospital de São Paulo. *Rev Enferm USP*. 2008 [acesso 10 fev. 2016];42(2):305-11. Disponível em: <http://dx.doi.org/10.1590/S0080-62342008000200014>
15. Silva MF, Conceição FA, Leite MMJ [Internet]. Educação continuada: um levantamento de necessidades da equipe de enfermagem. *Mundo Saúde*. 2008 [acesso 15 jan. 2016];32(1):47-55. Disponível em: <http://romeukreutz.com/sirio/wp-content/uploads/2016/10/07-01.pdf>
16. Silva GM, Seiffert OM [Internet]. Educação continuada em enfermagem: uma proposta metodológica. *Rev Bras Enferm*. 2009 [acesso 8 mar. 2016];62(3):362-5. Disponível em: <http://dx.doi.org/10.1590/S0034-71672009000300005>
17. Galvão CM, Sawada NO, Rossi LA [Internet]. A prática baseada em evidências: considerações teóricas para sua implementação na enfermagem peri-operatória. *Rev Latino-Am Enferm*. 2002 [acesso 8 jan. 2016];10(5):690-5. Disponível em: <http://dx.doi.org/10.1590/S0104-11692002000500010>
18. Sena AC, Nascimento ERP, Maia ARCR [Internet]. Prática do enfermeiro no cuidado ao paciente no pré-operatório imediato de cirurgia eletiva. *Rev Gaúcha Enferm*. 2013 [acesso 22 mar. 2017];34(3):132-7. Disponível em: <https://dx.doi.org/10.1590/S1983-14472013000300017>
19. Vigeant D, Lefebvre H, Reidy M. The use of video as a pedagogic tool for the training of perioperative nurses: a literature review. *J Nurs*. 2008;26(1):17-20.
20. Associação Brasileira de Enfermeiros de Centro Cirúrgico, Recuperação Anestésica e Centro de Material e Esterilização. Práticas recomendadas. 4ª ed. São Paulo: SOBECC; 2009.