

Continuing Patient Safety Program in Reducing Malpractice Rates and Medical Errors of Registered Nursing Staff in Public and Private Hospitals: A Systemic Literature Search and Critical Review of Different Types of Field Studies

¹Samiyah Yahya Mathkuor, ²Fatima Ibrahim

¹University of Technology Sydney, Australia, ²King Abdul-Aziz University, Saudi Arabia

Corresponding author: Samiyah Mathkuor, Email: mathkuorsamiyah@gmail.com

Abstract: The main aim of this review was to examine the effects of a continuing patient safety program on reducing malpractice rates and medical errors among registered nursing staff in public hospitals in Australia. The major objective for this study was to carry out a systemic literature search on the topic of study and at the same time synthesise, compare, and contrast research findings from different sources with information related to the subject of study.

Design: This review focused on collecting qualitative evidence from qualitative studies on the effects of a continuing patient safety program on reducing malpractice rates and medical errors among registered nursing staff in public and private hospitals. The MEDLINE, CINAHL, EMBASE, Google Scholar and Cochrane Library databases were used to conduct searches for this review. After a thorough search, a total of 6 articles published between 2005 and 2018 were identified as the major studies for review.

Results: Most of the sources revealed that a continuing patient safety program has helped improve medical error reporting in Australia but there was uncertainty on whether patient safety programs reduce malpractice rates and medical errors among registered nurses. However, it is difficult to generalize the findings from the reviewed studies as they differ in terms of patient safety program content, evaluation, and study design.

Conclusion: Generally, this review asserts that patient safety programs play a key role in improving patient safety. However, there is need for more research in order to determine the exact impact of patient safety programs on the reduction of medical errors and malpractice rates in Australia.

Keywords: Continuing patient safety program, Clinical competency, Training program, Continuing professional development, Medical error, Health incident report, Malpractice rate.

1. INTRODUCTION

Medical practitioners are expected to provide quality care to their patients or clients and their care should not incur any harm to their patients under the Hippocratic Oath. However, the most unfortunate thing is that there have been increasing cases of medical errors and general malpractice. It is estimated that over 98,000 people in the U.S die annually as a result of medical malpractice or medical errors and that is why most healthcare facilities have begun to examine their patient safety programs [35]. Recent studies have revealed that most medical facilities have inadequate patient monitoring

systems and that is why there has been an increase in malpractice rates. As a result, patient safety programs have emerged due to increased public awareness of medical errors. The main objective of patient safety programs is to prevent medical mistakes by improving patient safety monitoring. According to Woolever (2005), some of the patient safety strategies that have been put in place in order to reduce the rate of medical errors include; implementation of new staff training, event simulation, introduction of system redundancies, employment of automated patient safety systems including the use of new technologies [30]. Reactive error monitoring has been a common practice in most healthcare facilities around the world, but the practice has to be reconsidered due the ever-increasing number of deaths resulting from poor reporting of medical errors. Fernandez and Sarata (2006, p. 5) observe that there is a need for a proactive approach when it comes to identification and reporting of medical errors as this is the only way to guarantee patient safety. The main focus of patient safety programs has been the introduction of changes in staff training. However, a safer patient care environment can be enhanced by facilitating clearer communication among hospital workers, medical technicians, nurses, and physicians [22, 2, 20]. Patient training programs have a significant impact on the severity of medical errors, reporting, and communication but the actual impact is yet to be established. There is an increasing need for medical facilities to track incidents and errors as part of their continuous quality improvement. Each member of a healthcare team must have the necessary skills and knowledge when it comes to patient safety as this is critical in avoiding preventable medical errors [26, 16]. A continuing patient safety program is a combination of systems, practices, and rules that are meant to prevent medical errors. Patient safety initiatives can be physician-focused or hospital-focused and both categories are required to protect patients from cases of medical malpractice [12].

2. BACKGROUND

Patient safety has continued to be a major public health issue since 1999 when a report titled; *To Err is Human: Building a Safer Health System* was released by the Institute of Medicine (IOM) of the National Academy of Sciences [35, 13]. The report called for healthcare organizations to develop safety programs, the expansion of adverse events reporting, the establishment of a Centre of Patient Safety, and the need for professional societies, healthcare purchasers and regulators to give more attention to the issue of patient safety. The report was released at a time when statistics on deaths arising from medical errors were not impressive and this prompted President Clinton to order for the immediate implementation of the report's recommendations. Other countries around the world including Australia have been facing a similar situation. In fact, the President of the Australian Patient Safety Foundation in 1999, Professor Bill Runciman, led a study that revealed that over 18,000 people had died as a result of medical malpractice and errors between 1989 and 1999 [35, 8]. This groundbreaking study led the Australian government to begin giving the issue of patient safety the seriousness it deserves. Despite this initiative, it is interesting to note that the cost of living has been rising at a slower rate as compared to the cost of healthcare [19]. However, recent statistics indicate that one in every ten patients that gets admitted in both private and healthcare facilities in Australia ends up being harmed by healthcare processes instead of the underlying injuries or diseases [31]. According to the University of South Australia 2018, "The mortality from such harm ranks fourth behind that from cancer, cardiovascular disease and smoking, and is four times the road toll."

