

Patient Safety as a Commitment to Healthcare Quality: A Systematic Review

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Abstract

The article is a systematic review of patient safety in hospital centers as a commitment to health quality carried out during the year 2022. From a total of 800 investigations related to the topic, 25 were selected through Patient Safety and Health Quality, Patient Safety OR Health Quality commands supported by the Consort flowchart and instruments: Prisma, Pico, and Progres. The data collected included the following sequence: a) Identification of the topic in the documents; b) Pre-selection phase, finding 700 articles screened; c) Selection phase: 25 articles; d) Grouping of information in instruments for analysis. The inclusion criteria were articles comprised between 2016 and 2022, with full text and open access, included in the PubMed database, and related to the study category, which declared no conflicts of interest. It is concluded that there is no research at the local level. The patient safety culture that intervenes in the quality of care is the correct identification of the patient, which helps to reduce adverse events in health care, being necessary to place bracelets on patients; timely communication by the staff avoids errors of omission. Adverse events are surgical complications, infections, and falls, due to staff exhaustion caused by workload. The application of the SBAR technique in the reports maintains a structured communication, being used by the nursing staff to give a detailed report of the patient's condition.

Keywords: patient, care, safety, healthcare quality.

Introduction

Patient safety as a commitment to health quality is seen as a fundamental act to improve health care, being necessary to address it in all areas of health, from the first level of care, making sure that the care provided does not generate complications and that the health personnel are committed. This must be based on the satisfaction of the user, who feels that he/she is being cared for with timely and efficient care since the patient is much more than a person who feels sick. That is why the institutions that provide health care must generate policies that insert improvements and generate awareness of safe care (World Health Organization, 2020). Quality and patient safety are framed in fundamental principles and constitute a key element of health care (Madrid & Hernández, 2022).

The right to provide safe patient care dates back to ancient times. In India, China, and Mesopotamia, the Hammurabi code was applied with the law of talion: “an eye for an eye, a tooth for a tooth” for

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cases in which a physician endangered the life of his patient; likewise, the Ayurveda speaks of the importance of healing body and soul with the prohibition of the use of poison. In the age of humanism, with Vesalius (1514 - 1564), a broader approach to human anatomy was provided, which helped medical students to have a broader view of human morphology. Ignaz Semmelweis also set a milestone in patient safety by describing the importance of hand washing as a prevention of puerperal deaths.

In the same vein, Florence Nightingale, “lady of the lamp” (1853 - 1856, Crimean War) decreased hospital infections by convincing Queen Victoria to perform environmental cleaning and hygienic reforms in healthcare environments, highlighting that patient safety is linked to the commitment to healthcare quality, as shown by Ernest Codman (1869 - 1940, father of healthcare quality), who highlights the importance of reporting negative events in healthcare interventions by reporting adverse events (Robinson et al., 2018).

Thanks to the report *To erre es human (to err is human)*, awareness is raised about safe care, which is known as patient safety (ANCSP, 2015). The World Health Organization (2005) carried out actions to improve patient safety, within which hand washing was implemented. Subsequently, in 2007, it raised the importance of providing safe surgery thanks to the implementation of an instrument, highlighting the identification of patients in a timely way and through correct communication to avoid adverse events (WHO, 2019).

Every day around the world there are reports of harm caused by unsafe care, most of which do not appear in hospital records. In most countries, research is carried out to obtain accurate data on patient safety; studies such as IBEAS report the prevalence of adverse events caused by health care. For this study, countries such as Peru, Argentina, Mexico, Spain, and Costa Rica collaborated with 3853 patients, where 1,754 reported adverse events, 563 due to the pathology they suffered, and 1,191 due to unsafe health care (WHO, 2010). In Spain every year constant research is carried out referring to the improvement of patient care; however, many cases of adverse events are still being reported (Cascos, 2019). The recent study by Macías et al. (2022) reports that the culture of patient safety in hospital organizations is a critical issue.

