

“A Review of Research on Patient Safety in Sri Lanka”

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Abstract:

Patient safety has become a common topic and given priority in many countries. Adverse events are experienced by one out of 10 patients during their hospital admission and patient harm is the 14th leading cause of the global disease burden. The most detrimental errors are related to diagnosis, prescription and the use of medicines. Patient safety defined as “freedom from accidental injury” and also defines “avoidance, prevention, and amelioration of adverse outcomes or injuries stemming from the processes of healthcare” and events include “errors”, “deviations”, and “accidents”. A variety of stakeholders who are the society, patients, physicians, individual nurses, nursing educators, administrators, researchers, governments and legislative bodies, professional associations, and accrediting agencies are responsible for ensuring the patient care is delivered safely and no harm occurs to the patients. Aim of the review is to explore the patient safety researches done in Sri Lanka. To gather the articles PubMed,

MEDLINE, and EMBASE electronic databases were used and to widen the search and to include more articles Google Scholar was included for the search. The review process was done by four independent reviewers in healthcare management field.

Total of 556 articles were retrieved from all the databases and 66 were selected for the review process after the screening. Out of 66 studies, majority of studies [18 (27%)] were done in the area of medication safety and the second highest was seven studies (11%) in the areas of Maternal care and Health Care Associated Infection, and the third highest study was on safety culture (8%). The number of studies done each year fluctuated and the average was 4 studies per year, and a rising trend was observed towards year 2020, and the highest number of studies done for a given year was 11 studies which was done in year 2020. This review reflected limited number of studies and publications done on patient safety and some areas were minimally covered. It is recommended to carry out more studies in the area of patient safety, meanwhile health system should provide motivation and facilities to conduct the studies and publish the findings. These findings should be used for health system improvement with the goal of providing quality and safe healthcare delivery to the population.

Keywords —Patient Safety, Healthcare Institutions, Sri Lanka

Introduction

Patient safety has become a common topic and given priority in many countries. Adverse events are experienced by one out of 10 patients during their hospital admission (1). Patient harm is the 14th leading cause of the global disease burden (2). The most errors are in relation to diagnosis, prescription and the usage of medicines (3). In Organisation for Economic Co-operation and Development (OECD) countries, 15% of total hospital activity and expenditure is a direct result of adverse events (2). Patient safety is

described as “freedom from accidental injury” (4) and it also describes as “avoidance, prevention, and amelioration of adverse outcomes or injuries stemming from the processes of healthcare” and the “events include errors, deviations, and accidents” (5). Patient safety is “a discipline in the health care sector that applies safety science methods toward the goal of achieving a trustworthy system of health care delivery” (6). Errors are viewed in two approaches namely person approach and system approach (7). The person approach describes as unsafe acts like errors and procedural violation by nurses, physicians, surgeons, anaesthetists and healthcare staff at the sharp end (7). The system approach describes that the errors are due to consequences rather than causes, which are upstream systemic factors such as recurrent error traps in the workplace and in the organisational processes (7). *Active failures* describes as an unsafe acts committed by people who are in direct contact with the patient or system, and *latent conditions* are the inevitable deficiencies within the system which are the decisions made by designers, builders, procedure writers, and top-level management (7). It has shown that more people die as a result of medical errors in a given year, than from vehicle accidents, breast cancer or AIDS (8).

Patient safety problems occurs during the course of providing health care in the form of transfusion errors, adverse drug events, wrong-site surgery, surgical injuries, preventable suicides, hospital-acquired or other treatment-related infections, falls, burns, pressure ulcers, and mistaken identity (8). Errors that resulted in medical practices are diagnostic, treatment, preventive, or other errors (9). Diagnostic errors are, error or delay in diagnosis, failure to do the required indicated tests, use of outdated tests or therapy, and failure to act upon the results of monitoring or testing (9). Errors in performing an operation, procedure or test, errors in administering the treatment, errors in the dose or method of using a drug, preventable treatment delays and responding to an abnormal test and inappropriate (not indicated) care can be described as treatment errors (9). Failure to provide preventive prophylactic treatment, inadequate monitoring or

following up treatment are some preventive errors (9) and communication failure, equipment failure and other system failure are other types of errors (9).

The patient safety is in the hands of the patient-caregiver interactions (“sharp end”) and these interactions are commonly occurring in departments like operating room, emergency department, which are the immediate environments (the ultimate locus of the microsystem) (6). Breaches in safety may have occurred in many blunt-end components of the overall system, such as policies, processes regulators, payers, insurance administrators, economic policymakers, and technology suppliers. Therefore, patient safety is irreducibly a matter of systems (6). A variety of stakeholders who are the society, patients, physicians, individual nurses, nursing educators, administrators, researchers, governments and legislative bodies, professional associations, and accrediting agencies are responsible for ensuring the patient care is safely delivered and with no harm occurs to the patients (10).

