

Matrix of collective competences of nurses in perioperative care

Matriz de competências coletivas do enfermeiro na assistência perioperatória

Matriz de competencias colectivas de enfermeros en cuidados perioperatorios

Beatriz Regina da Silva^I, Laura Andrian Leal^{II}, Mirelle Inácio Soares^{III},
Zélia Marilda Rodrigues Resck^{IV}, Aline Teixeira Silva^{II}, Silvia Helena Henriques^{II}

^IFaculdade Pitágoras, Ribeirão Preto, SP, Brazil; ^{II}Universidade de São Paulo, Ribeirão Preto, SP, Brazil;
^{III}Centro Universitário de Lavras, Lavras, MG, Brazil; ^{IV}Universidade Federal de Alfenas, Alfenas, MG, Brazil

ABSTRACT

Objective: to develop a matrix of collective competences of nurses in perioperative care. **Method:** in this qualitative study, 43 perioperative nurses working in five hospital institutions participated in focus groups, from January to April 2018. The data were interpreted by inductive thematic analysis. The study was approved by the research ethics committee of the proponent institution. **Results:** the collective competences identified included: knowledge of the specifics of care and the perioperative unit; management of material and financial resources; and people management and teamwork. The competency matrix was built up from the focus group discussions, plus the literature, which included the meanings and behaviors associated with each competency. **Conclusions:** a matrix of nurses' collective competences should direct the human talents available in the organization towards positions and functions by identifying these professionals' existing competences and gaps in their training to provide perioperative care.

Descriptors: Hospitals; Surgicenters; Perioperative Nursing; Nurses; Professional Competence.

RESUMO

Objetivo: desenvolver uma matriz de competências coletivas do enfermeiro na assistência perioperatória. **Método:** estudo qualitativo, com a participação de 43 enfermeiros perioperatórios atuantes em cinco instituições hospitalares. Utilizou-se a técnica de grupo focal, no período de janeiro a abril de 2018, e para interpretação dos dados, análise temática indutiva. Estudo aprovado pelo Comitê de Ética da instituição Proponente. **Resultados:** identificaram-se competências coletivas, tais como: conhecimento das especificidades do cuidado e da unidade perioperatória; gerência de recursos materiais e financeiros; gestão de pessoas e trabalho em equipe. A matriz de competências foi construída a partir das discussões que emergiram dos grupos focais, acrescida da literatura, incluindo seus significados e comportamentos associados a cada competência. **Conclusões:** uma matriz de competências coletivas dos enfermeiros deve direcionar os talentos humanos disponíveis na organização para os cargos/funções, ao permitir reconhecer competências existentes e identificar lacunas na formação deste profissional para atuação na assistência perioperatória.

Descritores: Hospitais; Centros Cirúrgicos; Enfermagem Perioperatória; Enfermeiras e Enfermeiros; Competência Profissional.

RESUMEN

Objetivo: desarrollar una matriz de competencias colectivas de enfermeros en cuidados perioperatorios. **Método:** estudio cualitativo, con participación de 43 enfermeros perioperatorios que laboran en cinco instituciones hospitalarias. Se utilizó la técnica del grupo focal, de enero a abril de 2018 y, para la interpretación de los datos, análisis temático inductivo. Estudio aprobado por el Comité de Ética de la institución proponente. **Resultados:** se identificaron competencias colectivas, como: conocimiento de las especificidades del cuidado y de la unidad perioperatoria; gestión de recursos materiales y financieros; gestión de personas y trabajo en equipo. La matriz de competencias se construyó a partir de las discusiones que surgieron de los grupos focales, además de la literatura, incluyendo sus significados y comportamientos asociados a cada competencia. **Conclusiones:** una matriz de competencias colectivas de los enfermeros debe orientar los talentos humanos disponibles en la organización para puestos/funciones, permitiendo el reconocimiento de competencias existentes e identificando brechas en la formación de este profesional para su trabajo en cuidados perioperatorios.

Descritores: Hospitales; Centros Quirúrgicos; Enfermería Perioperatoria; Enfermeras y Enfermeros; Competencia Profesional.

