

Strategies for an Effective Safety Culture and Prevent Errors in Nursing: Literature Review

Teresa Vinagre¹& Rita Marques²

Abstract

Introduction and objective: safety culture is increasingly linked to the quality of care, being crucial for the prevention of errors in health. It is intended to identify which strategies for an effective safety culture and to prevent errors in Nursing. Methodology: Review of the literature. The study includes the analysis of articles found in: CINAHL, MEDLINE, Nursing & Allied Health Collection, Cochrane Database of Systematic Reviews, B-ON e SCIELO. Sample consists of 12 articles. Results: Teamwork and communication were referred in 75% of the studies as key measures; 66.7% reinforce the importance of notification of errors; 58.3% argue that the training/continuous improvement is essential; 33.3% consider the global perception of safety and the importance of trust in leaders as effective methods; 25% alert to the importance of the feedback of errors to health professionals. Conclusion: Teamwork and communication were identified as the most significant strategies, following the notification of errors and training/continuous improvement. In the analyzed articles was identified a direct relationship of the existence of a safety culture with the reduction of adverse events in health care and the need to make the system more secure, instead of trying to change the human condition.

Key-words: Nursing; Patient Safety; Safety Culture; Errors; Care Quality.

1. Introduction

In accordance with the Direção-Geral da Saúde (2017), the patient safety is currently considered one of the fundamental elements of quality in health care, not only for the patients and families who want to feel safe in relation to health care, but also for the health professionals who aspire to provide safe and efficient care. The safety culture, in health institutions, acquires a growing recognition in current society, being therefore crucial value more research in this area. According to Paese and Sasso (2013) the safety culture reflects the attitudes of the employees and the management strategy, as well as the values related to risk management and safety in health. The European Society for Quality in Health Care (2006), referred by Ballangrud, Hedelin and Hall-Lord (2012, p. 345) defines the safety culture as "an integrated pattern of individual and organizational behaviour, based upon shared beliefs and values that continuously seeks to minimize patient harm which may result from the process of care delivery." Already in the perspective of Feng, Bobay Krejci, and McCormick (2012, p. 50), "patient safety culture has been identified as an important factor influencing health care service quality and patient safety." Being that a solid safety culture, in health institutions, is essential for the prevention of errors in Nursing.

With the technological evolution, the hospitals become more insecure environments, being places that are prone to error. According to the World Health Organization (WHO, 2008a), in the area of health occur daily thousands of errors that cause damage to the patient and that may lead to death, errors such that in the perspective of Mendes and Barroso (2014, p. 198) "(...) are a constant part of health care practice and occur in any part of the process of care."

¹Nurse, Student of the Master in Medical-Surgical Nursing Specialty at Universidade Católica Portuguesa, working at the surgical day hospital of Hospital da Luz; e-mail: teresasousasoes@gmail.com;

²Ph.D in Nursing, Adjunct Professor at Escola Superior da Cruz Vermelha Portuguesa; e-mail: ritamdmarques@gmail.com

Errors are involuntary, being defined by WHO (2011, p. 15) as a "(...) failure in the execution of an action planned in accordance with the desired or the incorrect development of a plan", which may give rise to incidents or adverse events. Yet, the same organization believes that the incidents or adverse events are one of the major causes of morbidity and mortality throughout the world, thus becoming essential to create a safety culture in various health institutions, continuously evaluating the impact of the various factors and innovative solutions, which are fundamental in the promotion of insurance care and improving the performance of health professionals (WHO, 2008b,2009).

Wang et al (2014) argue that the safety culture is essential in the prevention of adverse events in health care. For this, it matters to realize which scientifically proven strategies are indispensable for an effective safety culture and to prevent errors in Nursing. This study aims to identify strategies for an effective safety culture and to prevent errors in Nursing. It is expected to contribute to the improvement of care, and above all to ensure the safety of the patients.

