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STRATEGIES THAT SUPPORT THE INTEGRATION OF NURSES IN ICU: SYSTEMATIC REVIEW OF EVIDENCE OF MEANING

ESTRATÉGIAS QUE SUPORTAM A INTEGRAÇÃO DE ENFERMEIROS EM UCI: REVISÃO SISTEMÁTICA DE EVIDÊNCIA DE SIGNIFICADO

ESTRATEGIAS QUE APOYAN LA INTEGRACIÓN DE ENFERMEROS EN UCI: REVISIÓN SISTEMÁTICA DE EVIDENCIA DE SIGNIFICADOS

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ABSTRACT

Introduction: The autonomy that Intensive Care nurses have in caring for critical patients is related to the wide range of competencies they have. It is essential to develop an integration program with support and orientation strategies, focused on the development of skills and the acquisition of competencies, which promotes the independence and autonomy of new nurses in the transition to a safe critical care practice.

Objectives: Identify strategies that support the integration process of new nurses, in the development of competencies in an Intensive Care Unit (ICU).

Methodology: Systematic review of evidence of meaning, according to the PICo strategy in formulating the research question and the methodology of Joanna Briggs Institute. The online knowledge library, B-On, was consulted and the search limitations were applied: articles published between 2018 and 2021; peer review; published in academic journals; with full text in Portuguese or English.

Results: After applying the inclusion and exclusion criteria, seven qualitative articles were selected, which identify strategies that support the process of integrating nurses in the development of competencies in ICU.

Conclusion: The process of integrating nurses in ICU must follow a structured program based on individual learning needs. The strategies identified are: existence of an orientation program using educational and training practices; necessary and sufficient length of the integration period; presence of a designated mentor; analysis of the experiences lived during the process; knowledge of the workplace culture, socialization and team support.

Keywords: Competencies; Integration; Intensive Care Units; Nurses; Strategies.

RESUMO

Introdução: A autonomia que os enfermeiros de Cuidados Intensivos detêm no cuidado ao doente crítico, está relacionada com o grande leque de competências que possuem. É essencial desenvolver um programa de integração com estratégias de apoio, suporte e orientação, centradas no desenvolvimento de habilidades e aquisição de competências, que promova a independência e autonomia de novos enfermeiros na transição para uma prática de cuidados segura ao doente crítico.

Objetivos: Identificar estratégias que suportem o processo de integração dos novos enfermeiros, no desenvolvimento de competências em Unidade de Cuidados Intensivos (UCI).

Metodologia: Revisão sistemática de evidência de significado, segundo a estratégia PICo na formulação da questão de investigação e a metodologia de Joanna Briggs Institute. Recorreu-se à biblioteca do conhecimento *online*, B-On, tendo sido aplicados os limitadores de pesquisa: artigos publicados entre 2018 e 2021; revistos por pares; publicados em revistas académicas; com texto integral em português ou inglês.

Resultados: Após aplicação dos critérios de inclusão e exclusão, foram selecionados sete artigos, de natureza qualitativa, que identificam estratégias que suportam o processo de integração de enfermeiros, no desenvolvimento de competências em UCI.

Conclusão: O processo de integração de enfermeiros em UCI deve seguir um programa estruturado baseado nas necessidades de aprendizagem individuais. As estratégias identificadas são: existência de um programa de orientação com recurso a práticas educacionais e de treino; duração necessária e suficiente do período de integração; presença de um mentor dedicado; análise das experiências vividas durante o processo; conhecimento da cultura institucional e do serviço, socialização e apoio da equipa.

Palavras-chave: Competências; Enfermeiros; Estratégias; Integração; Unidades de Cuidados Intensivos.

RESUMEN

Introducción: La autonomía que tienen los enfermeros de Cuidados Intensivos en el cuidado de pacientes críticos está relacionada con la amplia gama de habilidades que poseen. Es fundamental desarrollar un programa de integración con estrategias de apoyo y orientación, enfocado al desarrollo de habilidades y la adquisición de competencias, que promueva la independencia y autonomía de los nuevos enfermeros en la transición a una práctica de cuidado seguro para pacientes críticos.

Objetivos: Identificar estrategias que apoyen el proceso de integración de nuevos enfermeros, en el desarrollo de habilidades en Unidad de Cuidados Intensivos (UCI).

Metodologia: Revisión sistemática de evidencia de significado, de acuerdo con la estrategia PICo en la formulación de la pregunta de investigación y la metodología del Instituto Joanna Briggs. Se utilizó la biblioteca de conocimiento *online*, B-On, y se aplicaron los limitadores de búsqueda: artículos publicados entre 2018 y 2021; revisado por pares; publicado en revistas académicas; con texto completo en portugués o inglés.