INTRODUCTION

Due to the complexity of hospital organizations, specifically in perioperative units, it becomes essential to develop the health professionals' competences in this context¹, which can be consolidated based on a management model adapted to the institutional reality that focuses on expansion of knowledge, skills and attitudes of their human talent².

A number of researchers point out that, when it comes to professional competences, regardless of the profession, they can be characterized in three dimensions: essential, collective and individual³. Essential competences express the organizational dimension⁴, collective competences emphasize the specific functions of a certain area or sector of an organization and, for this reason, they must be present in all professionals who are in a given work environment⁵, and

individual competences are related to attitudes combined with the duties to be performed by the professionals⁴. For this study, we focus on the nurses' collective competences in perioperative units, considering that identification of these competences must show the professional profile required to develop specific functions in this hospital area.

In this regard, considering that the activities performed by nurses in the perioperative environment occur in a highly technological and complex health context, it is necessary to effectively recognize the competences of these employees⁵.

It is known that perioperative nurses are the professionals authorized to manage the pre-, intra- and post-operative phases in Surgical Units. In addition to professional qualification according to their functions, nurses must have additional training in the following areas: prevention of infections in the surgical environment, disinfection methods, sterilization, knowledge of materials and equipment and knowledge of safety measures⁷, among others. Thus, perioperative nurses take on activities in the managerial and care scopes.

The nurses' managerial role must include planning, organization, direction, control and assessment of the actions developed in this setting⁸. Regarding the care role, most of the activities performed are user-oriented, including venous punctures and non-invasive monitoring, among others. There are also indirect care activities for people who use the services in the surgical unit, considered as care activities inherent to nurses⁷. In particular, the collective competences of these professionals are important to us, considering that their identification makes it possible to elaborate a management tool, the guiding and flexible matrix of competences, subjected to constant review by the managers, in view of the dynamism of the nurses' work process in this scenario and the need for teams with appropriate profiles for their performance.

It is known that the perioperative phase consists of periods, such as: immediate and mediate preoperative and intraoperative, immediate, mediate and late postoperative⁹. In this context, perioperative nurses are understood as those professionals who work at all times during the perioperative phase, that is, in spaces that serve surgical patients, not only inside the operating room.

Non-existence of a profile of professional competences for surgical units can lead to permanence of workers who are unable to respond to the demands imposed by that environment. It is worth emphasizing that, in Brazil, general competences for nurses have already been established in the National Curriculum Guidelines (*Diretrizes Curriculares Nacionais de Enfermagem*, DCNs); however, there are gaps regarding specific competences for nurses in perioperative care. In addition to that, there is lack of scientific studies fully describing the competences required for these professionals to work in the perioperative units of hospital institutions. Thus, this research should help nurses and managers, both in the recruitment and selection process, as well as in the training of professionals for this area of expertise.

Given such relevance, this study presents the following question: Which are the collective competences for nurses in perioperative care?

It is believed that the identification of the necessary competences for perioperative nurses, performed through the perception of the employee who works in surgical units, will allow for greater reliability in the development of a matrix containing their main competences and behaviors associated with each of them, helping the institution to recognize what needs to be improved in its human talent. Furthermore, the identification of competences must guide pedagogical projects for undergraduate Nursing courses in the training of nurses who will work in this area.

Thus, the objective of this study was to develop a matrix of the nurses' collective competences in perioperative care.

METHOD

This is a descriptive study with a qualitative approach that follows the recommendations set forth in the Consolidated Criteria for Reporting Qualitative Research (COREQ). The scenario consisted of five private hospital institutions in the state of Minas Gerais that had perioperative units, which will be called Private Hospitals I, II, III, IV and V in this study. Data collection took place from January to April 2018.

A total of 52 male and female perioperative nurses who had been working for more than six months were invited to participate in the study, for considering that this experience time allowed recognizing of their competences. In addition, nurses who were on vacation or distanced due to medical leave were excluded.

To sensitize nurses to participate in the research, a previous contact was made with the Responsible Technicians (RTs) and the nurses who met the inclusion requirements to participate in the research were selected.

