ORIGINALES

Difficulties and strategies associated with nurse integration in critical care provision: a scoping reviewi

Dificuldades e estratégias na integração ao cuidado da pessoa em situação crítica: uma scoping review

Dificultades y estrategias en la integración al cuidado de la persona en situación crítica: una scoping review

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ABSTRACT:
Introduction: The nurses' integration in specialized care provision to critically ill patients is an increasing concern in the context of hiring and mobilizing nursing professionals. An adequate integration is crucial for the nurses' success and adaptation to the new service, as well as to ensure the quality and safety of the provided care.
Objective: To map the existing knowledge on the difficulties experienced by nurses, as well as on the strategies that facilitate their integration in specialized care provision to the critically ill.
Method: A scoping review was conducted, following the method proposed in the Joanna Briggs Institute Reviewers' Manual 2015. The following were used as inclusion criteria: Population - nurses; Concept - the experienced difficulties and the strategies employed to facilitate the nurses' integration; Context - the provision of care to the critically ill. A total of 13 articles, published until May 2020, were included.

Results: The following difficulties were reported: communication issues with the team, as well as with the patients and/or their relatives; overall stress; dealing with complex health conditions, as well as with intricate procedures and/or techniques; work overload; high staff turnover rate between services; dealing with a patient's death and/or with organ donation planning. The following were pointed out as facilitating strategies: simulated practice; performing teamwork; assignment of a nursing supervisor/tutor; receiving feedback; developing resilience mechanisms.

Conclusion: As regards care provision, the nurses' integration process requires planning and the inclusion of facilitating strategies is crucial. Simulated practice leads to the acquisition of fundamental skills, as does the assignment of a nursing supervisor/tutor and receiving feedback on the conducted tasks. In addition to overcoming the difficulties experienced, these strategies also allow developing resilience and coping mechanisms, which help prevent burnout and the adverse effects caused by the high staff turnover rate between services.

Keywords: Integration; Difficulties; Strategies; Nurse; Critically Ill Person.

RESUMO:

Introdução: A integração do enfermeiro no cuidado à pessoa em situação crítica constitui uma preocupação cada vez maior devido à mobilização e contratação de profissionais de enfermagem. Uma integração adequada é crucial para o sucesso e adaptação do enfermeiro ao novo serviço, garantindo a qualidade e segurança do cuidado.

Objetivo: Mapear o conhecimento relativamente às dificuldades sentidas pelo enfermeiro e estratégias que podem facilitar a sua integração no cuidado à pessoa em situação crítica.

Método: Foi realizada uma *Scoping Review,* com base no Joanna Briggs Institute. Critérios de inclusão: População - enfermeiro; Conceito - dificuldades sentidas e as estratégias facilitadoras na integração; Contexto - cuidado à pessoa em situação crítica. Foram incluídos 13 artigos, publicados até maio de 2020.

Resultados: Dificuldades sentidas pelos enfermeiros: comunicação com a equipa, pessoa em situação crítica e/ou familiares; *stress*; complexidade da situação de saúde, técnicas e/ou procedimentos realizados; sobrecarga de trabalho; rotatividade de enfermeiros entre serviços; lidar com a morte e/ou a doação de órgãos. Estratégias facilitadoras: simulação de situações reais; trabalho em equipa; enfermeiro de referência/tutor; transmissão de *feedback*; estratégias de resiliência.

Conclusão: O processo de integração requer planeamento, sendo crucial o desenvolvimento de estratégias que o facilitem. O treino através da simulação de práticas leva à aquisição de competências fundamentais para o cuidado, tal como a atribuição de um enfermeiro tutor e *feedback* sobre o trabalho desenvolvido. Isto permite colmatar as dificuldades sentidas através da construção da resiliência e estratégias de *coping*, prevenindo o *burnout* e a rotatividade dos profissionais entre serviços.

Palavras-chave: Integração; Dificuldades; Estratégias; Enfermeiro; Pessoa em Situação Crítica.

RESUMEN:

Introducción: La integración del enfermero en el cuidado de la persona en situación crítica es una preocupación creciente debido a la movilización y contratación de profesionales. Una integración adecuada es fundamental para el éxito y adaptación del enfermero al servicio nuevo, garantizando la calidad y seguridad del cuidado.