2. Methodology

The realization of this literature review had as main objective, identify in the existing literature which strategies exist for an effective safety culture and to prevent errors in Nursing. Based on the abovementioned objective was drafted the following research question: What are the strategies for an effective safety culture and to prevent errors in Nursing? In order to answer the research question mentioned above, we conducted a research in the following search engines: EBSCO (CINAHL, MEDLINE; Nursing & Allied Health Collection; Cochrane Database of Systematic Reviews), B-ON and SCIELO databases, using the following descriptors: Nursing; Patient Safety; Errors. As the search limiters included full texts; abstracts available; period of time; research articles in English and Portuguese. Were defined as inclusion criteria articles published between 2012 and 2017; as regards the exclusion criteria were eliminated studies with patients in the pediatric age and ongoing studies. The research was carried out in the period between October and December 2017. The selection of articles was initially with the reading of the titles, subsequently with the reading of abstracts and finally with the reading of the full text, being excluded articles that did not meet the inclusion criteria.

3. Results

Through the research of 230 articles in the EBSCO, 172 articles of the B-On and 3 articles from the Scielo, obtained 28 articles in the EBSCO, 140 articles in B-On and 2 articles in the Scielo after reading titles; after reading the abstract, articles from the Scielo were deleted, and were selected 12 articles in the EBSCO and 11 articles in B-On. Finally, after reading the full text were chosen for analysis 5 articles from EBSCO and 7 articles of the B-On, giving a total of 12 articles. In this way, below is a brief analysis of the selected articles:

Article nº, Title	Authors (Year, Country)	Objetives	Methodology	MainConclusions
1.º Patient safety in the eyes of nurse professionals: a multiprofessional question	Araújo, M. et al (2017, Brazil)	Identify how the nurse realizes the patient safety in health institution where he performs his duties	Descriptivestudy, transversal, quantitative	Nurses recognize the main risks to which their patients are exposed to, being crucial to this sharing with the rest of the multidisciplinary team. Only through dialog and reflective practice we can achieves a solid safety culture and with quality, with reduction of adverse events. Patient safety and the prevention of errors in health are not a single problem nor the sole responsibility of nurses, it is a process that involves the necessary institutional transformation, with the aim to establish strategies to ensure the quality of care and implement a safety culture in healthcare institutions.
2.º Processes developed by nurse managers regarding the error	Correia, T. et al (2017, Portugal)	Know the perceptions of manager nurses and identify the management strategies against the error, and examine the preventive and corrective measures implemented by	Exploratorystudy, qualitative	The interviewees understand the connection between the prevention of adverse events and an effective safety culture, however argue that the approach to error in this hospital is still strongly connected to whoever commits and not to the system itself. Thus, is central the development of strategies of risk management to identify and understand the practices relating to errors of nurses, notably through a system of notification of adverse events. Only then we can prevent future errors and create a culture of security effective.