Subsequently, and after authorization by the institution, the date, time and place were defined together with the RT. A written invitation was prepared defining the date and time, and the locations chosen were meeting rooms of the institutions, with their authorization. Subsequently, the nurses were invited through an electronic address (email message) sent by the RTs of their respective institutions and through an invitation letter, prepared by the authors of this study, which was also delivered by the RTs to the nurses.

For data collection, the Focus Group (FG) technique was used, in the work environment and during the participants' work shift, according to their availability. There was no difficulty gathering the nurses simultaneously according to the time chosen, which allowed them to be absent from the sector, as the demands were lower at those moments. Thus, groups were created in the morning and afternoon shifts, respecting the limit of people per focus group, as described in the literature. Six meetings were held, as follows: In Hospital I, eight (18.60%) nurses; in Hospital II, 12 (27.90%) nurses, with two groups of six people; in Hospital III, seven (16.27%) nurses; in Hospital IV, nine (20.93%) nurses; and in Hospital V, seven (16.27%) nurses. Sharing of the same workplace was considered to assemble the groups, favoring the experience reports and greater interaction between the professionals.

The groups were led by the researcher (moderator) and a research assistant (observer), and the statements were recorded using digital devices, with prior authorization from the research participants. It is highlighted that the FG meetings were preceded by the application of a questionnaire containing sociodemographic and educational data, such as: gender, age, experience, level of training time, graduate studies, and professional experience. And for the course of the discussions, the research guiding questions were used, listed above.

The FGs lasted a mean of 55 minutes. After data collection, the recordings were transcribed and inductive thematic analysis was used for data analysis, following these stages: data transcription and reading; coding; search for themes through grouping codes; review of themes; ongoing analysis to refine the specificities of each theme; and, finally, final analysis of the excerpts selected¹⁰. Thus, the categories of competences emerged at the end of this process. It was decided to present the themes that emerged from the conversations recorded in the FGs with the respective statements by the participants, with the addition of the literature and the framework listed by Brazilians, English and Europeans^{3-6,9}. Thus, data analysis made it possible to identify the thematic units regarding the participants' profile and collective competences, which eventually allowed us to build a matrix of nurses' collective competences in the perioperative period and their associated behaviors.

This study was approved by the Research Ethics Committee (*Comitê de Ética em Pesquisa, CEP*) of the proposing institution under opinion No. 087/2017, and the participants signed the Free and Informed Consent Form. In order to preserve anonymity, it was decided to use the letter "E" for nurse (*"Enfermeiro"* in Portuguese), followed by an Arabic number according to the increasing chronological order in which the focus groups were held.

RESULTS

Characterization of the participants

The study participants were 43 nurses working in perioperative units where it was possible to observe prevalence of females (N=39; 90.6%) and predominance of the age group between 20 and 29 years old (N=17; 48.80%). The dominant working times were one and two years (N=8; 20.90%), with 24 (58%) participants stating to have professional experience in other hospitals, with a mean time of three years working in perioperative Nursing. However, only seven (16%) stated being specialized to work in this context and another 10 (23.25%) said that they had specializations in other areas.

Nurses' collective competences

Knowledge of the specificities inherent to care and to perioperative Nursing

The participants' testimonies highlighted the importance of obtaining information about the particularities of each surgery, patient and available resources, such as knowing the procedures, specific Nursing care measures and standards, among others:

I believe that, to work in the Surgical Center, you need to have an idea of what the surgery process is, from admission to exit; so the nurse has to know how to help with the anesthesia in the surgery process until recovery. That's general knowledge of the Surgical Center [E1 - Hospital I].

(...) it is necessary to know the standards of the sector, what Health Surveillance recommends, so you need to know the sector as a whole and what is right (...) what the law says... how to prevent hospital infection [E2 - Hospital II – Focus Group I].

Management of material and financial resources

Perioperative nurses must be aware of the physical and material resources required to carry out the surgical procedure and to assemble and disassemble the operating room. In addition to that, they must possess knowledge and skill to deal with the costs, guide their teams and avoid unnecessary costs:

I think that this competence comes with organization as well; you have to know a little about management, I think that you need to forecast, predict materials, expenses. Surgery is not possible without that [E5 - Hospital V].