In Australia, a member of the World Alliance for Patient Safety, a review study of 14,000 hospitalized patients in 28 health institutions found that 16.6% of patients were admitted for complications caused by unsafe care (Wilson et al., 1995), which shows that unsafe care leads to an extension of the patient's stay in the hospital and generates over-aggregate harm. Hence, the importance and need to provide quality health care following health policies based on norms, values, and appropriate behaviors, will serve as a foundation for building better health care for users who come to an institution to receive health care (Habib et al., 2018).

Peru, like other countries, has laws to protect its citizens, such as the General Health Law (1997), Article 2 of which states that everyone must receive quality care, while Article 19 states that it is mandatory to comply with safety standards. The National Health Quality Policy (RM N° 727-2009/MINSA) in its third policy establishes actions to generate a culture of quality (MINSA, 2009). All this is according to the principle: *Primum non nocere* (first do no harm) (Aliaga, 2019).

It is essential to apply safe care to patients for adequate restoration of health, so safe care is essential to reduce complications through the promotion of safe practices that seek to act appropriately and humanely with health servers; it is essential to learn from mistakes and that these are not repeated (ANCSP, 2015), since most of the errors are attributable to the system and its organization (Vincent & Amalberti, 2016).

The World Health Organization (WHO) takes as a principle of health: “not only physical but also psychological and social well-being”; to achieve quality health, it is necessary to have an adequate patient safety system (WHO, 2020). Vincent & Amalberti (2016), when referring to errors in patient safety specify that they are not purely attributable to the human factor, but have to do with the health system, for which they take into account what Reason said (Swiss cheese model) where he highlights as elements of good safety in health services: the place where one works and institutional management, highlighting that safety is linked to the commitment of health personnel, patients and

family members. The Swiss cheese model suggests that if there is a failure in the system it will cause others, thus forming a chain of recurrent errors (Monise, 2019), so it is necessary to develop a culture of patient safety to reduce the damage (Guerra et al., 2017).

From another perspective, Rocco & Garrido (2017), regarding health quality, are based on what Abedis Donabedian said that quality should be based on: a) the scientific, that is, that health personnel have to know and know how to do; b) the person, how the patient perceives the care provided and c) the environment/surroundings, which must be optimal and suitable for the care to be provided (Street, 2017). Healthcare quality encompasses working in coordination between healthcare institutions and their workers improving standards through continuous improvement (Rocco & Garrido, 2017). Healthcare praxis must be carried out by the human and towards the human; it is an imperative mandate, although, in reality, the opposite is evident. To cite a case: the COVID-19 pandemic has evidenced an unprecedented demand on healthcare systems (Macías et al., 2022) and has revealed that many of the patients have been in a situation of insecurity.

This systematic review aims to answer the question: What evidence exists on patient safety as a commitment to healthcare quality? The main objective is to compile the evidence regarding patient safety as a commitment to healthcare quality.

Method

The present research is the product of a systematic review since the information collected maintains order and sequence (Moreno et al., 2018). It was conducted in the light of the interpretive paradigm and qualitative approach, since it aims to understand the reality under investigation (Hernández et al., 2014), based on the collection of scientific articles, and is characterized by being of basic type and descriptive level. This type of study generates new knowledge by making descriptions of investigated phenomena (Hernández et al., 2014). The study scenario comprised the search and analysis of scientific articles found in virtuality during the months of March to May 2022. The Patient Safety and Health Quality, Patient Safety or Health Quality commands were used to search for information, resulting in 800 articles that were related to the topic of study, from which, after being evaluated, 25 articles were selected. For the selection of these articles, the Consort flow diagram was used, which is used to improve data selection (Grant et al., 2018), as shown in Figure 1.