There has been some considerable improvement in patient safety as a result of technological advances that began in the late 1990s [1, 9]. However, most physicians and nurses in charge of patient safety in emergency departments, intensive care units, and operating rooms have always complained of inadequate funding when it comes to the purchase of patient safety devices. The Australian Patient Safety Foundation consisting of over 60 influential clinicians in the country was set up in 1987 to come up with appropriate mechanisms for advancing patient safety [3, 11]. This would be achieved by improving patient safety surveillance systems, training healthcare staff and patients, and raising of funds to buy patient safety equipment.

The main objective of this review is to examine the effect of a continuing patient safety program in reducing malpractice rates and medical errors of registered nursing staff in public and private hospitals in Australia. To better understand the subject of study, this review will highlight some background information on the use of patient safety programs in Australia and the United States.

3. METHODS

Search Strategy: The review was conducted using the PRISMA guidelines for reporting and carrying out systematic reviews [24]. A computerized literature search for qualitative studies which focus on the impacts of proceeding with the patient safety program on the reduction of the malpractice and medical error rates among registered nurses in both public and private hospitals was done on the MEDLINE, CINAHL, EMBASE, Google Scholar and Cochrane Library databases. The search was based on articles published between the year 2000 and 2018. A total of six articles dating from 2005 to 2018 were selected as the main studies for this review.

Study Selection and Subsequent Data Extraction

The following describes the criteria for this review’s study selection;

Type of study: those with ten or more original malpractice claim incidents, implementation of a safety program, showing the impact of a safety climate, and those assessing the impacts of physicians’ knowledge and attitudes towards error prevention and management.