Objetivo: Mapear el conocimiento sobre las dificultades del enfermero y las estrategias que pueden facilitar su integración en el cuidado de las personas en situación crítica.

Método: Se realizó una revisión de alcance, basada en el Instituto Joanna Briggs. Criterios de inclusión: Población - Enfermero; Concepto - dificultades experimentadas y estrategias que facilitan la integración; Contexto - Cuidado a la persona en situación crítica. Se incluyeron 13 artículos, publicados hasta mayo de 2020.

Resultados: Dificultades experimentadas por los enfermeros: comunicación con el equipo, personas en situación crítica y/ o familiares; estrés; complejidad de la situación de salud, técnicas y/ o procedimientos realizados; sobrecarga de trabajo; rotación de enfermeros entre servicios; afrontar la muerte y/ o la donación de órganos. Estrategias facilitadoras: simulación de situaciones reales; trabajo en equipo; enfermero/ tutor de referencia; transmisión de informaciones de retorno; estrategias de resiliencia.

Conclusión: El proceso de integración requiere planificación y el desarrollo de estrategias que lo hagan más sencillo es fundamental. La formación a través de la simulación de prácticas conduce a la adquisición de habilidades fundamentales para el cuidado, como la asignación de un enfermero tutor e información de retorno sobre el trabajo desarrollado. Esto permite subsanar las dificultades

experimentadas a través de la resiliencia y estrategias de afrontamiento, evitando el *bounout* y la rotación de profesionales entre servicios.

Palabras clave: Integración; Dificultades; Estrategias; Enfermero; Persona en Situación Crítica.

INTRODUCTION

Nowadays, the constant social, professional and institutional changes pose challenges to health institutions, particularly with regard to the management of human resources[1].

The beginning of the career and the high rate of staff turnover between services are especially challenging realities for nursing professionals. Since they are usually required to sign short-term contracts, this implies a frequent integration processes. The acquisition of specific skills, namely within the context of care for the person in critical condition, is essential.

Regarding clinical nursing practice, Benner[2] defines 5 expertise levels: "novice", "advanced beginner", "competent", "proficient" and "expert". In this respect, a nurse who is an "expert" in a given nursing context, will become an "advanced beginner" when moving to a new context, since he/she has already experienced real situations and is able to identify "significant factors that are replicated in identical situations"[2].

Due to their characteristics, Intensive Care Units (ICUs) and other critical care services are, themselves, stressful places[3]. Professionals working there are confronted, on a daily basis, with situations of severe illness, pain, death and the need to make prompt decisions that may be influenced by time pressure[3]. It has been observed that these aspects, together with the frustration felt, at times, by professionals who are unable to restore a patient's health — and, thus, also their interpersonal relationship — can lead to anxiety and depression.

In a study conducted with 117 professionals, work overload and the lack of staff were reported as the most stressful factors in an ICU[3]. But, in emergency services, there are other unexpected and challenging situations capable of contributing to the nurses' exhaustion and fatigue[4]. Namely, the stress involved in emergent care has been reported to increase the nurses' emotional and work overloads[4]. In this regard, integration is decisive to the nurses' successful adaptation to the institution, while simultaneously allowing the further development of skills, the attainment of self-confidence and the strengthening of their professional identity[5].

A critically ill patient is a person whose life is threatened by failure, or imminent failure, of one or more vital functions and whose survival depends on advanced means of surveillance, monitoring and therapy[6].

In view of this problem, the adequate integration of nurses in care provision to critically ill patients is an increasing concern. Establishing a proper integration process is crucial for the nurses' successful adaptation to the new service, ensuring the quality and safety of the provided care. It is therefore essential to understand the difficulties felt, as well as the strategies employed to facilitate their integration process.

In order to understand the current "state of the art" on this matter, we conducted a survey and the critical appraisal of the related evidence. The majority of the articles addressed, mainly, the strategies employed to facilitate the nurses' integration process[7-9]. However, some works also addressed the difficulties experienced by

nurses, as well as the skills required to provide a high-quality care to the critically ill[9-11]. In this regard, we believe there is a gap in the articulation between the main difficulties and the primary strategies used to support the nurses' integration.