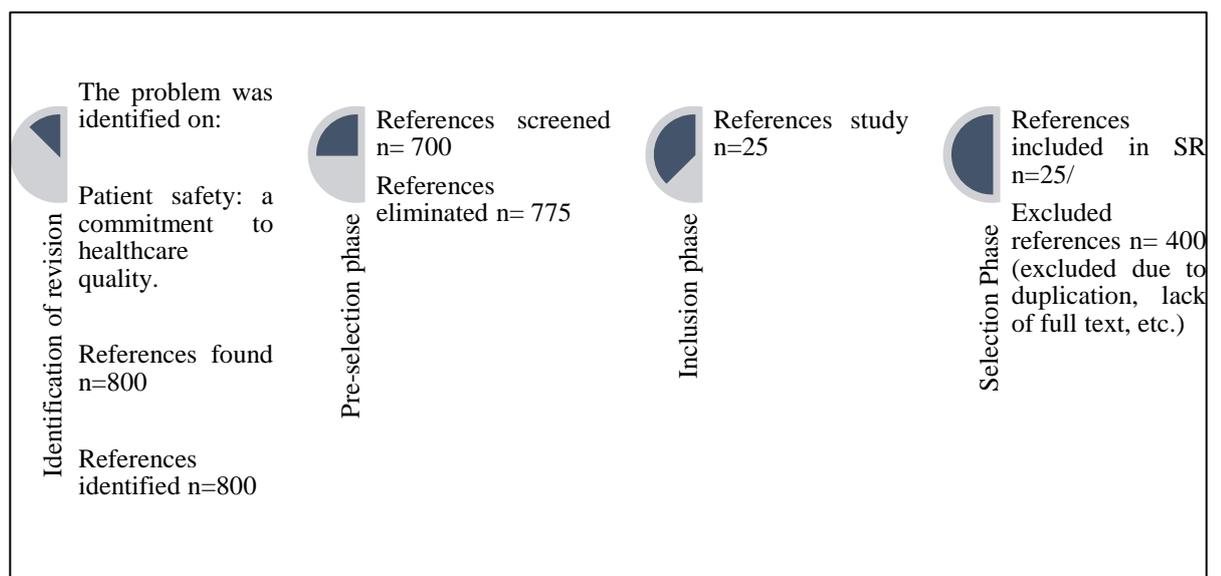


Figure 1. Data collection process

The PRISMA, PICO, and PROGRES instruments were used for data collection (Table 1), according to the following sequence: a) Identification of the need for research: patient safety: a commitment to health quality, finding 800 articles; b) Pre-selection phase, finding 700 articles screened and 776 eliminated; c) Selection phase: 25 articles; d) Data

collection phase: 25 articles selected, grouping them into the instruments selected for evaluation. Commands were used for information analysis (Table 2). Inclusion and exclusion criteria were determined (Table 3). The research complies with scientific rigor criteria (Table 4). The Consort flow diagram was used to illustrate the participants of the present study.

Table 1 PICO instrument question formulation

P= Participants/ Population	I= Intervention	C= Comparison	O= Outcomes (Results)
Scientific articles	Patient safety	Scientific articles	Sanitary quality

Source: own elaboration

Table 2 Commands used

Database	Commands
Pub Med	Patient safety AND health quality
Pub Med	Safety OR health quality

Source: own elaboration

Table 3 Inclusion and exclusion criteria

The following were included	The following were excluded
<ul style="list-style-type: none"> • Articles from 2016 to 2022 • Free full-text articles. • Articles included in the PubMed database • Related to the variables 	<ul style="list-style-type: none"> • Articles not included between 2016 and 2022 • Articles without full-text • Articles not included in the PubMed database • Unrelated to the variables

Source: own elaboration

Table 4 Ethical aspects for systematic reviews

Ethical aspects for systematic reviews	Contains
In the selected articles there is a declaration of conflict of interest (whether or not such conflict exists).	Yes

Source: own elaboration

Results

In order to respond to the general objective of this research: to synthesize the existing evidence on patient safety culture and quality of care, a search was carried out in the PubMed database where 500 results articles were found, 400 were screened, which, after passing the selection criteria, resulted in a total of 25 scientific articles, of which, 15 correspond to systematic reviews, four to systematic review and meta-analysis, one to systematic review and protocol, one to systematic review and narrative synthesis, one to systematic review of interventions, one to systematic review of the literature, one to systematic review and qualitative synthesis, and one to prospective observational study, systematic review and meta-analysis, of which, eight were conducted in the United States,

six in England, three in Germany, three in Australia, two in Canada, one in Italy, one in London, one in Scotland and one in Ireland.