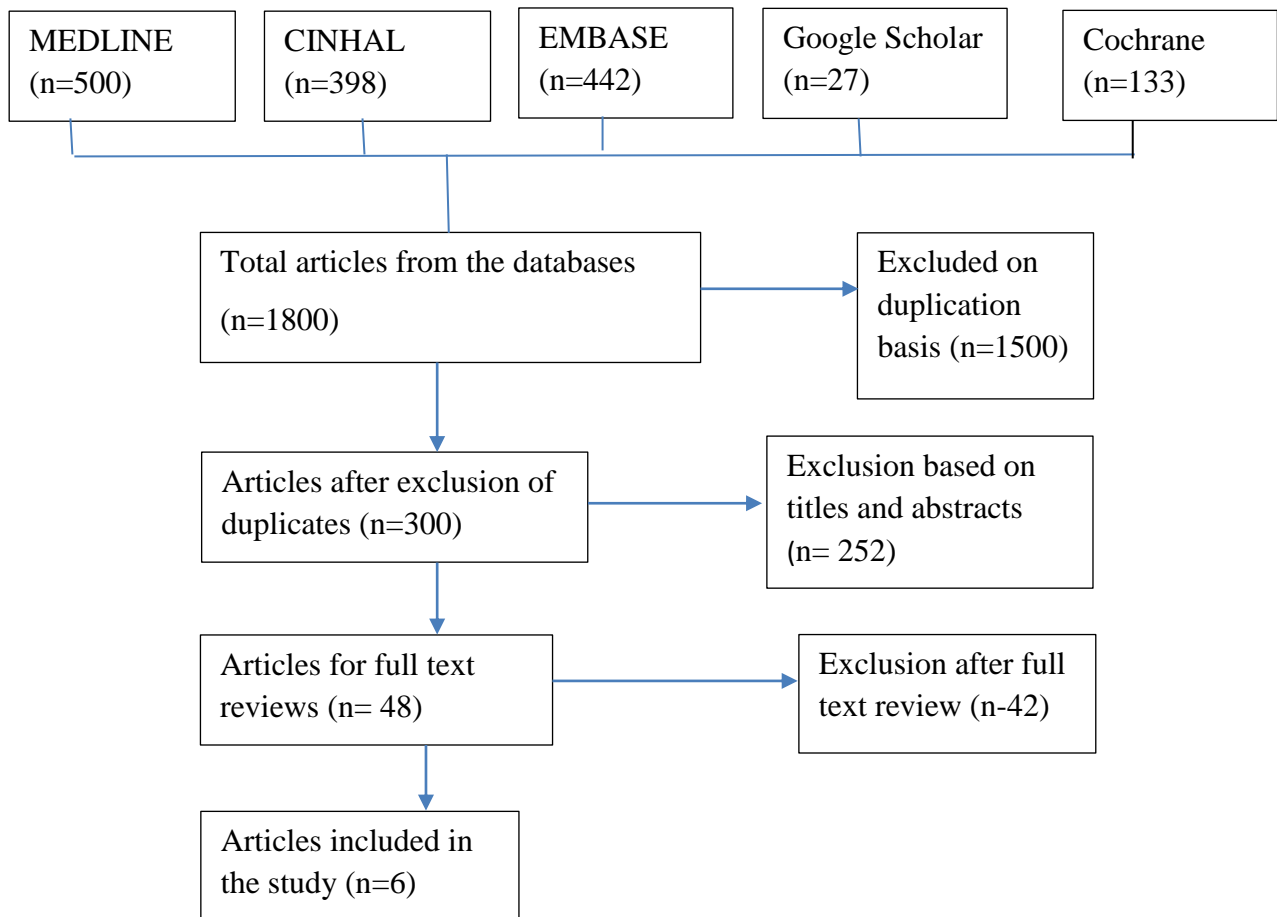


Figure 1: Flowchart of the Study Inclusion Process

Settings: studies involving primary care; primary care definition for this review is integrated care that is easily accessible by the patients; and the clinicians are responsible for addressing most of the patients’ personal needs, establish and maintain ongoing relations with them and practice in families’ and/ or communities’ contexts [10]. Also, articles with malpractice claims in pediatric, obstetric and surgical settings were only considered if they included primary care-specific data.

Consequences: All studies with related complaints that did not lead malpractice claims were not included. Malpractice claim is the written petition for compensation for injuries sustained while under the care of the hospital’s practitioners.

Other outcomes included the difference in; error reporting, safety practices, physicians' attitudes, and malpractice claims after program implementation. Also, articles showing the impacts of safety climate on the outcomes were included.

Language: Only studies published in the English language were included to prevent errors that may accompany translating articles written in other languages. The author used two independent reviewers to go through the titles and abstracts to eliminate those that appeared unrelated. Eligible studies were reread again simultaneously by the independent reviewers and their fitness for inclusion were independently determined by the two reviewers. All the emerging disagreements were then solved by consensus.

Data were extracted based on (1) the author and year of publishing, (2) the keywords in the title, (3) the objectives of the study, (4) the methodology, (5) the sample population; and malpractice incident reports (6) outcomes of implementing the patient safety programs, (7) the limitations of the studies.

Synthesis of Data

There was a pre-arranged narrative synthesis of all the studies included. Narrative reviews are discursive and aim at summarizing the current knowledge in relation to a specific field while putting into consideration information from a broad range of other sources to reach a conclusion through reason [28].

4. RESULTS

Study Identification

Figure 1 shows the flow diagram for the search strategy. From the 1800 potentially relevant articles obtained from the database search, 1500 were eliminated using the Endnote system on the basis of duplication. Also, 252 articles were eliminated after the title and the abstract review showed that they were irrelevant. Further, 42 more articles were excluded after a full-text review. A total of six articles fit the inclusion criteria hence were involved in the narrative scrutiny. Of the six studies, there is; a retrospective review; a quasi-experimental prospective review; a cross-sectional survey; a review of the liability claims presented; surgical checklist review; and an assessment of the safety climate.

Impact of Continuous Patient Safety Programs

The specific programs had effects on the number of error reports, attitudes towards reporting, numbers of a malpractice claim or the numbers of complications. A safety climate for implementation of the program also influenced program outcomes positively.

Error Reporting, Number of Compensation Claims and Complications Encountered

Three studies reported the effects of a safety program on error reporting, liability claims and the number of complications. A retrospective review to determine the impact of a patient safety program on medical error reporting showed that it increased the number of submitted incidents [35]. Another obstetric safety program in a teaching hospital over assessed over two five-year periods showed a significant reduction in the number of liability and payment claims for every 1000 deliveries done annually [27]. Also, a comprehensive surgical safety program that entailed a checklist demonstrated a reduction in the total number of complications for every one hundred surgical procedures [8].

Improved Safety Practices

One of the studies focused on a program to reduce perinatal harm. The improved safety practices during the perinatal period in sixty-seven hospitals in the USA showed a significant reduction in claims and payments for the population [30]. The quasi-experimental prospective study incorporated statistical significance tests.