Since patient safety is impacted globally and it is also highly important area of concern this study was aimed to explore the patient safety studies done in Sri Lanka. To achieve this a review was performed on patient safety in Sri Lanka.

Materials and Methods

This review was performed in line with the guidelines given by the Preferential Reports for Systematic Reviews and Meta-Analysis (PRISMA) (11). The review was conducted in March 2021. To gather the articles electronic databases were used and the databases were, PubMed, MEDLINE, and EMBASE. To widen the search and include more articles which were not published in index journals Google Scholar was added for article search. The review process was done by four independent reviewers in healthcare management field. For the search strategy both MeSH terms and keyword terms were used in a multi-field search, based on terms commonly used within systematic reviews in the fields of patient safety in Sri

Lanka. Papers were searched for those containing at least one of the terms of “Patient safety AND Sri Lanka”, “Patient harm prevention OR avoidance OR mitigation AND Sri Lanka” “Error* prevention OR avoidance OR mitigation AND Sri Lanka”.

The selection process began by reading the titles and summaries of each article. First the title was screened and then the abstract was screened. For inadequate information articles full text was screened. Inclusion criteria were, Abstract, and Full text articles of qualitative and quantitative studies related to patient safety in Sri Lanka which were published up to 12th of March 2021. Studies with human beings, in English language were included for the review and author letters, and research on animals were excluded. The data on area of study, measurement, outcome of the study, year of publication and authors were extracted to an excel sheet. For this review the area of study and year of publication were extracted and presented in this paper.

Results and Discussion

Table 1 shows the number of articles retrieved from each database and the total number of articles retrieved from all the databases.

Table 1 – Database and number of articles retrieved

Database	Duration	Number of Articles
MEDLINE	1946 to March 12, 2021	86
EMBASE	1947 to 2021 March 12	119
PubMed	Up to 2021 March 12	231
Google Scholar	Up to 2021 March 13	120
Total		556

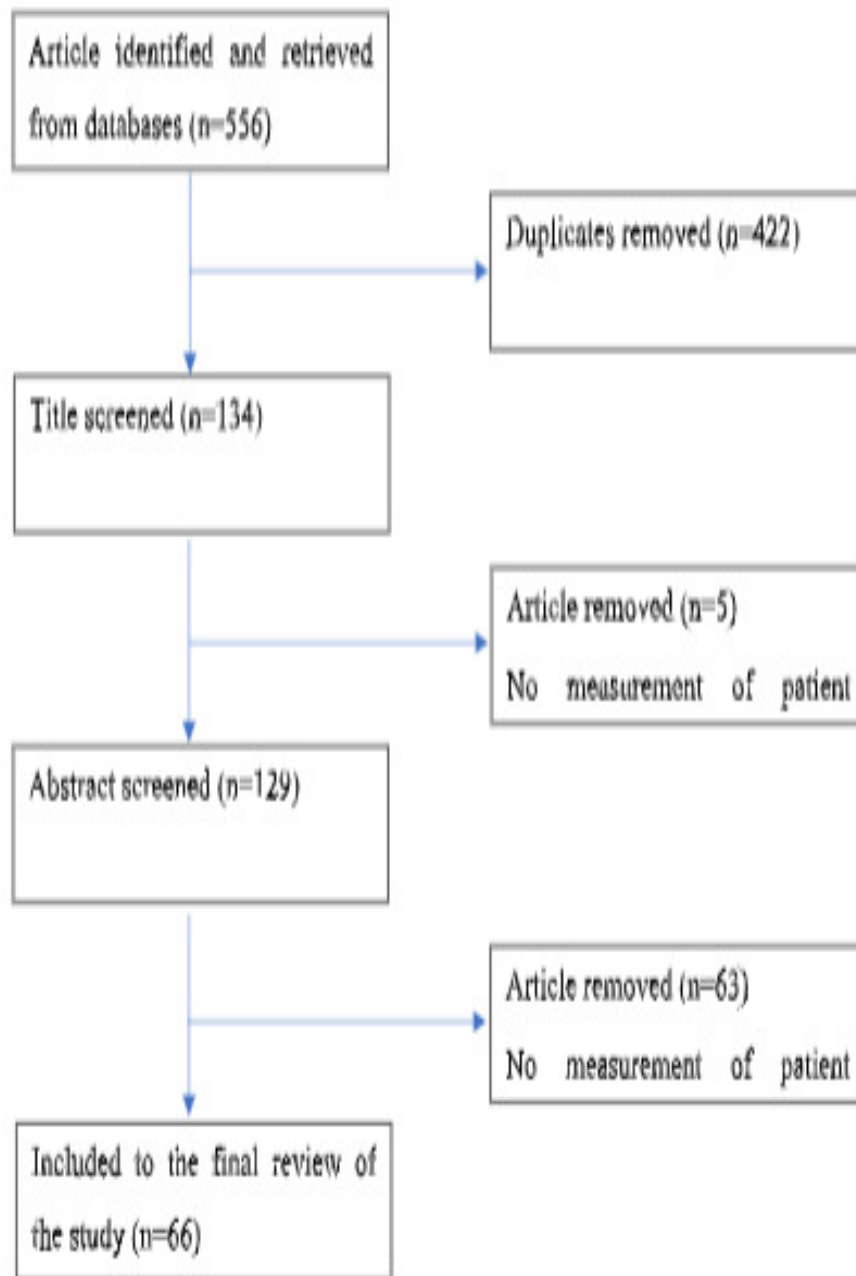


Fig 1. Flow chart documenting the screening process

Out of 556 articles, 66 articles were included for the analysis. The screening process used is elaborated in figure 1.