People management in the perioperative unit

Regarding the competence of managing people in perioperative Nursing, nurses must be able to recognize the skills and aptitudes of their team, plan and organize the work routine and the staff:

(...) managing the Surgical Center and the employees from there as well (...) if there's a surgery going on here, I have to know who the circulating nurse is, if they really have the skills for that type of surgery; laparoscopy surgery for example, not everyone knows it [E1 - Hospital II - Focus Group II].

It's times, right... lunch time, the time for you to arrive and leave, the surgery times... organizing the dynamics of routine work [E3 - Hospital II - Focus Group I].

Teamwork

In their statements, the participating nurses point out that teamwork can be understood as the ability to communicate with the team, serve them when necessary, know how to be listened to, draw the attention of their team and have empathy.

(...) teamwork is having the attention of everyone around you, it's about calling, it's about being a natural leader... it's being listened to and being understood by all of your service. In addition to that, teamwork is communication, talking to the team, this forces the nurse to have a stance in front of the team and know how to work as a team [E6 - Hospital II - Focus Group I].

To work as a team, you need to have empathy, it is to put yourself in the other's shoes (...) it's not saying that I'm going to do what's mine anyway I've already finished my part and "screw" the other [E4 - Hospital I].

Matrix of collective competences

Based on the identification of the perioperative nurses' collective competences, in addition to the literature on the theme, it was possible to build a Matrix of these competences, as shown in Figure 1. Thus, for this study, it is relevant to highlight the matrix was not only prepared through discussion of the focus groups, but also by resorting to the national and international literature on the theme^{2,3,6,7,10-12}.

Perioperative nurses' collective competences
<p>Knowledge of the specificities inherent to care and to the Perioperative Unit Ability to discern and convey information about the Perioperative Unit and the type of surgery, as well as actions aimed at the care provided to the user.</p>
<p>Behaviors/Attitudes</p> <ul style="list-style-type: none"> • Showing specialized theoretical-practical knowledge and professional experience to work in the Perioperative Unit. • Staying updated in relation to the national and international trends in the knowledge areas relevant to their performance in the Perioperative Unit. • Being concerned about expanding knowledge and experience in other professional and scientific areas, developing broader perspectives for the professional practice. • Making use of the technologies present in the Perioperative Units to provide quality care. • Understanding and developing suitable strategies in users' admissions, checking relevant information for their permanence in the Perioperative Unit. • Knowing and developing the Systematization of Perioperative Nursing Care, respecting the stages established in this process, such as anamnesis, physical examination, diagnosis, care plan, and evolution. • Devising a care plan and guiding/leading the Nursing actions during the intraoperative period. • Knowing and applying the surgical safety checklist, identifying factors related to the user such as user identification, medical records and exams performed, locus where the surgery will be performed, presence of allergies, need for blood replacement, use of medications and materials required for the surgical procedures that must be present in the operating room at admission of the user, as well as identification of the surgical team. • Knowing the necessary actions to refer users to the Post-Anesthetic Recovery (PAR) unit and assisting the Nursing team. • Instructing and supervising the Nursing team regarding organization of the operating room, both before and after the surgery.