In view of the above, we envisioned a thorough study on this matter, which would be useful and an added value for nurse managers, multidisciplinary teams and nurses seeking integration, by allowing to answer the following research questions:

- Which difficulties are usually experienced by nurses during their integration in critical care services?
- Which strategies facilitate the nurses' integration in critical care provision?

MATERIALS AND METHODS

To perform a preliminary analysis of the "state of the art", we used the PubMed® database and employed the following descriptors: "Nurs*", "Critical Care" and "Integration". The search results revealed a low number of recent scientific papers associated with this subject, most of them referring to articles with a low level of evidence. An *a priori* protocol was prepared, following the methodology proposed by the Joanna Briggs Institute (JBI). This helped to conduct the first research stage, by allowing the organization of the information gathered.

Given the apparent knowledge gap, we considered pertinent to more accurately map the phenomenon[12], by conducting a scoping review that allowed analyzing the existing literature, in order to map and summarize the existing evidence on the topic[13]. Given its importance, this work's relevance became clear and we proceeded to define the eligibility criteria, based on the PCC mnemonic. In this regard, we considered the following inclusion criteria: as Population (P), the Nurses; as Concept (C), the difficulties experienced and the strategies used to facilitate their integration; as Context (C), the provision of care to critically ill patients. On the other hand, we considered the following as exclusion criteria: regarding Population, works mentioning health professionals other than nurses; concerning Concept, articles referring to financial costs and work satisfaction; with respect to Context, studies related to COVID-19, as well as palliative or "end-of-life" care, pain management, organ donation, specific procedures and pediatrics.

We hope this scoping review may act as a precursor to future research, namely as a starting point for a subsequent systematic review[12,14].

A strategy was defined for the Boolean search, which consisted in performing a preliminary assessment to find the appropriate health descriptors, using the MeSH and DeCS indexing tools. Several "subject" descriptors were defined right from the start, with some synonymous words and concepts having emerged during the preliminary analysis of the "state of the art", as well as during the first stage of the database search. Other descriptors were found in articles freely available at the "Open Access Scientific Repository of Portugal" ("Repositório Científico de Acesso Aberto de Portugal", RCAAP).

The strategy adopted to carry out the database search consisted in combining the different descriptors with the Boolean operators "AND" and "OR", as presented in Appendix I, until the following sequence was established: *(AB intensive care OR AB*

critical care) AND (AB nurs* OR AB health care provider OR AB health care professional OR AB health care worker) AND (TI Integrat* OR TI training).

The search encompassed the following databases: *CINHAL® Complete*; *MEDLINE® Complete*; *Nursing & Allied Health Collection™: Comprehensive Edition*; *Cochrane Plus Collection*; *Library, Information Science & Technology Abstracts (LISTA)*; and *MedicLatina™*. We considered pertinent the addition of RCAAP to the previous list, as this allowed locating evidence that had not been published in scientific journals — and that eventually led to the inclusion of three freely available articles in the final sample.

We decided to include articles written in Portuguese, English, Spanish or French, and published until May 2020. Still regarding the publishing date, given the scarce evidence available on the topic, it was determined to establish no lower limit.

The following types of study were favored: primary studies, secondary studies, and opinion articles. The articles' availability in full text was initially considered a limiting factor. However, during the search, one relevant article was identified which was not available in full text and, after contacting its authors, we were kindly granted access, in order to include it in our research.

Three independent reviewers contributed to the final sample's selection, by reading the eligible articles' title, abstract and full text. The bibliographic references found in the selected articles were also considered throughout this process. Unanimity among the research team was required for article inclusion.

The sample selection process was systematized, using a PRISMA ("Preferred Reporting Items for Systematic Reviews and Meta-Analyses") flow diagram, which is presented further on, in Figure 1.

Subsequently, several Tables were prepared with the purpose of organizing the extracted data. Table 1 was filled in immediately after performing the full-text reading of the articles included in the sample, discriminating them by title, author(s) and year, objective, level of evidence and findings.