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3.º Safety Culture in the perception of nursing: integrative review	Cavalcante, A. et al (2016)	To analyze the scientific production on the nurses' perceptions about the safety culture in hospitals	Literatureintegrativereview	The safety culture is an important factor for the reduction of adverse events in hospitals and for the improvement of the safety of the patient. The team work, communication and notification of adverse events were the most mentioned by nurses who participated in this study as central to the consolidation of a safety culture in hospitals.
4.º Educational interventions and their impact on the safety culture: an integrative review	Marinho, M. et al (2016)	To analyze the scientific production on educational interventions developed with nursing professionals, with the aim of improving the safety of the patient, and the evaluation of the safety culture after this intervention	Literatureintegrativereview	The root-cause analysis reveals itself as a tool that facilitates learning and decrease in error, being fundamental for the improvement of safety culture in healthcare institutions. Other educational interventions more used in health institutions which guarantee a robust safety culture and that, consequently, lead to the reduction of errors in health, are the communication, teamwork and training/continuous improvement.
5.º Evaluation of the patient safety culture in intensive care from the perspective of the health team	Minuzz, A. et al (2016, Brazil)	Evaluate the dimensions of intensive care patient safety culture from the perspective of health professionals	Descriptive Exploratory quantitative and Study,	The dimensions of the safety culture most valued by participants in this study were the communication, teamwork and continuous improvement. Already the adverse events are not very much disclosed, and the feedback of the same rarely arrives to professionals who provide direct care to the patient. Thus, the authors emphasize the importance of changing mentalities and involve professionals who are on the front line of care. They need to be listened to, take note of the occurrences of errors and receive feedback about the changes implemented in order to avoid recurrences and improve the safety culture existent in the institutions. Motivated professionals provide health care with higher quality.
6.º Patient safety and the social processes in relation to the nurses in the context of the operation room	Silva, E. e Rodrigues, F.(2016, Cape Verde)	To understand the perception of nurses about patient safety in the operation room	Descriptive exploratory qualitative and study,	The operation room is a service with levels of stress/tension high, a consequence of its complexity, therefore, is a working place more prone to error, by which is fundamental redouble care with the patient safety. The management of conflicts, the interdisciplinary communication, the clear commitment of the person as the centrality of care, the existence of standards and supervision were the aspects more quoted by nurses in this study as fundamental to create a safety culture in the operation room.
7.º Promote a safety culture in primary health care	Mendes, C. e Barroso, F. (2014)	Highlight the inevitability to promote a safety culture in healthcare institutions in general and particularly in primary health care	Integrativeliteraturereview	Mistakes are a constant in clinical practice, whether related to health professionals, whether related to the system itself. It is more effective to change the system, creating a safety global culture, instead of changing the professionals. The management of events passes through the identification of the error, by its registration, analysis, discussion and prevention of same, through a culture of responsibility and not blame. The communication and training in team, are other pillars, also crucial to implement a safety culture efficiently and effectively.

8.º The relationship between patient safety culture and adverse events: A questionnaire survey	Wang, X. et al. (2014, China)	Describe the nurses' perceptions about the safety of the patient and the frequency of adverse events, and to examine the relationship between both	Descriptivestudy, correlational	<p>Improving the safety culture is directly related with the decrease in the occurrence of adverse events. The results indicate that a punitive response to error represents the greatest barrier to notification of the same, after its identification. And if so, adverse events can be repeated if increasing the risk of security for the patient, being crucial to eliminate this barrier so notification of errors can be fulfilled, and to prevent future errors.</p> <p>The factors most valued by participants in this study to create safety culture and prevent errors, in addition to the notification of errors, were the <u>training/continuous improvement and teamwork</u>.</p>
9.º Is culture associated with patient safety in the emergency department? A study of staff perspectives	Noord, I. et al (2013, Netherlands)	Describe the culture of patient safety in Dutch emergency service	Descriptive study, Transversal, quantitative	<p>The teamwork was the factor most identified by health professionals as essential to a safety culture in an emergency service, being directly related to a decrease of errors. The participants also mentioned other fundamental dimensions for an efficient safety culture, such as: the notification of adverse events, communication, feedback and learning from the mistakes, the support of the senior managers/hospital management and the general perception of safety.</p>
10.º Culture of patient safety in primary health care	Paese, F. e Sasso, G. (2013, Brazil)	Identify the attitudes that reveal the culture of patient safety by professionals of the teams of the Family Health Strategy and program of Community Health Agents	Descriptive study, cross-sectional and prospective, quantitative	<p>The attitude considered of lesser importance by the participants to safety culture in their services was the attitude towards error. This fact is associated with the existence of a punitive culture, in which the error is still seen as the fault or neglect of a person and not as a learning opportunity to prevent new events related with the same question.</p> <p>The results show that the conditions of work, teamwork, communication, the general perception of safety and the commitment of senior managers are the attitudes of greater importance to the participants, in relation to a solid safety culture and prevention of errors.</p> <p>The authors reinforce the need to train the professionals continuously as well as work on the error, transforming it into an opportunity for discussion and learning opportunity to prevent further adverse events associated with the same question, to a safety culture with quality.</p>
11.º Nurses' perceptions of patient safety climate in intensive care units: a cross-sectional study	Ballangrud, R. et al (2012, Norway)	Investigate the perception of nurses about the safety of the patient in intensive care unit and explore the main predictors of such perceptions as well as the frequency of reporting of incidents	Exploratory Study, cross-sectional, quantitative	<p>71.6% of nurses who participated in this study consider that patient safety is ensured in the intensive care unit where they work. The participants considered that it is necessary to improve the notification of incidents, the feedback and communication errors, as well as a commitment to continuous improvement to improve the safety culture of the hospital, and consequently to reduce the risk of adverse events.</p> <p>Nearly 49.5% of nurses who participated in this study never reported incidents, this fact is related to the novelty of the reporting system at this institution.</p> <p>The dimensions most valued to an effective safety culture by participants were: teamwork, non-punitive response to error, expectations and actions of managers, the general perception of safety, communication and taking a stake in training/continuous improvement.</p>