<p>Management of material and financial resources It is the ability to manage material and financial resources of the Perioperative Unit, with acquisition, distribution, allocation and adequate billing of resources for the hospital organization, in order to ensure quality care for the user.</p>
<p>Behaviors/Attitudes</p> <ul style="list-style-type: none"> • Monitoring and carrying out periodic evaluations of materials made available in the Perioperative Unit, checking their durability, expiration date, need for preventive and corrective maintenance and asset identification. • Devising a plan for the forecast and provision of consumables for the Perioperative Unit. • Requesting and checking implantable materials required for the surgical procedures. • Instructing the Nursing team on how to use the materials in order to avoid unnecessary expenses. • Staying updated in relation to the unit's financial issues.
<p>People management in the perioperative unit It is the ability to manage the professionals by adopting management models that support development of the team in the Perioperative Unit, identifying their competences and organizing their work process.</p>
<p>Behaviors/Attitudes</p> <ul style="list-style-type: none"> • Knowing and sizing the team of Nursing workers accessible for the activities in the Perioperative Unit. • Guiding and supervising the professionals working in the Perioperative Unit. • Showing available resources for the actions performed in the Perioperative Unit. • Providing continuing and in-service education to the employees. • Assessing the team's professional competences and making use of each person's talent according to their characteristics, assigning them activities they can perform with mastery and dexterity. • Providing training sessions and courses and offering feedback on issues related to their performance. • Knowing the talents, complimenting, rewarding and celebrating the team's success.
<p>Teamwork It is the ability to carry out activities together with other professionals who have different functions/roles, seeking to articulate them with one another to provide comprehensive care to the user.</p>
<p>Behaviors/Attitudes</p> <ul style="list-style-type: none"> • Articulating actions with the different teams towards providing comprehensive, safe and quality care to the user. • Integrating with different teams both inside and outside the Perioperative Unit according to the user's and unit's needs. • Being active and cooperative, as well as dynamic as a component of the group to which they belong. • Sharing diverse information and knowledge pertinent to the service and making themselves available to help their team and the others. • Contributing to strengthening the group culture by maintaining a good work environment. • Instructing the Nursing team regarding the care measure to be implemented with the patients, aiming at their recovery. • Delegating responsibilities to the team and supervising the service provided to the user.

FIGURE 1: Matrix with the nurses' collective competences in perioperative Nursing care, their concepts, and behaviors/attitudes related to each competence. Ribeirão Preto, SP, Brazil, 2018.

Source: Prepared by the researcher himself. Ribeirão Preto, 2020.

DISCUSSION

This study identified the perioperative nurses' collective competences, enabling the elaboration of a matrix that presents their meanings and associated behaviors/attitudes, which may help future professionals and health managers to establish a profile of nurses for perioperative care. The dynamics of the perioperative nurse's work, combined with work integrated with other professionals in the sector, generates the need to develop and share competences.

In this line of thought, the participants reported knowledge about the care specificities and the perioperative unit as one of the nurses' collective competences. It is observed that knowledge guides the professional's actions, facilitating their coherent judgment with the user's needs, as well as their risks; it also guides safe handling of devices; hence the need for knowledge appropriation and implementation of actions showing the performance of a user-centered Nursing workforce¹³.

Gaps in technical-scientific knowledge, theoretical-practical and clinical reasoning, regardless of the workplace, can contribute to the emergence of errors in health care that reduce the quality of the care provided and, in this regard, it is necessary that nurses' training empowers them to develop critical thinking, as well as their problem-solving skills¹⁴. Thus, it is necessary that perioperative nurses have sufficient knowledge to identify possible risks and complications related to the surgical anesthetic process so that they can serve the user in a safe manner.

However, regardless of being perioperative professionals, knowing the workplace rules/regulations of the workplace is an essential condition for effective performance. In order to ensure differentiated care of users, many health institutions have rules instructing how health care must be provided, and the professionals who work there must know these laws. Thus, it is worth noting that some nurses do not fully know the laws that support care in their units; therefore, it is necessary that these professionals seek updates, in view of the laws in force in their performance area so that they can provide safe care to the patients and ensure functioning of the sector¹⁵.

Moreover, for an effective execution of the activities, in addition to having knowledge of the entire sector that they supervise, nurses need to know how to manage material and financial resources. It is noted that analyzing and knowing the unit as a whole, managing materials, supervising the team, performing the maintenance of instruments and proper preparation of surgical boxes to avoid potential risks and unnecessary harms to users are crucial measures for quality of care, as well as providing rationing and containing waste¹⁶.

Regarding management of material and financial resources, this competence has always been present in hospital organizations and, often, under the nurses' responsibility. In this regard, it is common to acquire materials through direct purchase in private hospitals, with the perioperative nurse's opinion regarding the desired model or brand being the only requirement; differently from public organizations that take into account the cost often without considering the materials' quality or brand¹¹. Thus, the training of these professionals should provide sufficient practical-theoretical knowledge allowing them to participate in the activities and to perform their tasks according to the users' and institutions' needs.