CONSORT DIAGRAM. Patient safety: a commitment to quality healthcare; systematic review.

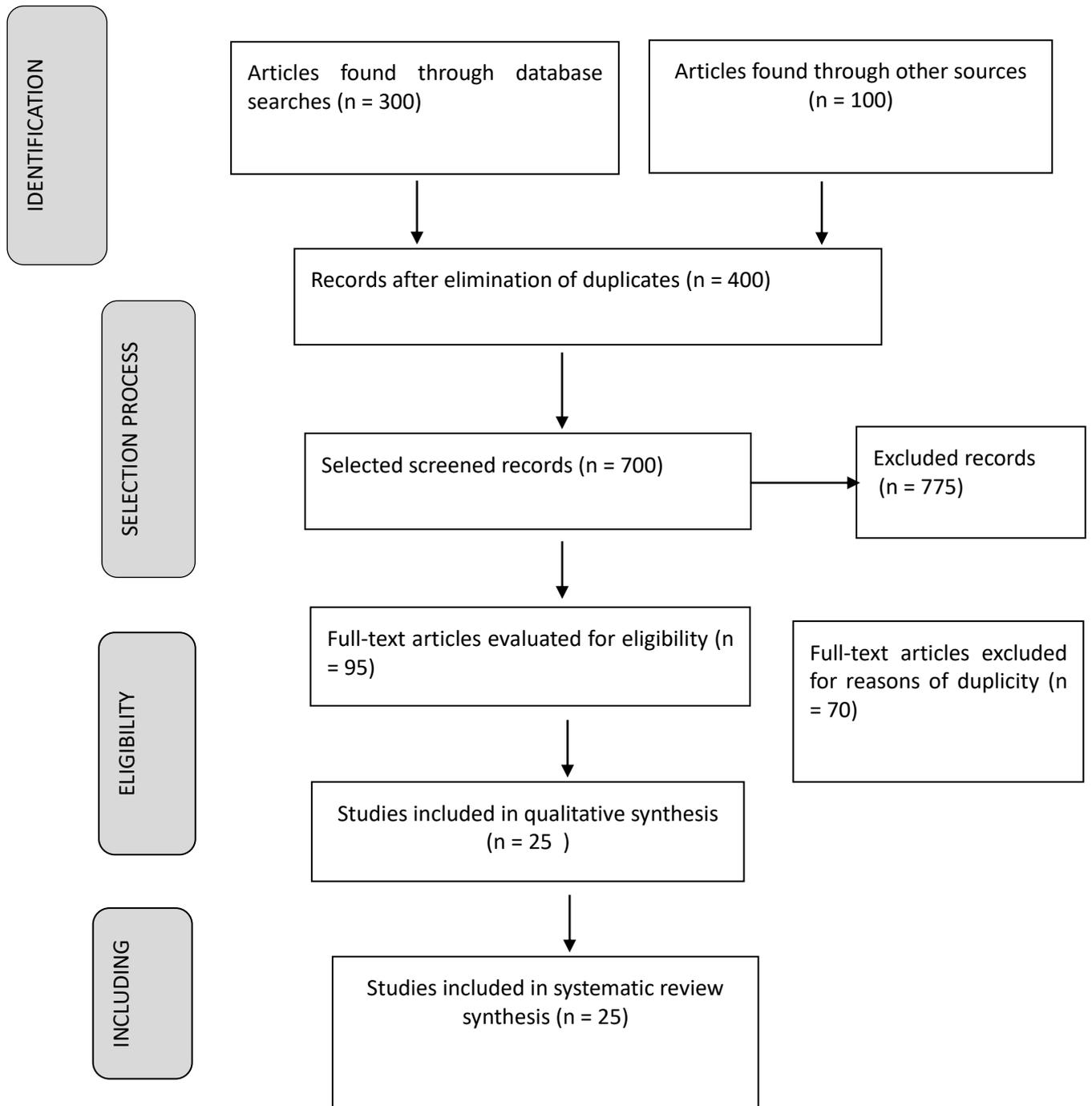


Figure 2. CONSORT Diagram: patient safety culture and quality of care.

Table 5 Countries of origin of the articles

Country	Quantity	Percentage
USA	07	28%
England	06	24%
Germany	03	12%

Australia	03	12%
Canada	02	08%
Italia	01	04%
London	01	04%
Scotland	01	04%
Ireland	01	04%

Source: PROGRES database

After the application of the PROGRESS instrument, it became evident that 28% of the articles come from the United States with the greatest number of articles published, due to the great interest they take in providing quality health care through safe care; England is next with 24%, while Germany, Austria, Canada, Italy, London, Scotland, and Ireland have publications of less than 12%

Table 6 Predominant language of the articles found

Language	Quantity	Percentage
English	21	84%
German	03	12%
Italian	01	04%
Total articles	25	100%

Source: PROGRES database.

Of the total of 25 articles, 84% were in English, while articles in German and Italian accounted for 16%.

Table 7 Designs used in the systematic review articles

Design	N	%
Systematic reviews	15	60%
Systematic review and meta-analysis	04	16%
Systematic review and protocol	01	04%
Systematic review and narrative synthesis	01	04%
Systematic review of interventions	01	04%
Systematic	01	04%
Systematic review and qualitative synthesis	01	04%
Prospective observational study	01	04%
Total (articles)	25	100%

Source: Progres database

Of the total number of articles, 60% correspond to systematic reviews, while 16% to systematic review and meta-analysis, 4% to systematic review and protocol, 4% to a systematic review and narrative synthesis, 4% to a systematic review of interventions, 4% to a systematic review of the literature, 4% to a systematic review and qualitative synthesis and 4% to a prospective observational study, which could cause selection bias.

Table 8 Instruments used in the articles of the systematic review

Instrument	N	%