<p>12.º Factors associated with nurses' perceptions of patient safety culture in China: a cross-sectional survey study</p>	<p>Feng, X. et al (2012, China)</p>	<p>Explore the perception of nurses in relation to the culture of patient safety and the factors associated to these perceptions</p>	<p>Exploratory Study, cross-sectional, quantitative</p>	<p>61.3% of nurses who participated in this study have a positive vision about the safety culture in the hospital where they work. The participants considered the teamwork and the continuous training as the two most valued factors in the existent safety culture, instead of notification of errors and human resources, being the least valued by the institution. Other factors related to the safety culture, described here are: the trust between the management and the nurses, the prioritization of organizational safety, and the commitment of senior managers in relation to the safety of the patient. The safety culture is directly linked to the reduction of errors in this hospital.</p>
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Table 1: Description of the studies' selection and their main results

4. Discussion of Results

After the analysis of selected articles, it was found that all studies present strategies that have proved to be essential to an effective safety culture and for the prevention of errors in Nursing. As we can see in the chart below:

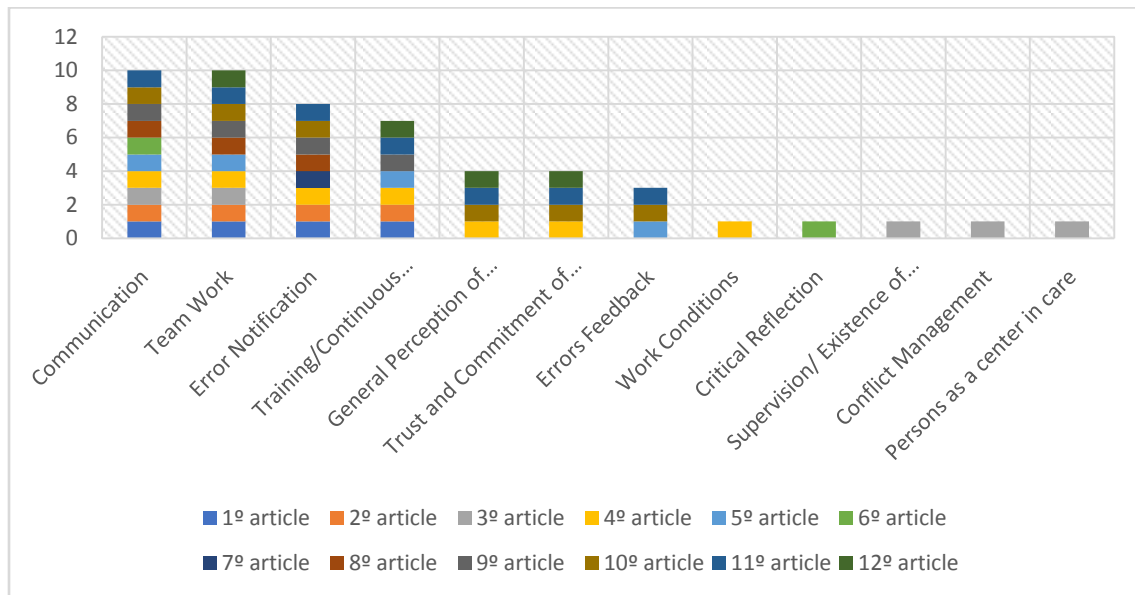


Chart 1: Study selection and respective strategies.