Resultados: Luego aplicados los criterios de inclusión y exclusión, se seleccionaron siete artículos cualitativos, los cuales identifican estrategias que apoyan el proceso de integración del enfermero en el desarrollo de habilidades en UCI.

Conclusión: El proceso de integración de enfermeras en la UCI debe seguir un programa estructurado basado en las necesidades de aprendizaje individuales. Las estrategias identificadas son: existencia de un programa de orientación utilizando prácticas educativas y formativas; duración necesaria y suficiente del período de integración; presencia de un mentor dedicado; análisis de las experiencias vividas durante el proceso; conocimiento de la cultura institucional, socialización y apoyo del equipo.
Descriptores: Competências; Enfermeros; Estrategias; Integración; Unidades de Cuidados Intensivos.

INTRODUCTION

The need for the acquisition of new nurses in the various Intensive Care Services continues to increase and becomes a challenge to ensure that the process of their integration is successful. Integrating new nurses requires strategic planning that defines aspects of the workplace care model, as well as the implementation of a program that provides guidance, support and training strategies that allow the professional development of these nurses in critical care[1].

The practice of nursing care for critically ill patients is intellectually and emotionally challenging, requiring decision-making and quick responses to threatening life situations where there is no room for error. Intensive care services are characterized by technological sophistication, where advances and professional intervention, in the most differentiated degrees of complexity, are destined to the survival of the person in critical situation. The environment of an Intensive Care Unit (ICU) presents an accelerated and technologically advanced pace that often causes feelings of stress, disorientation, demotivation and exhaustion in new nurses during the integration process[2]. The integration process should focus on the development of knowledge, skills and competencies in achieving a reliable performance in the care of the critically ill and, in turn, on improving the confidence of new nurses.

The concept of competence refers to the combination of diverse knowledge in a unit, know-know, know-how and know-how to be, in which the person becomes involved and mobilizes knowledge of a technical, relational, global and specific nature, as well as skills and values, in the execution of his activity. Being competent implies a concrete, pragmatic and sincere appreciation of the situation, in each sociocultural context in which it occurs and where nurses work[3]. In this sense, during the integration process in ICU, nurses acquire skills in knowledge, doing and being, as the essence of the transition to a so-

lid professional identity, capable of providing quality care and safety to critically ill patients[2].

There are several theories that have been developed to better understand the experiences of nurses in the transition to an autonomous practice, namely: Kramer's theory of the shock of the transition, Bridges' theory of transition and Benner's theory of competence development[4].

Kramer's theory of shock of transition refers to the concept of shock as a set of confused and uncertain emotions experienced by the new nurse in an environment that is not familiar to him. This theory describes the transition process during the first 3 to 4 months of nursing practice, according to the distinct phases (honeymoon phase, shock and rejection phase, adjustment phase and recovery phase) as a process of mental, intellectual, sociocultural and physical development, motivated and mediated by role change, responsibility and level of knowledge[5]. Bridges' transition theory also describes three distinct phases involving the transition process (letting go, neutral and new beginning). The progression of each phase is linear, and the nurse will only be able to move on to the next one when he/she has completed the previous one[4].

In Benner's theory[6], centered on the acquisition and development of competencies, nurses go through five seasons: novice, advanced beginner, competent, proficient and expert. These statistics reflect changes in the performance of skills, depending on past experiences and the perception and understanding of the requirement of situations. The newly graduated nurses, who debut their professional career in a new service, have difficulty integrating what they have learned in an academic context with what they experience in a real situation, assuming the status of novice or initiated. They are also considered initiated nurses, all those who integrate a new service with objectives and aspects inherent to care that are not familiar to them[6].

Although it is not known which of the transition theories explained here is the most effective when applied to integration programs, they all highlight that integration programs serve to support nurses both at the beginning of the professional path, or in the transition to a new service, during the first months of practice[4].

The integration process varies in duration, form and content and the requirements for effective integration that facilitates learning and skills development are unclear.

In this follow-up, considering the relevance of the subject, the following research question was elaborated:

"What are the strategies that identify nurses who support their integration process, in the development of competencies in a ICU?".

It was formulated according to the method PICO[7]: P (Population) – nurses initiated; I (Phenomenon of Interest) – identified strategies that support the integration process; C (Context) – Intensive Care Unit.

The present systematic review of evidence of meaning aims to describe the strategies identified by nurses who support the process of integration in an ICU.

