




EXPERIENCE REPORT

Permanent education in nursing care in the maintenance of the central venous catheter of peripheral insertion


Educação permanente em cuidados de enfermagem na manutenção do cateter venoso central de inserção periférica

Educación continua en cuidados de enfermería en el mantenimiento del catéter venoso central de inserción periférica


Klebson Rodrigues da Silva¹

 <https://orcid.org/0000-0003-3081-063X>


Lais Gabriela da Silva Neves¹

 <https://orcid.org/0000-0002-5200-5036>

Luciane Fayal da Silva¹

 <https://orcid.org/0000-0003-3867-2825>

Marcos José Risuenho Brito Silva¹

 <https://orcid.org/0000-0002-4229-8808>

Alzinei Simor¹

 <https://orcid.org/0000-0002-3848-5467>

¹Universidade do Estado do Pará. Belém, Pará, Brasil.

ABSTRACT

Objective: To report a continuing education activity on the maintenance of PICC developed by nurses and nursing students in an oncology hospital. **Methods:** This is a study of the type of experience report based on Problematization following the five stages of the Maguerz Arch. In the observation, the use of PICC was verified in the hospital therapy protocol, and the complexity of its use was considered, focusing on the need for updating on care. For the theorization, a literature review was performed. In the fourth stage, a permanent education was defined as an approach with professionals. The activity occurred with the realization of a Quiz and explanation of the content with the didactic material produced. **Results:** Quiz questions and material targeted activity. The team demonstrated to know the answers, and it was up to the mediator to complement the subject. The activity has given way to the standardization of catheter procedures and care, in addition to the sharing of experience among professionals. **Conclusion:** In the use of PICC, improving care promotes the prevention of complications and effective care. The continuity of developing the theme is necessary, because the improvement of the professional needs to be continuous.

Descriptors: Central Venous Catheters, Catheterization, Peripheral. Oncology Nursing. Nursing Care. Education, Continuing.

RESUMO

Objetivo: Relatar uma atividade de educação permanente sobre a manutenção do PICC desenvolvida por enfermeiros e estudantes de enfermagem em um hospital oncológico. **Métodos:** Trata-se de um estudo do tipo relato de experiência baseado na Problematização seguindo as cinco etapas do Arco de Maguerz. Na observação, constatou-se a utilização do PICC no protocolo de terapia do hospital, e considerou-se a complexidade de sua utilização, incidindo na necessidade de atualização acerca dos cuidados. Para a teorização, foi realizada uma revisão da literatura. Na quarta etapa, definiu-se uma educação permanente como abordagem com os profissionais. A atividade ocorreu com a realização de um Quiz e explanação do conteúdo com o material didático produzido. **Resultados:** As perguntas do Quiz e o material direcionaram a atividade. A equipe demonstrou saber as respostas, cabendo ao mediador a complementação do assunto. A atividade oportunizou à padronização de condutas e cuidados com o cateter, além do compartilhamento de experiência entre os profissionais. **Conclusão:** Na utilização do PICC, aperfeiçoar os cuidados promove a prevenção de intercorrências e efetiva a assistência. A continuidade de se desenvolver a temática é necessária, pois o aperfeiçoamento do profissional precisa ser contínuo.

Descritores: Cateterismo Venoso Central. Cateterismo Periférico. Enfermagem Oncológica. Cuidados de enfermagem. Educação Continuada.

RESUMÉN

Objetivo: Relatar una actividad de educación continua sobre el mantenimiento del PICC, desarrollada por enfermeros y estudiantes de enfermería en un hospital oncológico. **Métodos:** Se trata de un estudio de relato de experiencia basado en la Problematización, siguiendo las cinco etapas del Arco de Maguerz. En la observación, se verificó el uso del PICC en el protocolo de terapia del hospital y se consideró la complejidad de su uso, con foco en la necesidad de actualización sobre el cuidado. Para la teorización, se realizó una revisión bibliográfica. En la cuarta etapa, la educación continua se definió como un acercamiento con los profesionales. La actividad se desarrolló a través de la realización de un Quiz y explicación del contenido con el material didáctico producido. **Resultados:** Las preguntas del cuestionario y el material guiaron la actividad. El equipo demostró que conocía las respuestas, correspondiendo al mediador complementar el tema. La actividad brindó la oportunidad de estandarizar procedimientos y cuidados con el catéter, además de compartir experiencias entre profesionales. **Conclusión:** En la utilización del PICC, mejorar la atención promovió la prevención de complicaciones y una atención eficaz. La continuidad en el desarrollo del tema es necesaria, ya que la superación profesional debe ser continua.