The strategies most mentioned in scientific production described above were the communication and teamwork, having been referred to as the relevant strategies in 75% of the analyzed articles. Open communication about the issues related to safety is an important characteristic of the culture of patient safety (Mendes & Barroso, 2014). As related by Ammouri et al (2015), cited by Calvante, Calvante, Pires, Batista and Nogueira (2016, p. 3895), "the lack of communication can significantly compromise the safety of the patient and the results of its care, being one of the main factors contributing to the errors" being that a clear language, structured and technically correct, it is essential to promote a safety culture (Minuzz, Salum& Locks, 2016).With regard to work in a team, the same authors advocate be of extreme importance, allow all health professionals to act proactively, contributing with ideas and suggestions. In line with the authors above mentioned, Ballangrud et al (2012) and Noord, Wagner, Dyck, Twiskand Bruijne (2014) also believe that teamwork is an important strategy for the prevention of errors in health, and consequently to enhance patient safety and increase the provision of care with quality. Already Paese and Sasso (2013, p. 307) argue that "the performance of the teamwork versus individual performance results in greater productivity."

The notification of errors was another of the strategies referred to as being essential for the prevention of errors, in 66.7% of the analyzed articles. However, the perspective of Mendes and Barroso (2014, p. 203), under the theme "there is still a long way to go: it is vital to create a culture of responsibility and not blame". Wang et al (2014, p. 1118) alerts us to the fact that the results indicate that the punitive response to error is the biggest barrier to notification of errors. Emphasizing that *"Building a non-punitive environment and developing nurse's initiative to report AEs voluntarily was necessary."* Through the notification of errors, one contributes to the improvement of safe practices, to the extent that it is carried out an analysis of the errors, increasing the learning of all. Finally, we will change factors that may have contributed to the error, thus making it more difficult for the occurrence of a new adverse event (Marine, Radünz, Tourinho, Rosa and Misiak, 2016). Correia, Martins and Forte (2017, p. 80) reinforce the idea of the above mentioned authors, quoting that *"Through patients' reports, errors can be detected and measures implemented to prevent similar errors in the future."* The training and continuous improvement were also as essential elements in the maintenance of a solid safety culture and prevention of errors, being addressed in 58.3% of the analyzed articles.

According to Feng et al (2012), continuous training is essential for a positive safety culture. The authors go further and refer to be essential a continuous training about one's own culture of security. Agreeing with the authors, Wang et al (2014) argue that the permanent training is crucial for a safety culture stronger and reasoned, being fundamental for the prevention of errors in Nursing.

The continuous improvement also allows the improvement of patient care quality, and thus more secure. Mendes and Barroso (2014) also point out an interesting aspect, noting that the continuous training of the team is one of the most important pillars for the safety of the patient.

The general perception of safety, trust in management and the commitment of the same to the professionals were other of the strategies referred to in 33.3% of the analyzed articles. Currently, the requirement of quality in the provision of care is increasingly present. The nurses more well informed, become more demanding and concern themselves more with the safety and the quality of work, because *"the intrinsic ethical commitment which involves taking care of the most valuable asset of the people which is their health."* (Araújo, Filho, Silveira, Souza, Barlem and Teixeira, 2017, p. 55). In this way, the general perception of safety *"(..) is considered an essential precondition for organizational learning. Without organizational learning the favorable safety culture cannot be established."* (Noord et al, 2014, p. 68). The authors alert to the importance of the perception of safety by all professionals for the development of a robust safety culture. As regards the confidence and commitment of managers, Paese and Sasso (2013) emphasize the importance of an able leadership, to identify areas for improvement, evaluate the effectiveness of safety interventions and establish internal and external goals about the theme. The authors emphasize that the safety culture should involve a large commitment of managers, seeking to know difficulties and challenges that health professionals face daily, allowing the construction of trust between all parties involved. The authors alert to the fact that although the hierarchy is important, *"should not be established strictly, because it needs to allow sharing of activities and obligations so as to enable the complementarity of actions developed."* (Pass & Sasso, 2013, p. 308).