METHODS

After the formulation of the research question and considering the methodology of Joanna Briggs Institute[7], the following inclusion criteria were defined for the research of the studies:

- Type of participants: Nurses in the provision of critical patient care in intensive care services.
- Type of phenomena of interest: Studies that contain strategies that support the integration process of the initiated nurses.
- Type of results: Studies that demonstrate the importance of the integration process in the development of nurses' competencies in the provision of critical patient care in intensive care services.
- Types of studies: all primary studies of a quali-quantitative (mixed) and/or qualitative nature.

Research strategy and identification of studies

The research was conducted on March 18, 2021, in the online knowledge library, B-On, using as research limiters articles published between 2018 and 2021; peer-reviewed; published in full-text academic journals available in Portuguese or English.

The research considered the vocabulary indexed to the databases, based on the descriptors in Health Sciences, and the combinations of descriptors with Boolean operators were schematized in Table 1↗.

From the research conducted, the number of 490 articles was obtained. After the removal of duplicate articles (87 articles), 403 articles resulted. By reading the title 389 were excluded and by reading the abstract, 5 articles were excluded because they did not address the phenomenon of interest or did not present the appropriate methodology, being reduced to 10 articles. Of these, after their evaluation, only primary studies were selected, leaving 7 articles, belonging to the following databases: ScienceDirect – 4 articles and Medline – 3 articles.

In the next flowchart (Fig. 1↗), it is possible to observe the selection process of the studies throughout the performance of this review.

The evaluation of the methodological quality of the analyzed studies was performed following the indications of Joanna Brigs Institute[7], as shown in Tables 2↗ and 3↗.

RESULTS AND DISCUSSION

The information related to each article selected for the present review is set out in Table 4↗ and organized in general information (title, authors, year and country where the study is conducted), study characteristics (objective, interventions, time and type of participants) and their results.

All the articles studied have as participants nurses with samples ranging from 8 to 87, among which recent graduates, with little professional and/or experienced experience, in critical patient hospitalizations, mostly ICU's. The selected articles present different methodological designs, although all qualitative origin and a mixed one. Most resorted to the interview as a strategy to respond to the phenomenon of the study.

Some articles refer to the experiences felt during the transition process to the autonomous practice of care that takes place during the integration period, while others focus on the specific components that seem to benefit in the implementation of integration programs.

The analysis of the selected articles resulted in the identification of factors that influence the integration process of nurses who start their practice in ICU's, namely: the existence of an orientation program with educational and training practices; the duration of the program; the presence of a designated mentor; feelings/experiences and workplace culture/socialization.

Orientation program: educational and training practices

In the studies analyzed, the participants express that there are no specific training programs for ICU nurses[10,12-14]. The studies by Padilla[12] and Rossler[13] state that it is necessary to develop orientation programs with best practices focused on the identification of teaching strategies, which address failures and promote training and training, allowing initiated nurses to acquire knowledge and develop critical thinking, to safely care for and achieve excellence. It is important to consider a complete and specific program using theoretical and practical teaching and assistance in clinical simulation and online training that allows to fill the scarce experience and knowledge, acquire skills, competencies, and train new nurses in complex situations[12-14]. Serafin[14] participants identify that 5 competencies are necessary to work in ICU: communication, teamwork, professional self-confidence, knowledge and their use in practice.

The Innes[16] review also reports that the orientation program of the initiated nurses is linked to their satisfaction and performance in a ICU environment. A well-structured program with support functions, promotes the acquisition of skills and knowledge and results in skills development, trust and greater job satisfaction. The program or guidance, according to Simone[1], serves to provide a standard process that clearly defines the expectations of orientation, with description of the expected progression, learning methods and a timeline for its realization. In addition, it should provide information about mission, values, activities, leadership structure and support resources.

In the ICU integration process, resorting to simulation-based training strengthens self-reflection, critical thinking, prioritization, planning, decision making, problem solving and evaluation; provides an opportunity to apply theoretical knowledge to practical experience; improves skills in the areas of communication, teamwork, stress management and leadership and provides a safe environment to make, reflect and learn from mistakes[16]. Integration or transition to practice programs consist of a variety of models that include: preceptorship or orientation, duration (supernumerary time), development of learning, skills, and performance assessments[4]. The ideal integration program is one that integrates the specific competencies of the function with the individual learning needs of the initiated nurse. Mentors should develop personalized teaching strategies that are targeted to the needs of insiders and follow a specific orientation plan in expertise of their UCI, which will allow the level of autonomy to increase over time. ICU nurses require specific competencies in critical care. In this sense, before starting autonomously in practice, they must undergo an assessment of their level of knowledge, skills and competencies. Incorporating a checklist into the integration program allows that, once the acquisition of competencies is completed, they feel confident and realized[16].