Physicians Attitudes

One study focused on the physicians' knowledge towards evidence-based practices on patient safety and their attitudes on prevention and management of medical errors. The nationwide survey included 1200 physicians that are directly involved in patient care from 40 hospitals across Italy. In the study, positive attitudes towards patient safety were associated with reduced medical error incidents [14].

Safety Climate Approach

One study suggested the use of a new approach, a theory that creates a safe environment for explaining the occurrence of an error in 21 units of a general hospital [25]. Perceived safety procedures and appropriate information flow reduced the frequency of errors.

5. LITERATURE REVIEW

Data Extraction Table

Author, Year	Title / Key words	Aims/ Objectives	Methods	Sample	Findings	Limitations
Woolever, D. (2005) [35]	The Impact of a Patient Safety Program on Medical Error Reporting	To determine the impact of a patient safety program on patterns of medical error reporting	A retrospective review of incident reports	1,102 incidents report Egin USAF Regional Hospital in Florida	An increase in the number of submitted reports after the implementation of a patient safety program	Failure to statistically demonstrate a statistically significant increase in the reporting of medical errors
Riley, W. et al. (2016) [30]	Decreasing Malpractice Claims by Reducing Preventable Perinatal Harm	To evaluate the association of improved patient safety practices with medical malpractice claims and costs	A quasi-experimental prospective design with Statistical significance tests for differences	67 hospitals in the U. S	A reduction in the number of perinatal malpractices claims paid losses as a result of the improvement of patient safety practices	The study relied on malpractice claims data that only provides one perspective on the issue of patient safety and ignores inherent issues such as the regulatory aspects
Flotta, D. et al. (2012) [14]	Patient safety and medical errors: knowledge, attitudes, and behavior among Italian hospital physicians	To Investigate physician' knowledge about evidence-based patient safety practices, their attitudes on preventing and managing medical errors	A nationwide cross-sectional survey	1200 physicians from involved in direct patient care in 40 hospitals in Italy	Positive attitudes towards patient safety help can help reduce medical errors	Over-inflated responses due to the use of self-administered questionnaires in the study
Naveh, E. et al. (2005) [25]	Treatment Errors in Healthcare: A Safety Climate Approach	To suggest a new theory of safety climate and bring empirical evidence that helps explain the occurrence of treatment errors	Assessment of four safety climate dimensions	21 medical units in a general hospital	perceived suitable safety procedures and frequent and clear information flow reduced treatment errors	The study lacks significant statistical data to support the findings
Pettker, CM. (2014) [27]	A comprehensive obstetric patient safety program reduces liability claims and payments	To assess the impact of a comprehensive obstetric safety program on liability claims and payments at a single institution	A review liability claims at a teaching hospital before and after the implementation of a safety program	Two 5-year periods (1998-2002 and 2003-2007)	Annual cases per 1000 deliveries decreased significantly after the implementation of the obstetric patient safety program	The study was only at a single hospital making the sample less representative.

de Vries, E. et al. (2010) [7]	Effect of a Comprehensive Surgical Safety System on Patient Outcomes	To determine the effect of a comprehensive surgical safety system on patient outcomes	Examination of surgical safety checklist	3760 patients and 3820 patients after implementation	There was a reduction in the total number of complications per 100 patients after the implementation of the surgery checklist	A considerable amount of time and effort required in the implementation of the surgical safety checklist
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There are many general studies on the impact of patient safety programs that have been conducted in different parts of the world, but most of the studies fail to produce statistically significant findings to reveal the extent to which the programs help in reducing medical malpractice and medical errors. This systemic literature review identified six trials characterized by qualitative studies. Most of the search results failed to focus on the impact of patient safety programs in reducing medical errors and medical practices and that is why they were not considered for this review. The CASP tools were used to appraise the selected studies to determine whether they meet the set selection criteria and six studies were identified from the rest.

6. MEDICAL MALPRACTICE

All six studies designed tools to assess the rate of medical malpractice in both private and public hospitals after the implementation of patient safety programs or patient safety practices [[30, 7]. Two trials compared the number of medical malpractices claims before the implementation of patient safety practices while the rest focused on the impact of patient safety practices in the reduction of medical complications. Some of the identified barriers when it comes to the reduction of medical malpractice rates include; negative attitude towards patient safety programs by physicians as well as reluctance by some medical facilities to fund or implement appropriate patient safety programs [14, 25 ,27].