In agreement with the authors mentioned above, Feng et al (2012) refer that the involvement of senior managers is directly related to a positive safety culture. Not only through the example and encouragement of their employees about safe care to apply, as well as through the establishment of standards and attitudes related to the safe practices. The feedback of errors for health professionals who work in the front row was another aspect described over 25% of the selected articles, as being important.

Minuzz et al (2016) and Ballangrud et al (2012) called attention to the fact of adverse events are little disseminated and rarely have feedback. Promote the feedback to health professionals who provide direct health care is essential for an effective safety culture. Minuzz et al (2016, p. 7) highlight this aspect quoting that *"the professionals who work on the front line of care need to be heard, take note of the occurrences of errors and receive feedback about the changes implemented in order to avoid recurrences."* In addition to the strategies indicated previously, were also addressed in the selected articles with higher residual percentages (below 10%), work conditions, critical reflection, supervision and the existence of standards, conflict management and assume the person as centrality of health care. With respect to precarious working conditions, such as work overload and the lack of human and material resources, Paese and Sasso (2013) refer to be factors that compromise the quality of care and may even jeopardize the safety of the patient. Baggio (2010), cited by Paese and Sasso (2013, p. 307) point out that *"It has become increasingly challenging for nurses to provide consistently safe patient care and of high quality, especially by the volume of information still disorganized, heterogeneous and disintegrated, that permeate the care, in addition to the countless demands of time for appropriate clinical assessment required in health care."*

The critical reflection is considered essential in the search for the improvement of the quality of health and in the implementation of a safety culture, such as Araújo et al (2017) stand for. In what concerns the supervision and the existence of standards, Silva and Rodrigues (2016), reinforce that these strategies are strong points for the safety of the patient. The same authors relate that conflict management is essential to the maintenance of a positive safety culture. Emphasize the importance of leadership on the part of senior managers to avoid moments of tension and confusion among colleagues. Finally, Silva and Rodrigues (2016, p. 141) reinforce the importance of focusing the patient as the focus of care, stating that *"The complexity of health is the ability to understand the parts easier to understand the whole. (...) From this look, the care breaks down barriers and exists when it is understood and accepted by its actors: client, family and nurse, putting focus on the customer and considering the history of life, experiences, values and contexts."* Two of the things that became very clear after the reading and analysis of the articles were: the direct relationship between the existence of a safety culture with the reduction of adverse events; as well as the greater effectiveness in the reduction of adverse events to change the system, making it more secure, instead of changing the human condition, such as stressed by Mendes and Barroso (2014, p. 204): *"(...) the patient safety is not an individual problem nor a professional category, but a process that involves a transformation at the institutional level."*

5. Conclusion

The articles referring to strategies for an effective and secure safety culture are scarce, particularly at the national level. Although they are more frequent in recent years, probably due to the fact that this is associated with a strong association between patient safety and quality of health care. The errors exist, we must look to them as the inevitable condition of the human being, however, it is crucial to create all the conditions to decrease its incidence and risk. Urges to change mentalities, face the error not as guilty of this or that person, but as a system failure. The safety culture will contribute to rectify this failure, being fundamental for the prevention of adverse events and improvement of health care. After the analysis of the selected articles one concludes that many are the essential strategies for an effective safety culture and to prevent errors in Nursing. The teamwork and communication were the strategies that stood out, with the largest number of references, following the notification of errors and subsequently the training/continuous improvement. The perception of safety, trust in management, the commitment of the same to the professionals, and the feedback of errors for health professionals who work on the front line, were also referenced strategies as essential for a capable safety culture. Finally, some studies also indicate the work conditions, critical reflection, supervision and the existence of standards, conflict management and assume the person as centrality of health care as important strategies. Nursing is a crucial task in the safety of the patients, in the way that is in the front line of care, and is committed to the patient to defend their interests, and must ensure the consolidation of strategies that guarantee the safety of the patient. This is the mission that we should promote in health institutions, in order to promote an effective safety culture and prevent errors in health. It is yet to be essential to the continued development of studies in this area, in order to maintain the care always updated and support the practice of nurses based on scientific evidence. Only thus can we guarantee the maximum safety and quality of care provided to patients.

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