Tables 2 and 3 were elaborated afterward, during the data collection stage, with the intent of listing the main difficulties experienced by nurses (Table 2) and the strategies facilitating their integration (Table 3). They also discriminate the number of times each characteristic is mentioned in the articles, thus synthesizing the findings that directly relate to the objective and purpose of the present work[15].

RESULTS

The search was carried out between August and October 2020. Afterward, the obtained data was extracted and organized as a descriptive narrative.

The initial search allowed identifying 224 eligible works. Form these, only 155 remained after removing the duplicates. Subsequently, 125 articles were excluded while performing title reading. They either addressed specific techniques and procedures, for instance Extracorporeal Membrane Oxygenation (ECMO) and dialysis, employed metrics such as the Nursing Activities Score (NAS), referred to palliative and "end-of-life" care provision or were related to the SARS-CoV-2 pandemic.

Thus, only 30 articles were selected for abstract reading. From these, 12 works were excluded because the population under study comprised nursing students or other health professionals or because they focused primarily on professional skills. Furthermore, we also excluded articles whose context was specific to a particular country.

Hence, 18 articles remained for full-text reading. Five of these were eliminated, because they focused on job satisfaction, financial costs, academic *curriculum* or the benefits of employing an *e-learning* methodology. This resulted in a final sample consisting of 13 articles. As aforementioned, Figure 1 systematizes the selection process, using a PRISMA flow diagram.

Figure 1 - PRISMA Flow Diagram
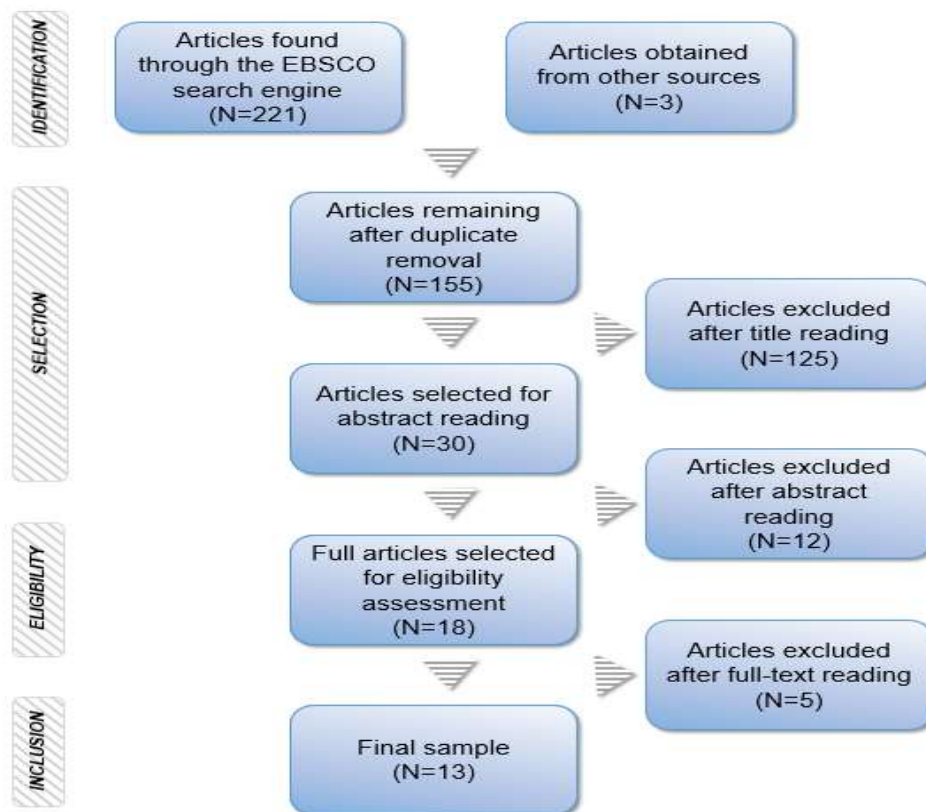
As previously mentioned, Table 1, which is exhibited below, portrays the final sample by presenting the articles' title, author(s) and year of publication, objectives and findings, and level of evidence, according to the JBI methodology[16].