Furthermore, it is necessary to recognize the concern of some hospital institutions, especially in surgical sectors, regarding control and use of materials, unnecessary waste and financial expenses that may occur if the perioperative nurse lacks financial management competence. However, it is known that not all Nursing professionals have enough knowledge to manage resources and reduce material waste because they do not know about the actual costs of the materials, as well as the products that are dispensed in various areas, which will be used according to the users' needs^{11,17}. In addition, it becomes essential to reflect on the fact that such lack of knowledge about financial management can originate in their academic training.

In the meantime, there are few Nursing higher education institutions in Brazil with specific content in their pedagogical projects regarding financial management. This limitation in the training of nurses can corroborate the occurrence of out-of-pocket payments in hospital environments due to indiscriminate use of materials¹¹.

In addition, regarding the nurse's managerial function, management of people was identified as a collective competence in which perioperative nurses, as managers, should recognize skills and abilities of their team whenever necessary, pointing out gaps in their knowledge. In this regard, people management becomes important because it is important to boost organizational management in order to reorganize practices and policies aimed at guiding workers in the performance of collective tasks².

Thus, when identifying the competences, limitations and challenges at work, the nurse, people manager and leader of their team will be able to plan the activities to be performed and to adequately delegate tasks to their team based on the performance of their collaborators. Thus, guiding, supervising and promoting in-service education to the team members are essential attitudes for perioperative nurses when managing people.

The people management process starts to consider the entire team as an integral part of the talent recruitment and management method, not only the manager or chief. Therefore, the manager's organizational role, which was previously focused on an individual stance, centered on the leader and directed to the behavior of those led, started to consider the people involved in the process under their influence, as well as to use terms such as: objectives, goals and outcomes, which should reflect on the importance of aligning the leader's thoughts with their team for some common good and in the search for organizational guidelines¹⁸.

Thus, when analyzing the perioperative nurses' work, it is noticed that the demand for intense bureaucratic and administrative activities in the units requires significant time from these professionals. This fact generates the need for nurses, as people managers, to know how to size the available workers in their team according to the unit's priorities.

Regarding this premise, nurses who have the competence to manage people should be able to evaluate the competences of their collaborators, which can be done through their own performance assessment instruments¹⁹.

Moreover, it is emphasized that the daily situations and relationships experienced by nurses working in surgical units trigger the need for comprehensive and dialoged work, revealing how important the teamwork competence is.

Interprofessional teamwork has been defined as the modality that involves different professionals, who share a sense of belonging to the team and work in an integrated and interdependent way to improve health needs^{12,20}. In this sense, there are many behaviors associated with the nurses' competence to work as a team, as their performance must take into account the different teams present in the sector and the sharing of information among all employees for comprehensive care to occur.

However, to develop teamwork, other aspects should be considered, such as reflections about the work process during training, cooperation and conflict management¹². In addition to that, work activities performed together as a team present positive aspects and deserve to be highlighted, as relationships are built based on strengthening bonds and ensuring mutual respect among workers, as well as the knowledge exchange that allows for comprehensive care, overcoming fragmented care regarding the users' needs²¹.

From these notes, it can be concluded that the identification of collective competences allows characterizing the nurses' profile to work in perioperative units in different work-related aspects. In this direction, so that these competences are developed, strategies can be implemented by the organization or by the workers themselves. In this regard, managers of health institutions should encourage continuous learning, being facilitators for the development of their professionals, extrapolating traditional models focused on vertical training that are directed to meet specific knowledge gaps during professional performance^{22,23}.

Therefore, this research presents the limitation of having been carried out in private institutions, not including the analysis of other professionals from organizations of a different legal nature. In addition, this study was conducted with the exclusive participation of nurses, revealing the need for other studies covering several professional categories that work in the perioperative scenario, in order to verify if there are divergences and/or to determine the extent of the generalization of the findings.