Descriptorios: Cateterismo Venoso Central. Sondaje Periférico. Enfermería Oncológica. Cuidados de Enfermería. Educación Continua.

INTRODUCTION

The Peripheral Inserted Central Catheter (PICC) is a flexible, long silicone tube. Its insertion happens in peripheral veins, progressing to the cephalic vein. Being a catheter of prolonged use, and generating greater safety and comfort for the patient, it was considered a great technological advance that allowed the expansion of nursing care actions, leading professionals working in this area to acquire better technical-scientific training to provide qualified care to users. ⁽¹⁻²⁾

One of the areas of activity of nursing professionals in the use of PICC is intravenous therapy. The nursing team plays an important role in the practice and interventions during the insertion and maintenance of PICC. Among the forms of PICC maintenance, the nurse showed activity in the prevention and control of infections caused by this type of device, through monitoring and immediate prognosis. Thus, ensuring an efficient and safe procedure, providing comfort and quality of life for the patient experience. ⁽¹⁻²⁾

Because it is an invasive and complex technique, it is essential for nursing professionals to update the theoretical and practical knowledge of this maintenance. ⁽³⁾ Continuing health education (CHE) is a strategy aimed at the qualification and professional development in health care and management, based on the needs of the sector, in order to favor individual and collective care, instituted by Ordinance No. 198/GM/MS of 2004. ⁽⁴⁾

The CHE can be established in health institutions through educational activities that place the professional as the author of their learning, associating theoretical knowledge with the experiences of practice and complementing the gaps in the training process. ⁽⁴⁾ These training activities contribute to technical improvement, based on scientific knowledge, error prevention, and stimulate critical thinking and worker autonomy. ⁽⁵⁾

Therefore, promoting CHE in health institutions is a strategy of great value for the quality of care, because it enables the review and correction of routine practice and techniques, the integration of new technologies and ways of providing care and professional empowerment. It also reaffirms its value in sectors where high complexity activities are developed, emphasizing the optimization of the team in the execution of such actions. ⁽⁵⁾

In view of the relevance and impact of this theme on health care and the need for professional updating for the care of the central peripheral catheter referred to here, this study aims to report a permanent education activity on nursing care with PICC developed by nurses and nursing students in an oncology hospital.

METHODS

This is a study of the type of experience report developed in a Public Oncology Hospital located in the city of Belém-Pará. The methodology adopted for the development of the study was Problematization ⁽⁶⁾, based on the Maguerez Arch, composed of five stages, being the starting point the observation of

Permanent education in nursing care.. reality, because it allows those involved to identify and extract existing problems and then develop the stages of surveying the key points, theorization, hypotheses of solution and application to reality. ⁽⁷⁾

From the methodological division, the first stage occurred in the outpatient chemotherapy sector of the hospital, where the nursing team is at the head, with 12 professionals in the morning shift and 11 professionals in the afternoon shift. The observation started because the use of chemotherapy protocols with a long-term regimen in the hospital and adhere to PICC as appropriate for this type of therapy. On the other hand, catheter obstruction, infectious processes and catheter loss are potential risks, so the head of the sector asked the resident for training and the use of PICC care for the team, with the proposal extended to the preceptor and the group of students present in the sector during the practical class period.

Thus, the second stage was followed, referring to the key points. From the collection of information, the risks of the use of PICC were considered, focusing on the need for updating on the care, management and maintenance of these catheters to avoid complications.

For theorization, a fundamental step to consolidate the theme and guide the approach strategies, a literature review was conducted in the Databases Medical Literature Analysis and Retrieval System Online (MEDLINE), Latin American and Caribbean Literature on Health Sciences (LILACS), Nursing Database (BDENF), Municipal Health Secretariat and Collect SUS, with the use of the descriptors "Peripheral Catheterization"; "Oncology Nursing"; "Nursing care"; "Permanent Education". Articles in English, Portuguese and Spanish were included, with a time frame from 2016 to 2021, available in full and free of charge and addressing the maintenance of PICC as the main subject. Duplicate articles, and those that after reading in full did not present aspects to contribute to the study were excluded. Thus, after submitted to the inclusion and exclusion and reading criteria in the study, the sample totaled 27 articles that supported the theorization of the theme.

In the fourth stage, it was defined the realization of a permanent education as an approach to the theme with professionals, in two moments: The first was the development of a virtual support material in portable document format (PDF), containing the summary of the main information on nursing care with PICC, aiming to provide practical access for professionals to this information, and to use as a driver in the second approach. The second moment was a permanent education action performed directly with the professionals, which occurred through a Quiz containing 15 questions, according to **Chart 1**, being distributed among nursing technicians and nurses in order to be answered according to the level of knowledge of each professional.