PRISMA	23	92%
Survey	2	08%
Total	25	100%

Source: Progres database

Of the total number of articles, 92% used the PRISMA instrument, which consists of 27 articles to evaluate the articles to be studied, while 2% used the survey technique.

3.1. Patient safety culture according to the theory of Analberti and Vincent

Table 9 Patient safety culture according to the theory of Analberti and Vincent

Categories	Total articles
Correct patient	15 articles
Timely communication	15 articles
Optimize the management and classification of potentially high-risk drugs.	01 articles
Safe surgery	03 articles
Control the risk of infection	01 articles
Minimize fall risk	01 articles

Source: Prisma database

In the articles found, 15 articles referred to the importance of verifying the correct patient; 15 articles reported that timely communication is fundamental for a good safety culture; one article referred to the importance of medication management; three reported on safe surgery and the importance of a checklist; one article demonstrates how fundamental it is to control the risk of infection since it helps to avoid adverse risks caused by the hospital stay; likewise, one article reported on the importance of minimizing the risk of falling, so avoiding adverse events will help to achieve quality of care.

3.2. Quality of care according to the theory of Avedis Donabedian

Table 10 Quality in health according to the theory of Avedis Donabedian

Categories	Total articles
Scientific	6 articles
Of the person	12 articles
Environment	3 articles

Source: Prisma database

It is observed that according to the articles found regarding quality in health according to the theory of Avedis Donabedian, six of them give value to the scientific, while 12 articles refer, in their theoretical basis, to the importance of the person: what the patient perceives through the treatment provided (respect, truthful and complete information, ethics in acting); three articles highlight, in their conclusions, the importance of a comfortable environment.