Table 1 - Synthesis of the articles comprising the final sample

	Títle	Author ad year	Objective	Level of evidence	Results
Article 1	Implantation of the figure "nurse-tutor" for training and teaching staff in an ICU[7]	Torres RS, Lopez NB, Pedraz OC, Martinez MDCG, Garcia HG, Diez DH, Et Al. 2011	To explain the role of a nursing supervisor ("nurse-tutor") as someone who seeks to ensure the nurses' safety and the quality of care provided to patients.	5.c *Single expert opinion*	The creation of the nursing supervisor role ("nurse-tutor") may allow the increased safety and quality of care provided to patients, as well as improving the nursing professionals' safety while providing care.
Article 2	An integrative review of in situ simulation training: Implications for critical care nurses[8]	Villemure C, Tanoubi I, Georgescu LM, Dubé J-N, Houle J. 2016	To explore the existing literature on the advantages and difficulties in applying simulated practice in critical care services.	4.a *Systematic review of descriptive studies*	The use of simulated practice in critical care services improved the nurses' skills and helped detect risks in the work environment.
Article 3	Clinical Simulation in nursing education in intensive therapy: an integrative review[10]	Linn AC, Caregnato RCA, Souza EN de. 2018	To analyze the existing literature on the use of clinical simulation to train nurses working in ICUs.	5.a *Systematic review of expert opinion*	Clinical simulation allowed nurses to increase their confidence, communication skills and efficiency regarding the detection of changes in the patient's clinical status. It also allowed them to perform teamwork and to develop technical skills and clinical decision making.
Article 4	Feasibility and acceptability of a resilience training program for intensive care unit nurses[11]	Mealer M, Conrad D, Evans J, Jooste K, Solyntjes J, Rothbaum B, et al. 2014	To determine if a resilience training program was both feasible and accepted by ICU nurses.	3.e *Observational study without a control group*	Resilience training for ICU nurses was both feasible and accepted by these professionals. It allowed improving resilience levels and decreasing symptoms of anxiety, depression, burnout and post-traumatic stress.
Article 5	Implementation and Evaluation of a Team Simulation Training Program[9]	Rice Y, DeLetter M, Fryman L, Parrish E, Velotta C, Talley C. 2016	To assess the nurses' knowledge, satisfaction level, self-confidence and ability to perform teamwork, through a team simulation program.	4.c *Case series*	Nurses reported being pleased by performing the simulation and having increased their self-confidence

Article 6	Integrating Nurse Practitioners Into Intensive Care Units[17]	Simone S, McComiskey CA, Andersen B. 2016	To present guidelines and strategies aimed at facilitating the nurses' integration.	3.e *Observational study without a control group*	The implemented measures were crucial to the nurses' successful integration, decreasing the staff turnover rate and increasing job satisfaction..
Article 7	Intensive care nurses' perceptions of simulation based team training for building patient safety in intensive care: A descriptive qualitative study[18]	Ballangrud R, Hall-Lord ML, Persenius M, Hedelin B. 2014	To describe the ICU nurses' perceptions regarding the use of simulated practice to increase patient safety.	4.c *Case series*	Simulated practice helped nurses to understand the importance of teamwork. It also increased the patients' safety and motivated nurses to learn new skills and assess the team's performance.
Article 8	Professional pactices of education/training of nurses in an intensive care unit[19]	Macedo APM de C, Padilha KG, Püschel VA de A. 2018	To understand the education/training provided to nurses working in ICUs.	4.c *Case series*	Education and training provided in a working context increased the nurses' well-being, as well as their satisfaction and motivation levels.
Article 9	The exhaustion of nursing: a integrative review of the burnout syndrome in icu[20]	Machado DA, Louro TQ, Figueiredo NMA de, Vianna LMA. 2012	To evaluate the existing knowledge on the psychological stress that causes burnout in nurses working at ICUs.	4.a *Systematic review of descriptive studies*	A healthier work environment and better work conditions had a direct impact on the quality of the provided care. The psychological stress felt by professionals working in ICUs influences their performance and was also a source of conflict and burnout.
Article 10	The standardization of critical care nursing education and training: Strategies for advancing clinical practice in Ontario's adult ICUs[21]	Hynes P, Pinto M, Fortier W, Bennett J. 2007	To explain the context from which arose the need to standardize the education and training of nurses working in ICUs.	5.b *Expert consensos*	It was considered important to share the effort of developing a document which explained the standardized core competencies that nurses working or seeking employment in adult ICUs should possess.
Article 11	Associations between level of	Longpré C, Dubois C-A,	To deepen the knowledge on the	4.b	Regarding nurses, a smoother and well-planned