The application of continuing education in the return to the hospital sector occurred with the participation of 23 nursing professionals in total, in the morning and afternoon, in their respective shifts, being mediated and assisted by 1 resident and 1 teacher. In addition, it was also attended by nurses

Chart 1. Quiz questions. Belém, Pará, Brazil, 2022.

QUIZ: NURSING CARE IN PICC MAINTENANCE
1. What does the acronym PICC mean?
2. What is the purpose of PICC?
3. What are the advantages of having a PICC?
4. What are the disadvantages of PICC?
5. What care should we take with PICC caps?
6. What are the main differences between PICC and Port-a-Cath?
7. What complications can the inadequate management of PICC cause?
8. Why PICC may be indicated for cancer patients who perform chemotherapy?
9. What care should we take with PICC Connections during anti-drug infusion neoplastic?
10. Should we heparinize PICC?
11. Describe how PICC is washed.
12. Can we use non-sterile covers as PICC dressing?
13. Describe how PICC dressing changes are performed?
14. Cite possible phlogistic signs related to PICC?
15. What are the possible causes of PICC obstruction?

Source: The authors (2022).

RESULTS

The observation stage allowed us to verify that patients in the sector used PICC because they presented the need for venous access to the infusion of an irritant drug for a long time without causing pain, discomfort, reaction and extravasation. Therefore, in the second stage, it was defined in working the maintenance of risk, based on the complications of catheter management and the importance of updating the professionals who are responsible for this care, since the knowledge about PICC needs to be the competence of the entire nursing team.

In the third stage, the 27 studies found contributed to the theorization by demonstrating the importance of PICC for oncologic nursing, especially in chemotherapy. In addition, it was possible to extract information for the construction of the virtual material on the nursing care with the PICC, explaining the catheter maintenance process.

The fourth stage culminated in the preparation of the PDF material for the action, according to ilus, which served to direct the discussion, having as content the related legislation, the techniques of dressings, stabilization and fixation of the catheter, the handling materials and the following check-lists: general care, PICC washing technique and complications (**Figure 1**).

In returning to reality, the activity was carried out in a room of the sector where there was the presence of 23 participants, 8 of the morning shift and 15 of the afternoon shift, in addition to the mediator, who performed the exhibition of the elaborated material, this was presented virtually in PDF, as an supporting instrument to the explanation of these questions and facilitation of the learning process, besides to being made available at the end for the entire sector, as a virtual document to support professionals.

Later, all received pieces of paper containing a quiz question, and the activity continued conducted by the answers of the professionals. It was followed by distributing a question to each participant so that all of them could be answered according to the knowledge of each one for knowledge exchange (**Figure 2**).

From the answers of the quiz, it was noticed that the participants answered all the questions, demonstrating knowledge about the subject, bringing relevant debates about daily PICC care within the chemotherapy outpatient clinic. It is believed that this positive result may be related to the time of operation in the sector. Thus, with the action performed, a space for sharing experiences was created and, on the part of the mediator, it was up to complement the answers and the direction of the discussion linking with the pertinent themes.

It was verified in the performance of the activity, the opportunity for the standardization of conducts and care with PICC, given the curiosities and different forms of execution and understanding, expressed by the team, of the techniques during catheter management. In the end, participants recognized the usefulness of actions such as this for the review of knowledge and the improvement of skills.

DISCUSSION

PICC enables safe outpatient care and has several advantages when compared to other central catheters, such as: the reduction of the risk of pneumothorax, sepsis; cost-benefit compared to other catheters; greater comfort for patients; easy care and its medium and long duration time. Furthermore, it provides a greater hemodilution, due to being a central catheter and reduces the risk of the appearance of several complications. ⁽⁸⁾

In view of the above, the need for the implementation of PICC for these users arises, however, despite the benefits of this catheter, the nursing team should be attentive to the complications starring its use, and can be generated in its introduction, care and withdrawal. ⁽⁹⁾

Figure 1. Excerpts from the material in PDF. Belém, Pará, Brazil, 2022.



Source: The authors (2022).

Figure 2. Photographic records of the action. Belém, Pará, Brazil, 2022.



Source: The authors (2022).