3.3. Categories of patient safety culture involved in quality of care

Table 11 Categories of patient safety culture involved in quality of care

Categories	Total articles
Correct patient	15 articles
Timely communication	15 articles
Control the risk of infection	1 articles

Source: Prisma database

Regarding the categories of patient safety culture involved in the quality of care, of the total of 25 articles, 15 of them deal with the importance of correct identification and timely communication to provide quality care, while one article refers to the importance of controlling the risk of infection to avoid complications in patients.

3.4. Adverse events attributed to lack of safety culture and quality of care

Table 12 Adverse events attributed to lack of safety culture and quality of care

Adverse events	Articles
Surgical complications	3 articles
Infections	1 articles
Falls	1 articles

Source: Prisma database

According to the data in Table 12, the secondary objective is answered: to determine the adverse events that are attributable to the lack of a culture of patient safety and quality of care, where it is evident that three articles deal with surgical complications, one with infections and another with falls as adverse events that occur more frequently in health care.

Discussion

This systematic review aims to synthesize the existing evidence on patient safety culture and quality of care, which will provide a global vision of how the lack of patient safety culture generates adverse events caused by healthcare and deficits in the quality of care. The research was elaborated through a search of articles through PubMed; after performing the search, 25 articles published in the range of years: 2016 to 2020 were selected, which were reflected in the Consort diagram. Concerning the search for information, there was difficulty in locating the bibliography.

In the selected articles is the research of Habib et al. (2018) who refer to primary care and how it is important to perform a safety culture assessment to have an understanding of what the patient perceives in terms of the care provided; this assessment is most often used in Kuwait, Turkey and

Iran; similarly, Abbott et al. (2017) conclude that those patients who have the safe surgery checklist performed are the ones who have positive outcomes after an operation; there are many hospitals where doing this safe surgery checklist is done routinely. Along these lines, the research by Lotici et al. (2022) report that, from the perspective of health professionals in Chapecó, Brazil, patient safety is still not effective, so it is necessary to improve some aspects and criteria. Because of this, the permanent search for patient safety should prioritize the following aspects: staffing and support from the hospital's management with regard to safety (Gil-Aucedo et al., 2022).

On the other hand, to respond to the objective of describing the categories of patient safety culture that intervene in the quality of care, most of the articles highlight the importance of identifying the correct patient, with whom timely communication must be maintained. This communication does not occur in all cases, as shown in the study by Elmontsri et al. (2017) on the state of patient safety culture in Arab countries found that there is a better organizational response if there is teamwork, with only difficulty being that in these countries there is no adequate openness of communication.

Most countries that are immersed in the alliance for patient safety carry out various investigations looking for tools to provide better health care; within these investigations, those tools used for the reporting of health personnel in order to maintain continuity of care stand out. Among these tools is the SBAR, studied by Müller et al. (2018), who state that the SBAR generates a better impact on patient safety. The SBAR is a patient reporting model that is in a structured way, currently used by nursing staff to give a detailed report of the patient's condition at shift change to follow the sequence of care. On the other hand, some factors cause unsafe care, such as burnout. This is evidenced by Hessels & Larson (2016), who investigated the type of relationship that exists between the safety climate and compliance with standard precaution, concluding that the safety climate helps not only with standard precaution but also with adherence on other hand suggests more studies should be given on quality.

In this line, Hall et al. (2016), after analyzing 46 studies referring to patient safety, reported that burnout could be the cause of patient safety and adverse events. Burnout also causes that there is no sequence of care due to the forgetfulness that can occur, which is why the application of tools that help to follow the continuity of care is of great importance. When talking about health personnel burnout and that this generates adverse events, it is often neglected to talk about residents and the workload they have. This is demonstrated by Dewa et al. (2017), who studied the type of relationship between resident burnout and how this relates to patient safety and quality of care, they took 10 articles that yielded the existence of a moderate association between resident burnout and non-safety.