Thus, the existence of integration programs that support, during the first months, the transition to autonomous care practice, is vital to reduce the effects of the shock of this process[4].

Program Duration

Regarding the period of the integration process, the articles have a different duration from 10 days[11] to 3 months[14], although all of them report being insufficient, since the initiated nurses are not prepared to perform functions autonomously after this period[10-12,14]. The review of Elias[17] also concludes that the duration of the integration process is, in most of his studies, inadequate, ranging from 1 day to 8 weeks. This time varies in the literature in specific areas such as ICU. The Integrative Review of Innes[16] concludes that the program should last 6 weeks under supervision, although this period increases to 12 weeks in areas of high complexity, allowing to extend the orientation and support time. Simone[1] states that this process should last between 12 and 26 weeks, depending on the expectations of competence and the individual knowledge needs of the initiated nurse. Both reviews[16,17] concluded that longer integration periods in critically ill areas increased the satisfaction and performance of initiated nurses. Therefore, considering the specificity of skills and knowledge to be acquired in intensive care environments, it is imperative to develop longer orientation programs to obtain better prepared nurses.

Mentor presence

The analysis of the studies by DeGrande[8], Hussein[11] and Serafin[13] concludes that the presence of a resolute mentor nurse, with experience and leadership capacity, as an element of support and support, is essential in the success of the integration process of new nurses in ICU. The following terms are used in the studies: advisor, supervisor, mentor and preceptor, but all of them with identical responsibilities and support functions. The studies by Padilla[12] and Serafin[14] also state that it is important to conduct an evaluation at the end of the integration period, which allows detecting areas of improvement in the acquisition of skills required in a ICU.

The reviews of Innes[16] and Elias[17] meet this, concluding that the existence of a fixed and resolute mentor improves the satisfaction of the initiated nurse, comparing with the existence of multiple advisors. This element is seen as a significant resource during integration, which provides support, knowledge, clinical supervision and teaching, increasing the confidence levels of new nurses in the face of the challenges of initial practice. The mentor nurse should provide effective and quality experiences that influence the progress and socialization of the initiated nurse. The type of orientation should consider the learning/teaching relationship and personal characteristics of both. They also report that

maintaining a close professional relationship between the initiate and the mentor, for a period of 6 to 9 months, will optimize the transition process[16,17]. The mentor should meet weekly with the initiate to evaluate progress and adapt learning strategies as needed[1].

Feelings/Experiences

Throughout the ICU integration process, nurses experience positive and negative feelings depending on individual circumstances and experiences. As positive, the studies by Macedo[9], DeGrande[8] and Hussein[11] report that self-confidence and satisfaction are present in challenging and exciting environments such as ICU's and that courage, assertiveness and humility are important personality traits in the participants' experiences. As negative feelings: lack of confidence, uncertainty, insecurity, demotivation, fear, anxiety, dissatisfaction, stress and sometimes burnout are described in the articles of DeGrande[8], Gundo[10], Padilla[12] and Serafin[14]. The latter are due, on the one hand, to the lack of knowledge and technical competence necessary in the care of the critically ill and, on the other hand, to the high complexity environment dominated by the presence of technology.

Also, in the systematic review of Elias[17] the positive emotion most mentioned was arousal, related to the adrenaline of the environment and the enthusiasm to save lives, while the negative emotion most frequently mentioned was fear, related to the possibility of making mistakes or not being prepared to act in emergency situations.

Workplace culture/socialization

The studies by Macedo[9], Padilla[11] and Rossler[13] show that organizational practices that promote interpersonal relationships and, consequently, the adoption of dynamics of education and permanent training in the practice of critical patient care, particularly in complex situations, favor sing and collaborative the whole team, avoiding errors and optimizing the collective performance of the same. This practice allows the initiated nurse to acquire qualifications with knowledge and skills that support him or her. They also conclude that there is a lack of guidelines for training and continuous professional development and, therefore, there should be a greater involvement of institutions in promoting training policies focused on the needs of initiated nurses, particularly in ICU's[9,12,13]. They also report that support and acceptance by the most experienced nurses are important in the self-confidence of the initiates, although in the Serafin study[14], the participants expressed difficulty in obtaining them.