	services integration and nurses' workplace well-being[22]	Nguemeleu ET. 2014	relationship between nurses' well-being in the workplace and the transformation processes underlying their integration into care services.	*Cross-sectional study*	integration is associated with slighter feelings of threat, lower levels of negative stress, higher levels of positive stress, greater satisfaction and a sense of well-being at work.
Article 12	Integração de enfermeiros no serviço de urgência geral[23]	Fernandes APG, Geraldes JPM, Batista MPJ, Alves PMS. 2010	To explain the integration process and its importance for the nurses' successful integration in an Emergency Department.	5.c *Single expert opinion*	The integration process aims to endow new nurses with the knowledge and skills required to provide a high-quality care. This implies taking into account the knowledge and skills each nurse acquired in previous services, in order to adapt the process and ensure the nurse's successful integration, through a well-defined, well-structured and individualized program.
Article 13	Integração de enfermeiros em instituições hospitalares: estudo de caso[1]	Silvestre M do C de J. 2012	To determine the nurses' perception regarding the factors that facilitate, and those that hinder, the integration process. The study took into account the experience of the professionals involved (nurse managers, nurse supervisors and beginners).	4.d *Case study*	The involved professionals were unaware of the general nurses' competencies established by the Ordem dos Enfermeiros. The nurse supervisors did not receive specific training to implement the integration process, nor had this process been planned. But nurse managers considered it could be an added value for the service, since it would accelerate the admission of new nurses (beginners).

As mentioned previously, Tables 2 and 3 present, respectively, the different difficulties reported by nurses and the strategies employed to facilitate their integration. In both Tables, we have defined the number of references (n) as the amount of times each characteristic was addressed in the 13 articles comprising the sample. The relative frequency represents the corresponding percentage.

Table 2 - Difficulties reported by nurses during their integration.

Reported difficulties	Number of references (n)	Relative frequency (%)
Communication issues with the team and with the patients and/or their relatives	7	25.0%
Stress	6	21.4%
Dealing with complex health conditions, intricate procedures and/or techniques	5	17.9%
Work overload	4	14.3%
High staff turnover rate between services	4	14.3%
Dealing with death and/or with organ donation planning	2	7.1%
Total	28	100%

Table 3 - Strategies which facilitated the nurses' integration.

Facilitating Strategies	Number of references (n)	Relative frequency (%)
Use of simulated practice	6	31.6%
Performing teamwork	5	26.3%
Attribution of a supervisor	4	21.0%
Receiving feedback	3	15.8%
Creating resilience mechanisms	1	5.3%
Total	19	100%

DISCUSSION

Critical care provision represents a highly complex environment within health-care services and requires professionals with advanced skills[10], making it essential to understand which are the main difficulties experienced by nurses and which strategies facilitate their integration process, in order to enable them to provide a high-quality care.

The studies' analysis revealed that the main difficulty experienced by nurses was the existence of communication issues with the team, as well as with the critically ill patients and/or their relatives. It was also observed that poor communication increased

the likelihood of nurses making mistakes that affected the quality of the provided care[9]. Stress was also considered a predominant difficulty, since critical care services consist of environments where daily confrontation with ethical and moral dilemmas occur[11]. Dealing with complex health conditions, as well as with intricate procedures and/or techniques, implies articulating between theoretical and practical knowledge. This requires the development of specific skills, as well as the acquisition of prompt and effective decision-making capabilities[10]. Work overload is directly related to the quality and safety of the provided care, since the nurses' work time is partially spent handling the existent differentiated technology[19], e.g., when administering continuous venovenous hemodiafiltration or applying ECMO. Staff turnover between services is frequent in critical care settings, which hinders the ability to retain qualified nurses[11]. Finally, dealing with a patient's death, and/or with organ donation planning, may require appropriate counseling, as well as the development of coping mechanisms[11]. While analyzing the articles' findings it was possible to deduce that the abovementioned difficulties acted as precursors, leading to the implementation of facilitating strategies, with respect to the integration process.