Regarding the objective of describing the adverse events that are attributable to the lack of a culture of patient safety and quality of care, the study by Panagioti et al. (2019) on preventable harm found that one out of every 20 patients suffers preventable harm and that there is a limitation in quality practices, making it essential to implement tools that are responsible for verifying it. Such is the case of electronic records, which according to Neves et al. (2018) help to improve the quality of care by providing a platform where patient information is available anywhere and at any time, which will allow for continuous and safe care. Faced with this situation, it is necessary to consider what Madrid and Hernández (2022) argue: quality and patient safety must be a priority and a requirement in the healthcare activity that is performed. As healthcare professionals, changes must be led in organizations, and programs and projects must be promoted to improve care.

According to the theoretical perspective underlying the research, Vincent and Amalberti (2016) argue that patient safety failures do not necessarily have to do with the human factor, but the system has a lot to do with it. Considering Reason's model they identified seven associated factors: patient, work, individual, team, workplace, management, and

institution. They also mention that the safety culture has to do with how committed the patients and their families are and, on the part of the healthcare personnel, the transparency of their errors. They also refer to the international safety goals, which are important to be able to talk about quality in healthcare. Of the research selected for the study, 15 articles referred to the importance of verifying the correct patient; 15 articles reported that timely communication is fundamental for a good safety culture; one article concluded on the importance of medication management; three referred to safe surgery and the importance of a checklist; one article reported how fundamental it is to control the risk of infection, as it helps to avoid adverse risks caused by the hospital stay; likewise, another article highlighted the importance of minimizing the risk of falling, so avoiding adverse events will help to achieve quality of care.

Along these lines, Rocco & Garrido (2017) take into account Avedis Donabedian's model that divides quality into three items; of the articles studied, it was found that six of them gave value to the scientific, while 12 articles sustain, in their theoretical basis, the importance of the person: what the patient perceives through the treatment provided (respect, truthful and complete information, ethics in acting); three articles conclude by highlighting the importance of a comfortable environment. However, it is necessary to achieve a transformation of the safety culture where mistakes are learned from and not blamed entirely on the health personnel; the mistakes made in health care are most often due to a lack of institutional organization. Morales et al. (2022), in agreement with the results obtained in a study, refer that "bioethics is interdisciplinary and the principles of the perspective provide a more comprehensive basis for the humanistic vision of health care" (p. 200).

Conclusions

First. The present systematic review addresses the issue of patient safety culture and quality of care, and no sustainable evidence was found at the local level in this regard.

Second. Concerning the patient safety culture involved in the quality of care, the correct identification of the patient helps to reduce adverse events in health care, demonstrating the need to place bracelets on patients; also, timely communication by staff prevents errors of omission.

Third. The adverse events that occur most frequently are surgical complications, infections, and falls, due to the exhaustion of health personnel generated by the work overload; the application of the SBAR technique in the reports, both medical and nursing staff, allows for maintaining a structured work communication; currently, it is used by nursing staff to give a detailed report of the patient's condition applied at the change of shift to follow the sequence of care.

Recommendations

First. Promoting and increasing research on patient safety culture and quality of care will bring benefits not only for patients but also for society in general since the healthcare system is involved in improving the quality of its care.

Second. Use information technology for the implementation of new systems of correct patient identification through electronic bracelets that allow the patient's information to be viewed in any health institution.

Third. Establish initiatives to ensure that adverse events or effects are reported daily and that this report does not have punitive repercussions, but rather generates solutions that help provide quality care; likewise, reduce the workload of healthcare personnel so that they can provide quality care. Standardize the SBAR technique in both medical and nursing staff reports to maintain continuous work communication

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