Innes[16] and Elias[17] also conclude in their studies that workplace culture positively and/or negatively influences the integration process of new nurses. The presence of a positive environment and a culture of support, availability and acceptance, provides a stimulating environment and increases the confidence of initiated, promoting their autonomy. An integration program that promotes a practice of socialization on the part of the team, influences the development of skills of new nurses since, when they feel well supported, they feel comfortable to approach colleagues in the search for opinions or ask questions. On the other hand, negative behaviors on the part of the team arise as barriers in the integration process. By revealing weariness, disinterest, hostility or exclusion, it impairs the confidence of the initiates[16,17]. This relationship cannot be successful without effective, respectful communication that involves continuous dialogue, with knowledge sharing and constructive feedback. The relationship based on collaboration, cooperation, trust, mutual respect and with clear communication to achieve a common goal promotes the effectiveness of teamwork[1]. Thus, it is essential to evaluate the culture of the service and implement strategies that promote a culture of support, which benefits the teaching and acquisition of competencies of new nurses. It is also important that the service considers the workload pressure and the individual needs of each nurse initiated[16,17].

CONCLUSION

Ensuring that the integration of new nurses is successful requires planning of strategies that define the role of nurses in the ICU environment, training, support and support during the transition period to autonomous practice. The presence of a specific and structured orientation program is indispensable to ensure that initiated nurses receive the necessary support and orientation to develop skills and promote independence and autonomy, leading to successful integration. It is also concluded that the duration of the integration time, the presence of a resolute mentor, the experiences lived, the culture of the workplace and the socialization with the team, are factors that influence the integration process of the initiated nurses.

The literature points to the need to include in the institutions, integration programs that promote the satisfaction and autonomy of the initiated nurses and that empower the teams of the services, particularly intensive care, in their support, guidance and orientation. Thus, it is necessary to develop a continuous education to achieve excellence, allowing nurses to increase knowledge and develop critical thinking and to take care safely and with better results.

The articles studied present convergent results, despite cultural discrepancies and care contexts, since they originate from four different continents: Africa (Malawi), Europe (Poland and Spain), Oceania (Australia) and America (USA and Brazil).

In the national literature, few studies were found to evaluate the process of integration of nurses, in the context of ICU, so it is recommended to conduct research in Portugal that addresses the phenomenon in question, to contribute to support and orientation strategies in the integration process, ensuring the satisfaction and confidence of nurses and ensuring a quality and safety practice in critical care.

After the synthesis of the results obtained in this research, it is now important to incorporate them into practice, transporting them to our reality, thus allowing the commitment of evidence-based practice.

Authors' contributions
AC: Study design, collection, data storage and data analysis and discussion of results.
AP: Study design, data analysis, review and discussion of results.
All authors read and agreed with the version published in the manuscript.

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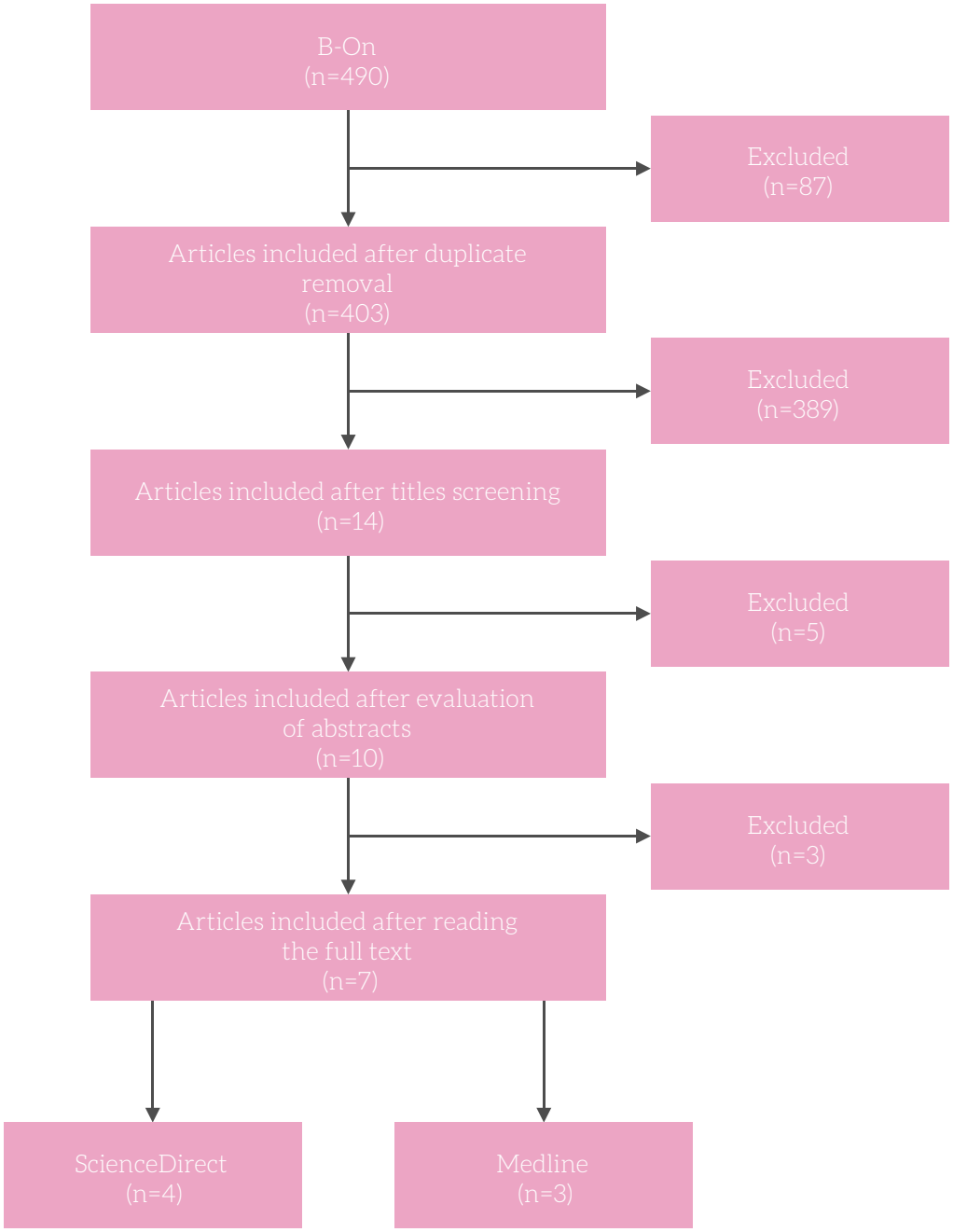