7. PROGRAM DESIGN

Only one of the six trials discussed the implementation of a patient safety training program for healthcare providers [34]. The other trials focused on patient safety systems as compared to training [14, 25]. Further studies focused on patient safety practices, the safety climate as well as the attitude of physicians towards patient safety programs. The trials focused on a variety of areas including medical units, critical care fields, and emergency rooms.

8. COMPERISON AND CONTRAST

Findings from most of the studies revealed a reduction in medical malpractices and medical errors after the implementation of patient safety programs [14,25]. However, there were likely incidents of bias in the findings especially when it comes to the use of self-administered surveys [14]. On the other hand, studies that only relied on medical malpractice claims to determine the impact of patient safety practices only offer one perspective to the causes of medical errors ignoring inherent factors such as legal factors, funding, and attitude issues [30].

9. DISCUSSION AND RECOMMENDATIONS

Medical errors are a serious global concern that affects patient safety. The World Health Organization (WHO) describes patient safety as the total eradication of escapable harm in health care delivery and the lessening of risks in health care to a tolerable minimum level. Tolerable minimum risk level entails the knowledge acquired from all the relevant practitioners, the resources at their disposal and the situation where care delivery appears to have better outcomes compared to other choices or complete non-treatment [34].

The latest shift towards patient-centered care puts the patient at the centre of the service delivery and are concerned with better patient experience. Different health care facilities may have a similar list of the top ten factors that affect patient experience but have different priorities. Health care reforms such as the Affordable Care Act have made it compulsory for hospitals to prioritize patient safety by reimbursing them based on value as opposed to the volume of patients served.

Despite the global emphasis on patient safety, human error is unavoidable. Innate faults in the cognitive processes of healthcare providers are the major causes of medical errors. External factors like inadequate knowledge, stressful working conditions, excessive workloads and burnout, and distractions in the work environment worsen such errors. Although

human error appears to be the main cause of medical errors, IOM's work, *To Err is Human* emphasizes that system errors and process faults are the leading causes of human error [23]. Transparent reporting is key to error prevention through the formulation of policies, for instance, patient safety programs [21].

A patient safety program is one of the major tools that is currently being used around the world to reduce medical errors. All the studies in this literature review have been able to highlight the effect of patient safety programs and practices in reducing medical errors, medical error reporting, and medical malpractice claims. Most of the studies focus on healthcare practitioners and healthcare staff in both private and public healthcare facilities instead of only focusing on registered nurses. Private medical firms must have the necessary certification and meet the set legal requirements in order to have effective patient safety programs. The only way of achieving high standards of patient care is by getting the ISO 9000 certification [4, 5]. Nurses and physicians will, from time-to-time, commit medical malpractice as errors are inevitable. Most private hospitals in Australia lack sufficient patient training programs like the ones in public healthcare facilities and this has been the reason for the cases of medical errors and medical malpractice. There are many serious medical errors that have occurred as a result of long working hours in private facilities and inadequate patient safety systems at the facility [6, 15]. There is a need for lawmakers to enact laws that will compel both private and public healthcare facilities to implement patient safety programs to protect patients through the reduction of medical malpractice rates, surgical complications, and medical errors. Improving the clinicians' knowledge and changing their attitudes about patient safety is also necessary. A cross-sectional study by Gorgich et al. (2016) demonstrated that insufficient knowledge contributes to medical errors. Hence identifying patterns like the level of education of the concerned practitioners may help in formulating policies that improve their knowledge.

Before the enactment of safety programs, reporting of errors enables the hospitals to identify the mistakes-patterns. However, there must exist friendly reporting systems to enhance reporting. A culture of blaming the practitioners followed by harsh punishments will only contribute to massive coverups [21]. A safety climate where health care providers are encouraged to report and are trained to use safety programs will reduce the incidents of errors.

10. CONCLUSION

Generally, the studies in this review recommend patient safety programs as one of the most reliable tools for reducing medical errors and cases of medical malpractice despite the fact that the findings are not statistically significant. The fact that the data was not statistically impactful made it difficult to reach a consensus on the actual impact of patient safety programs in the reduction of medical errors. The data collected from the conducted studies is not significant and this means that future researchers on this subject should consider different sets of variables or study different populations in order to make the data more significant. Examples of another variable should be considered in future research include patient acuity and workload. It is advisable to consider experimental studies instead of correlation studies in order to get more specific data on the impact of patient safety programs on medical malpractice and medical errors. Experimental studies guarantee a high level of control, provide more specific conclusions, make it easy to determine cause and effect, and can be combined with other research methods. Also, the best way to determine the effectiveness of a particular intervention such a patient safety program is to consider both mathematical and statistical testing as this helps to reduce uncertainty in research findings or data.

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