The importance of specialized training in critical care provision was considered as the main facilitating strategy. In this regard, the use of simulated practice, i.e., practice through the simulation of real-life issues, allowed the professionals to raise their confidence, to enhance team communication and to have the necessary awareness to detect complications earlier[8-10]. The second most relevant strategy was performing teamwork. This allowed increasing the effectiveness and safety of the provided care by permitting the various team members to complement (and benefit from) each others' knowledge[8-10,18]. Another strategy mentioned as fundamental was the assignment of an expert nurse supervisor/tutor[1,7]. Receiving feedback through debriefing meetings was also reported as leading to the acquisition of important knowledge[1,8]. Finally, the literature highlights the creation of resilience mechanisms, such as raising self-awareness, providing self-care and ensuring personal well-being, as ways of protecting nurses from the negative effects of high levels of stress at their workplaces[11,20,22].

In this scope, ensuring the nurses' integration into critical care services is vital to overcome adversity. This is especially relevant given the inherent complexity associated with critical care provision and the need for skilled professionals who respond efficiently to the diverse health-illness situations, by using different procedures/techniques, mastering the technologies and dealing with care systematization[19]. The integration process should begin with the assignment of a nurse supervisor/tutor to the new nurse. The former is responsible for monitoring the latter and should maintain this duty throughout the entire integration period, so as to enable the harmonization and strengthening of the interpersonal relationship[1]. Ultimately, the supervisor's role is to ensure an improvement in the quality of the provided care and the safety of the new nurse[7]. To accomplish this, the tutor must possess certain characteristics, namely, effective training skills and proven experience in care provision to the critically ill[1,7,23]. Preferably, the nursing supervisor should be present in the morning shift and should not be assigned many tasks related to care provision, unless the service team's needs demand so[1,7].

It is known that the integration period does not have a fixed timeframe, varying from service to service, and according to the contingencies in which the integration process occurs[1,23].

It is also recognized that nurses are professionally challenged when transitioning from one service to another, with newly admitted professionals usually experiencing higher levels of anxiety and stress[1]. This may be due to their lack of familiarity with the new team and, thus, their concern about being accepted by the senior team members. In addition, there is also the change of professional identity and the confrontation with new scenarios, new techniques and procedures[1]. Other stress sources related to the professionals' sense of maladjustment include: lack of formal planning with respect to the integration process, little involvement of the family/significant other in decision making, scarcity of interdisciplinary support and divergent care provision philosophies[22].

The lack of team communication may lead to errors in care provision. According to a study by the Joint Commission, communication issues accounted for about 60% of the cases reported between 2011 and 2013[8]. It is, thus, acknowledged that improving teamwork — and, thus, team communication — can prevent many adverse events. Interdisciplinary team training can facilitate this process by including simulation as an emerging teaching strategy, aimed at enhancing the professional skills and reinforcing the collaborative practice. This, in its turn, allows increasing the quality of the provided care, as well as both the patient's and the professional's safety[8].

Furthermore, recreating real-life scenarios allows professionals to develop, in a controlled manner and within a safe environment, the clinical reasoning they might apply in situations where a patient's clinical condition worsens. As such, it allows them to increase both their knowledge and their self-confidence[10], while also contributing to behavioral improvement and skill development, related to: collaboration, communication, leadership, self-efficacy, decision making, responsibility, confidence in one's role, and situational awareness, which favors the early detection of complications[8,10]. For those being trained, simulated practice is a more effective strategy than directly facing real-life situations, since it allows making mistakes and receiving subsequent feedback on the performance, without threatening the patients' lives. Besides providing experience and safety, it also facilitates decision making in real-life scenarios, thus improving the services' results[10]. It is, therefore, acknowledged that employing simulated practice, followed by debriefing/receiving feedback, benefits the nurses' learning process.