Figure 1 – Flowchart with search strategy.

Table 1 – Combination of descriptors with Boolean operators in B-On.

	new graduate nurs OR new nurs**	
AND	*transitional program OR transition support program OR nursing education OR transition to practice or orientation OR preceptor* OR professional competence*	
AND	*support OR confidence*	
AND	*critical care OR intensive care OR ICU*	Title
AND	*nurse OR nurses OR nursing*	Title

Table 2 – Evaluation of methodological quality[7].

Article	Level of Evidence
DeGrande, Fiu, Greene, Stankus[8]	4.b – Phenomenological qualitative study
Macedo, Padilha, Püschel[9]	4.d – Case study – qualitative approach
Gundo, Mearns, Dickinson, Chirwa[10]	4.b – Qualitative – descriptive study interpretative
Hussein, Salamonson, Hu, Everett[11]	4.b – Observational study
Padilla, Cabrera, Adell, Pérez, González, Rodríguez[12]	4.b – Phenomenological qualitative descriptive study
Rossler, Hardin, Taylor[13]	4.b – Mixed study: quantitative and qualitative
Serafin, Pawlak, Klis, Bobrowska, Pączek[14]	4.b – Phenomenological qualitative study

Table 3 – Results of critical evaluation for studies included[15].

Articles	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
DeGrande, Fiu, Greene, Stankus[8]	S	S	S	S	S	S	S	S	S	S
Macedo, Padilha, Püschel[9]	S	S	S	S	S	S	S	S	S	S
Gundo, Mearns, Dickinson, Chirwa[10]	S	S	S	S	S	NE	S	S	S	S
Hussein, Salamonson, Hu, Everett[11]	S	S	S	S	S	NE	S	NE	S	S
Padilla, Cabrera, Adell, Pérez, González, Rodríguez[12]	S	S	S	S	S	NE	S	S	S	S
Rossler, Hardin, Taylor[13]	S	S	S	S	S	NE	S	S	NE	S
Serafin, Pawlak, Klis, Bobrowska, Pączek[14]	S	S	S	S	S	S	S	S	S	S

Subtitle: Q – questions; S – yes; N – no; NA – not applicable; NE – non explicit.

Table 4 – Data extraction.

Article Title/Authors/ Year/Country	Aim	Interventions/ Time period	Participants	Results
The experiences of new graduate nurses hired and retained in adult intensive care units[8] DeGrande H, Fiu F, Greene P, Stankus J 2018 USA.	Explore the experiences of newly graduated nurses (NGN) who were hired for the adult ICU, who completed the transition process and became competent after the 3rd year of practice.	Interview. From December 2016 to July 2017.	11 Nurses who, after graduation, were hired directly to the ICU and who have between 24 and 30 months of experience.	• The NGN were initially confident in their abilities, but when they witnessed life-threatening situations, it generated uncertainty and lack of confidence. • Lack of knowledge led to feelings of insecurity and discomfort. • The greater the exposure to various complex clinical situations, the greater the acquisition of experiences and learning, increasing the levels of confidence and comfort in management in life-threatening situations. • The enrichment of experiences led to the development of intuitive knowledge and intuition, having been essential in the first 2 years of practice at UCI. • The NGN described the first 2 years of practice as difficult, stressful and very heavy. • They described that having courage, assertiveness, humility and resilience were important personality traits in the participants' experience. • The support of the team, the experience and support of the advisor were important for the practice of the NGN.