CONCLUSION

Building a matrix of perioperative nurses' collective competences should more accurately direct the human talents available in the hospital organizations to positions and functions, by allowing to recognize the existing competences and identifying gaps in the training of nurses in this area.

This research can also contribute by allowing future studies related to this theme, which allow reviewing the matrix and improve its content, favoring the assembling of cohesive teams with an appropriate profile for their performance, which ensure qualified and safe perioperative care to the user.

In addition, regarding the relevance of the study, the results corroborate the transformation of the perioperative nurses' praxis in hospital institutions, which should not be based only on the fulfillment of repeated and non-autonomous tasks, but also be really useful to the surgical patient.

REFERENCES

1. Soares MI, Leal LA, Resck ZMR, Terra FS, Chaves LDP, Henriques SH. Competence-based performance evaluation in hospital nurses. *Rev Latino-Am. Enfermagem*. [Internet]. 2019 [cited 2020 Jan 15]; 27:e3184. DOI: <http://dx.doi.org/10.1590/1518-8345.3173.3184>.
2. Wegner RS, Godoy LP, Godoy TP, Bueno WP, Pereira MS. Teamwork under the view of the management and employees of a service company. *Pretexto*. [Internet]. 2018 [cited 2020 Jan 15]; 19(1):11-24. DOI: <http://dx.doi.org/10.21714/pretexto.v19i1.3089>.
3. Fleury A, Fleury MTL. Estratégias empresariais e formação de competências: um quebra-cabeça caleidoscópico da indústria brasileira. 3ª ed. São Paulo: Atlas; 2004.
4. Schaupp M, Virkkunen J. Why a management concept fails to support managers' work: the case of the 'core competence of a corporation'. *Manag learning*. [Internet]. 2017 [cited 2020 Jan 15]; 48(1):97-109. DOI: <http://dx.doi.org/10.1177/1350507616674632>.
5. Woolf K, Page M, Viney R. Assessing professional competence: a critical review of the Annual Review of Competence Progression. *J R Soc Med*. [Internet]. 2019 [cited 2020 Jan 15]; 112(6):236-44. DOI: <http://dx.doi.org/10.1177/0141076819848113>.
6. Graan ACV, Williams MJS, Koen MP. Professional nurses' understanding of clinical judgement: a contextual inquiry. *Health SA Gesondheid*. [Internet]. 2016 [cited 2020 Jan 15]; 21:280-93. DOI: <https://doi.org/10.1016/j.hsag.2016.04.001>.
7. Sociedade Brasileira de Enfermeiros de Centro Cirúrgico, Recuperação Anestésica e Centro de Material e Esterilização – SOBECC. Práticas recomendadas. 7ª ed. São Paulo: SOBECC; 2017. p. 1-483.