Infection is the most frequent among them. It is usually caused by inadequate manipulation at the time of infusions. Another very common situation is obstruction, which occurs due to the precipitation of unviable drugs or the creation of clots in the lumen of the catheter, making it impossible to use PICC. (3)

Findings in the literature suggest the need for improvement in PICC care, since in these studies approximately 80% of catheter obstructions are diagnosed within 30 days after their insertion, thus, probably lost or incorrect washing practices were responsible for these occlusions. Corroborating this improvement in maintenance, after 30 days of PICC insertion, 70% of the infections at the exit site

appeared. Therefore, occurring in their average length of stay and suggesting that infections are tied to post-insertion care. (10)

Still with regard to catheter care, it is not enough that only the nurse is able to handle it, because the whole team must be able to perform essential care and thus ensure the correct maintenance, to avoid complications and allowing them to stay for a longer period, preferably until the end of treatment. (10)

So, it is necessary to update the nursing team, especially the nursing technician, since the handling of this equipment requires dexterity and knowledge about it, in order to ensure efficient care. For this, the promotion of the training of these professionals is

recommended, being the nurse qualified as educator, whose it is to analyze the nursing team and delegate who is able to manipulate such access. ⁽¹¹⁾

The use of continuing education for professionals who will handle PICC has been used as an efficient strategy to reduce complications, improving patient safety practices. Where the educator shows the care of patients using infusional therapy and the performance of standard operating procedures for catheter maintenance. ⁽¹²⁾

The CHE is an indispensable action for the improvement in the work sector, since it enables a team with competent, critical and reflective technical knowledge, in addition it provides the exchange of experiences among professionals, due to the improvement of the team, giving the nursing technician the opportunity of their self-development and self-realization. ⁽¹³⁾

Developing the activity reaffirmed the role of PHE in the quality of care, providing clarification of doubts, identification of deficiencies, correction of behaviors and organization of the practice. Thus, projects for professional training of the outpatient nursing team, aiming at health education, is essential for the support and growth of this team. ⁽¹⁴⁾

Furthermore, the participation of professionals, academics and residents was an important contribution to the development of the activity, by strengthening the relationship between teaching and the service, both because the work environment benefits from updated techniques and in the improvement of those involved through routine and professional practice. ⁽¹⁴⁾

It is noteworthy that the use of the problematization methodology, based on the Maguerez Arch, contributed to the realization of permanent education, bringing to the fore a relevant content of the care reality ⁽⁶⁾. Moreover, educational interventions have the potential to transform realities and provide direct benefits to patients.

In 2018, a study was conducted with the application of the same methodology in a Psychosocial Care Center (CAPS) in the state of Ceará, so that the authors could conclude that the knowledge constructed with the practice favored a directed learning and interrelated with new meanings applied to routine. In addition to bringing the professional closer to the study and bringing contributions to the service. ⁽¹⁵⁾

Finally, the demand for services from the place where the training was developed stood out as a limiting point for PHE, given that there could be complications that favor the inattention of the team in the educational process. However, despite the limitations, the study allowed the implementation of permanent education activities focused on updating nursing professionals, enabling a self-criticism about the knowledge and practices made during their care.

As a contribution of the study, we highlight that the educational action and the material produced will help as a basis of good practices for the nursing team of the sector, and can be consulted at any time, favoring the quality of care in the institution. Another point is the possibility of replication of this type of activity, using the methodology of the Maguerez Arc in other care realities of the country.

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CONCLUSION

The methodology used made it possible to approach a permanent education based on some problems in the use of PICC, providing a form of intervention to the context with the presentation of the virtual material produced and construction of learning from the exchange of experiences among professionals, residents and academics.

Continuing education is fundamental for professional improvement regardless of the area of activity. In the hospital context, for the nursing team in the use of PICC, improving care promotes the prevention of infections, obstructions and catheter losses, among other complications, in addition to effective care.

We conclude that the continuity of developing the theme is necessary, because the improvement of the nursing professional needs to be continuous, since technical knowledge is quickly renewed and nurses need to exercise quality, comprehensive and humanized care by competence, manage the nursing team and provide the exchange of knowledge with them in order to unify care and minimize complications.

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Financing source: No

Conflicts of interest: No

Date of submission: 2022/16/04

Accepted: 2022/28/09

Publication: 2022/22/11

Corresponding author:

Marcos José Risuenho Brito Silva

E-mail: Marcosrisuenho.1@hotmail.com

How to cite this article:

Silva KR, Neves LGS, Silva LF, Silva MJRB, Simor A. Permanent education in nursing care in the maintenance of the central venous catheter of peripheral insertion. *Rev Enferm UFPI* [internet]. 2022 [Cited ano mês abreviado dia];11:e2556. DOI: 10.26694/reufpi.v11i1.2556