Table 4 – Data extraction.

Article Title/Authors/ Year/Country	Aim	Interventions/ Time period	Participants	Results
Professional practices of education/training of nurses in an intensive care unit[9] Macedo A, Padilha K, Püschel V 2019 Brazil.	Understand the education/ training of nurses working in a ICU of a University Hospital.	Documentary analysis, Interview Survey and Observation on the ground. November 2015.	8 ICU nurses from the University Hospital of the State of São Paulo.	• They reported the ICU as a complex environment, dominated by specialization, in which the team is focused on the domain of devices and machines to cope with the disease. • ICU's are contexts rich in experiences that give rise to learning, so the knowledge acquired in the initial experience is remarkable. • All interviewees considered essential the presence of the head nurse as a motivation for education and training in the context of work and with a leadership style of proximity to their peers. • They expressed that it is important to have permanent education and training dynamics in the institution and in the ICU, which allows the acquisition of a qualification with knowledge and skills, capable of supporting them. • The nurses showed values of well-being, satisfaction and motivation for education and training. • Some organizational practices promote interpersonal relationships and, consequently, the willingness of professionals to adopt dynamics of education and continuing education.

Table 4 – Data extraction.

Article Title/Authors/ Year/Country	Aim	Interventions/ Time period	Participants	Results
Contextual issues that influence preparedness of nurses for critical care nursing practice in Malawi[10] Gundo R, Mearns G, Dickinson A, Chirwa E. 2019 Malawi.	Explore the learning needs of nurses in ICU's and High Dependency Units, to know the development and evaluation of a training program for nurses in Malawi.	2 Interviews. Non-explicit period.	79 nurses from UCI's and High Dependency Units of 2 hospitals in Malawi.	• The participants mentioned as challenges that affect nursing practice in ICU: failures in education and preparation, organizational factors, staff shortages and lack of resources. • They reported that there is a discrepancy between initial training and actual practice. • The majority reported not having the knowledge and skills required in the care of the critically ill patient. • There are no specific training programs for ICU nurses. • There is a lack of guidelines for training and continuous professional development. • There is a shortage of well-trained nurses to practice in ICU. • They reported feelings of fear, anxiety and stress and associated with the complexity of the critically ill patient, the presence of technology and technical competence. • The annual rotation policy, which involves the transfer of nurses from one department, such as ICU, to another, leads to the loss of nurses who have acquired experience. • The equipment is perceived as a facilitating resource of nursing care; however, it becomes an obstacle when nurses are unable to operate due to lack of knowledge

Table 4 – Data extraction.

Article Title/Authors/ Year/Country	Aim	Interventions/ Time period	Participants	Results
Clinical supervision and ward orientation predict new graduate nurses' intention to work in critical care: Findings from a prospective observational study[11] Hussein R, Salamonson Y, Hu W, Everett B. 2019 Australia.	Explore the perceptions of clinical supervision and the practice environment of newly graduated nurses and how they influenced their transition to critical and non-critical care areas.	Pre-test and post-test. From May 2012 to August 2013.	87 newly graduated nurses from a University Hospital in Sydney, non-critical patient services and critical patient services (Urgency and ICU's).	• NGN working in critically ill contexts reported greater satisfaction with clinical supervision than those working in a non-critical context. • NGN working in intensive care areas were more likely to want to stay in these services than those allocated to non-critical services. • Younger nurses are attracted to intensive care environments because they are challenging and exciting contexts. • Increased confidence is related to increased experience. • NGN in UCI's are supervised more closely and accompanied by an expert. • The average duration of clinical supervision of supernumerary in non-critical services was 2 days, while in ICU's it was 10 days. • NGN who started their practice in UCI's felt more supported, more satisfied and intent on staying in these services. • The intention to abandon nursing is more common among young nurses and NGN, due to dissatisfaction of orientation and burnout associated with feelings of poor preparation for practice.

Table 4 – Data extraction.