8. Silva FLK, Silva S, Martins W, Andrade JC. Perception of nurses and the impact of the preoperative nursing visit on reducing anxiety in patients in the perioperative period. REAC. [Internet]. 2021 [cited 2021 Oct 03]; 29:e7850. DOI: <https://doi.org/10.25248/reac.e7850.2021>.
9. Rybojad B, Aftyka A, Rudnicka-Drozak E. Nursing Activities in the Prevention and Treatment of Perioperative Complications After Airway Foreign Body Removal in Pediatric Patients. J Perianesth Nurs. [Internet]. 2016 [cited 2020 Jan 15]; 31(1):49–55. Available from: [https://www.jopan.org/article/S1089-9472\(15\)00028-3/pdf](https://www.jopan.org/article/S1089-9472(15)00028-3/pdf).
10. Braun V, Clarke V. Using thematic analysis in psychology. Qual Es Psychol. [Internet]. 2006 [cited 2020 Jan 15]; 3(2):77-101. DOI: <http://dx.doi.org/10.1191/1478088706qp063oa>.
11. Souza SE, Silva A. Contribution of the nurse in the cost management process in the hospital institutions. Rev Eletronica Gestão Saúde [Internet]. 2017 [cited 2020 Jan 15]; 8(2):338-62. Available from: <https://periodicos.unb.br/index.php/rgs/article/view/3732>.
12. Shmutz JB, Meier LL, Manser T. How effective is teamwork really? The relationship between teamwork and performance in healthcare teams: a systematic review and meta-analysis. BMJ Open. [Internet]. 2019 [cited 2020 Jan 15]; 9:e028280. DOI: <https://doi.org/10.1136/bmjopen-2018-028280>.
13. Barros ALBL, Cavalcante AMRZ. Nursing in cardiology: state of the art and frontiers of knowledge. Rev Bras Enferm. [Internet]. 2017 [cited 2020 Jan 15]; 70(3):451-2. DOI: <http://dx.doi.org/10.1590/0034-7167.2017700301>.
14. Impedovo MA, Malik SK. Becoming a reflective in-service teacher: role of reserach attitude. Australian J Teacher Education [Internet]. 2016 [cited 2020 Jan 15]; 41(1):100-12. DOI: <https://doi.org/10.14221/ajte.2016v41n1.6>.
15. Vaz E, Oliveira FSC, Visentin A, Montezeli JH, Hey AP, Brey C, et al. RDC 7: knowledge of nurses of intensive care unit. Cad Escola de Saúde. [Internet]. 2014 [cited 2020 Jan 15]; 2:102-17. Available from: <https://portaldeperiodicos.unibrasil.com.br/index.php/cadernossaude/article/view/2390>.
16. Williams G, Crilly J, Souter J, Veach K, Good N. A state wide validation and utilisation study of the Queensland emergency nursing workforce tool. J Nurs Manag. [Internet]. 2014 [cited 2020 Jan 15]; 22(8):1076-88. DOI: <http://dx.doi.org/10.1111/jonm.12063>.
17. Paarima Y, Kwashie AA, Ofei AMA. Financial management skills of nurse managers in the Eastern Region of Ghana. Int J A Nurs Scie. [Internet]. 2021 [cited 2021 Oct 03]; 14:e100269. DOI: <https://doi.org/10.1016/j.ijans.2020.100269>.
18. Bianchi EMPG, Quishida A, Foroni PG. A Leader's Role in Strategic People Management: Reflections, Gaps and Opportunities. Rev adm contemp. [Internet]. 2017 [cited 2020 Jan 15]; 21(1):41-61. DOI: <http://dx.doi.org/10.1590/1982-7849rac2017150280>.
19. Dutra JM, Rodrigues JVF. Modelo de Avaliação das Competências Tutoriais Aplicado aos Cursos de Graduação da UFAM no Âmbito da UAB. Rev Bras Apend Aberta. [Internet]. 2019 [cited 2020 Jan 15]; 1:e314. Available from: <http://seer.abed.net.br/index.php/RBAAD/article/view/314/304>.
20. Institute of Medicine. Measuring the impact of interprofessional education on collaborative practice and patient outcomes. Washington (DC): National Academy Press (US); 2015 [cited 2020 Jan 15]. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK338360/>.
21. Alves LR, Giacomini MA, Camelo SHH, Laus AM, Leal LA, Goulart BF, et al. Evidence on teamwork in hospital care. J Health NPEPS. [Internet]. 2016 [cited 2020 Jan 15]; 1(2):246-62. Available from: <https://periodicos.unemat.br/index.php/jhnpeps/article/view/1592>.
22. Frisch NC, Atherton P, Borycki EM, Mickelson G, Black A, Novak-Lauscher H, et al. Expanding the reach of continuing educational offerings through a webbased virtual network: The experience of InspireNet. Stud Health Technol Inform. [Internet]. 2017 [cited 2020 Jan 15]; 234:120-4. DOI: <https://doi.org/10.3233/978-1-61499-742-9-120>.
23. Santos DJ, Henriques SH, Leal LA, Soares MI, Chaves LDP, Silva BR. Relational competence of nurses in surgical center units. Rev. enferm. UERJ. [Internet]. 2021 [cited 2020 Jan 15]; 28:e51314. DOI: <http://dx.doi.org/10.12957/reuerj.2020.51314>.