On a related matter, health care institutions frequently hire human resources on a short-term basis[1]. This leads to a high staff turnover rate and to the services' inability to retain highly-qualified professionals. This situation frequently occurs in critical care services, where annual turnover rates can range between 25% and 60%[11]. Such high rates are due to the fact that nurses view those services as stressful. When working there, they usually face tense situations, high mortality and morbidity rates, daily confrontations with ethical and moral dilemmas, scenarios involving organ donation and the need to deal with grieving relatives[11,20].

Consequently, nurses tend to develop psychological disorders, such as anxiety, depression, burnout syndrome, and post-traumatic stress[11]. In such circumstances, resilience training is seen as crucial to their positive adaptation to such constraints.

In addition, given the increasing need for nursing professionals in the various critical care services, it is important to ensure their successful integration. In this context,

adequate planning is essential for the professionals' training, as well as for retaining them in those services[1,21,23].

Furthermore, a healthier work environment and better working conditions have a direct impact on the quality of the provided care and, ultimately, on the patients' health [20]. It is also recognized that feelings of well-being, satisfaction and motivation are important for the nurses' learning and training at their workplaces[1,19].

CONCLUSION

The findings obtained through this research allowed us to answer the initial questions. The main difficulties experienced by nurses during their integration in care provision to critically ill patients were the following: communication issues with the team, as well as with patients and/or their relatives; stress; dealing with complex health conditions, as well as with intricate procedures and/or techniques; work overload; high staff turnover rate between services and also dealing with a patient's death and/or with organ donation planning.

After analyzing the articles' content it was possible to conclude that those difficulties acted as precursors, leading to the implementation of facilitating strategies, with respect to the integration process. These included: the use of simulated practice, performing teamwork, being supervised by a nursing tutor, receiving feedback and also developing resilience mechanisms.

We believe this study may present some limitations with respect to the diversity of available evidence, since extending the search to additional databases might have provided other important contributions to our findings. As for the database search itself, the only limiter employed was the free availability of the articles in full text.

In conclusion, the integration process requires planning to define essential aspects of the care model and this can be achieved through the development of comprehensive strategies and programs. In this regard, the use of simulated practice allows nurses to acquire a set of skills that are crucial to provide a high-quality care. Equally important is the assignment of a nursing supervisor/tutor, capable of providing valuable feedback on the performed work. In addition, nurses also overcome the experienced difficulties by building resilience and developing coping mechanisms that help them prevent burnout and lower the frequency of staff turnover between services.

In view of the above, we believe that the present work may serve as a foundation for future research. Furthermore, the challenge remains for the development of primary studies aimed at better understanding this topic, as it constitutes a transversal and pertinent phenomenon in the field of Nursing, despite having been little studied so far.

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APPENDIX I — Boolean Search Strategy

Table 4 - Evolution of the Boolean search strategy.

ID Number	Search Terms	Search Options	Number of articles
S1	TI intregrat* OR TI training	**Expander** — Apply Equivalent Subjects **Search Mode** — Boolean/Phrase	417656
S2	AB nurs* OR AB health care provider OR AB health care professional OR AB health care worker	**Expander** — Apply Equivalent Subjects **Search Mode** — Boolean/Phrase	993524
S3	AB intensive care OR AB ICU OR AB critical care	**Expander** — Apply Equivalent Subjects **Search Mode** — Boolean/Phrase	279362
S4	(AB intensive care OR AB ICU OR AB critical care) AND (AB nurs* OR AB health care provider OR AB health care professional OR AB health care worker) AND (AB intensive care OR AB ICU OR AB critical care)	**Expander** — Apply Equivalent Subjects **Search Mode** — Boolean/Phrase	923
S5	(AB intensive care OR AB ICU OR AB critical care) AND (AB nurs* OR AB health care provider OR AB health care professional OR AB health care worker) AND (AB intensive care OR AB ICU OR AB critical care)	**Expander** — Apply Equivalent Subjects **Search Mode** — Boolean/Phrase **Limiter —** Full Text	221

TI — Title

AB — Abstract