Article Title/Authors/ Year/Country	Aim	Interventions/ Time period	Participants	Results
Training needs detected by nurses in an intensive care unit: a phenomenological study[12] Padilla Y, Cabrera L, Adell M, Pérez T, González J, Rodríguez R. 2019 Spain.	Understand what training needs ICU nurses have had through their experience and knowledge of the practice.	Semi-structured interview. Duration of 17h.	15 nurses with experience of at least 3 years in ICU of a University Hospital of Gran Canaria.	• The interviewees referred to the ICU as an overly complex environment. • The initiated nurses reported insecurity when they started ICU functions, since previous training and support measures were deficient. • Specific educational programs should be implemented to address failures and foster training and training. • Online training has been recognized as quite didactic. • The participants observed the need to consider a complete and specific program using theoretical and practical teaching and clinical simulation assistance, in the preparation and training of new nurses in the safe provision of care. • There should be greater involvement of institutions in promoting training policies focused on the needs of nurses, in ICU's. • It was observed that communication, specifically in complex or critical situations, is an area that should be developed to avoid errors and achieve adequate results, through group dynamics. • It is important to have a self-assessment of the initiated nurses, which allows to detect areas of improvement in the acquisition of the skills required in a ICU.

Table 4 – Data extraction.

Article Title/Authors/ Year/Country	Aim	Interventions/ Time period	Participants	Results
Teaching Interprofessional Socialization and Collaboration to Nurses Transitioning Into Critical Care[13] Rossler K, Hardin K, Taylor J. 2020 USA.	Explore the effectiveness of 2 educational strategies to promote interprofessional socialization and collaboration of initiated nurses.	Pre-test and post-test. Duration of 6 weeks.	57 newly graduated nurses in a critically ill boarding school program at a University Hospital in the Southwestern United States.	• There is a constant need for programs related to best practices focused on the identification of teaching strategies for new nurses. • Knowledge and competence demonstration requirements, behavioral and socialization practices are essential points for a successful transition. • Successful integration processes are reflected in positive outcomes in the critically ill. • There is a relationship between interprofessional education and the result of the transition process of initiated nurses. • The integration of interprofessional education based on simulation was important in the socialization roles of the participants. • Acquiring feelings of belonging and developing an identity as a team member within the institution has allowed a successful transition. • One of the relevant experiences was "feeling of security" in relation to interprofessional education practices and humanized communication. • A dynamic environment automatically allows the team to communicate and collaborate. • Interprofessional education with modules or online simulation, should be considered in the education of new nurses.

Table 4 – Data extraction.

Article Title/Authors/ Year/Country	Aim	Interventions/ Time period	Participants	Results
Novice nurses' readiness to practice in an ICU: A qualitative study[14] Serafin L, Pawlak N, Klis Z, Bobrowska A, Pączek B. 2021 Poland.	Explore the preparation of Polish initiated nurses in practice in a ICU.	Semi-structured interview. Q1 2020.	17 nurses started from Warsaw hospitals, working in ICU between 3 months to 3 years after graduation.	• Most participants reported not being prepared to work in UCI after graduation. • Professional orientation was planned for a period of 3 months, although in most cases it was reduced. • The new nurses had to start providing care independently, few shifts after starting in the new service. • Most of them did not feel ready to provide care independently after the integration period, because they had insufficient knowledge. • During the integration process, the advisor, as an experienced and leadership-capable element, was the model used to support the transition. • During the integration period, the role of the advisor was limited to passive observation, not providing a sense of real support. • Most of them showed importance in having a resolute advisor who would support them during integration. • They mentioned that the orientation should be conducted by more experienced nurses and better prepared for this task. • The participants reported difficulty in obtaining support and acceptance from older nurses. • At the end of the integration period, an evaluation of the knowledge of the initiated nurses was made. • Five skills needed to work in ICU were identified: communication, teamwork, professional self-confidence, knowledge and its use in practice. • Self-confidence is important in a ICU and its lack leads to feelings of crisis, dissatisfaction and burnout on the part of the initiated nurses. • The time, experience and support of experienced nurses are necessary factors in the acquisition of self-confidence in a ICU.

Table 4 – Data extraction.

Article Title/Authors/ Year/Country	Aim	Interventions/ Time period	Participants	Results
Novice nurses' readiness to practice in an ICU: A qualitative study[14] Serafin L, Pawlak N, Klis Z, Bobrowska A, Pączek B. 2021 Poland.	Explore the preparation of Polish initiated nurses in practice in a ICU.	Semi-structured interview. Q1 2020.	17 nurses started from Warsaw hospitals, working in ICU between 3 months to 3 years after graduation.	• Inadequate preparation of records, legal aspects on the ground and knowledge of pharmacology in resuscitation has been described, causing elevated levels of stress and dissatisfaction. • They describe ICU as a heavy work environment that requires multitasking, leading to stressful experiences. • The existence of simulations during professional training promotes the acquisition of skills and competencies and stress resistance and, being able to bridge the limited experience and knowledge in dealing with complex situations.