Table 2 – Area of patient safety and number of studies done (up to 12th March 2021)

Patient safety Area	Number of studies	Percentage (%)
Anesthesia	1	2
Communication	1	2
Critical Care and Nursing	2	3
Failure Mode Effect Analysis (FMEA) & Medication	1	2
Gynecology & Medication	1	2
Hands off	2	3
Health Care Associated Infections (HCAIs)	7	11
Health Care Associated Infections (HCAIs) & IT	1	2
Knowledge & Attitude or Knowledge & Skills	2	3
Law	1	2
Maternal care	7	11
Medication	18	27
Medication & Supply	1	2
Occupation	1	2
Radiology	1	2
Safety culture	5	8
Safety programmes	1	2
Suicide	2	3
Surgical	3	5
Transfusion Medicine	7	11
Transfusion Medicine and IT	1	2
Total	66	100

Table 2 and figure 2 shows the numbers and percentages of studies done in each area of patient safety up to 12th March 2021. Out of 66 studies, majority of studies [18 (27%)] were done in the area of medication safety and the second highest was in the areas of Maternal care, Transfusion Medicine and Health Care Associated Infection, seven studies (11%) in each area. The third highest was in safety culture (8%). When looking at this review, number of studies done on other areas are minimal. Figure 3 shows the trend analysis of patient safety studies done per given year. It shows that the number of studies done each year fluctuated, but there is a rising trend and the highest number of studies done for a given year was 11 studies in year 2020.

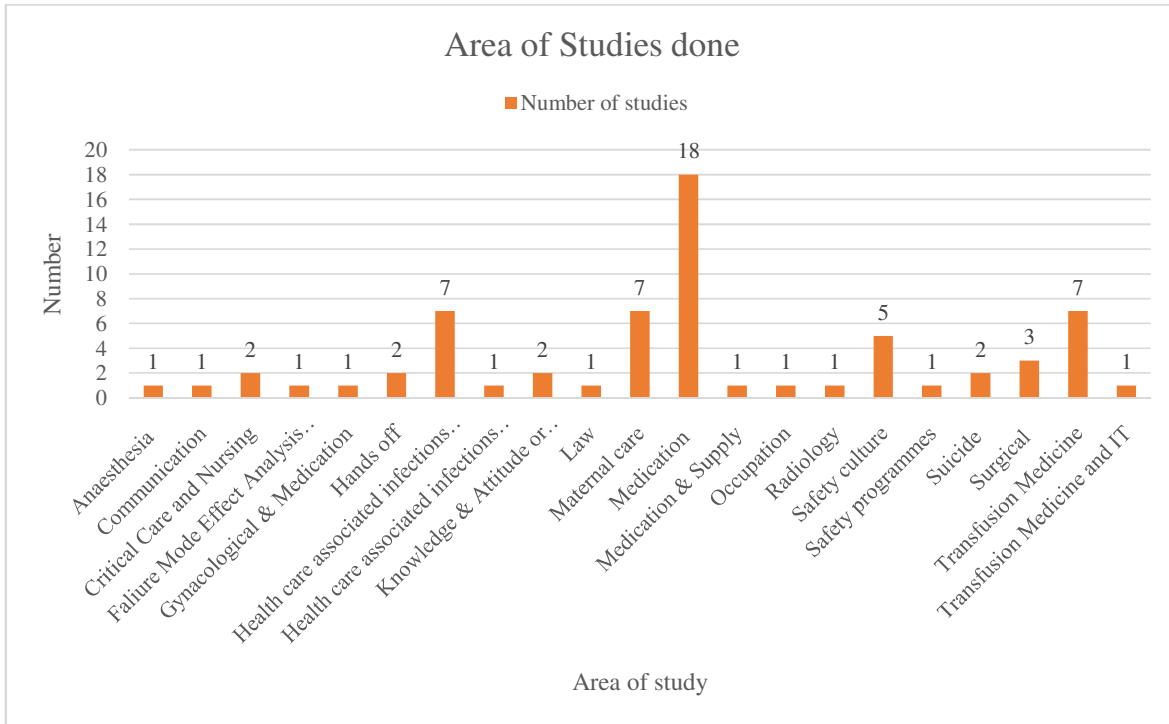


Fig 2 – Area of patient safety and number of studies done (up to 12th March 2021)

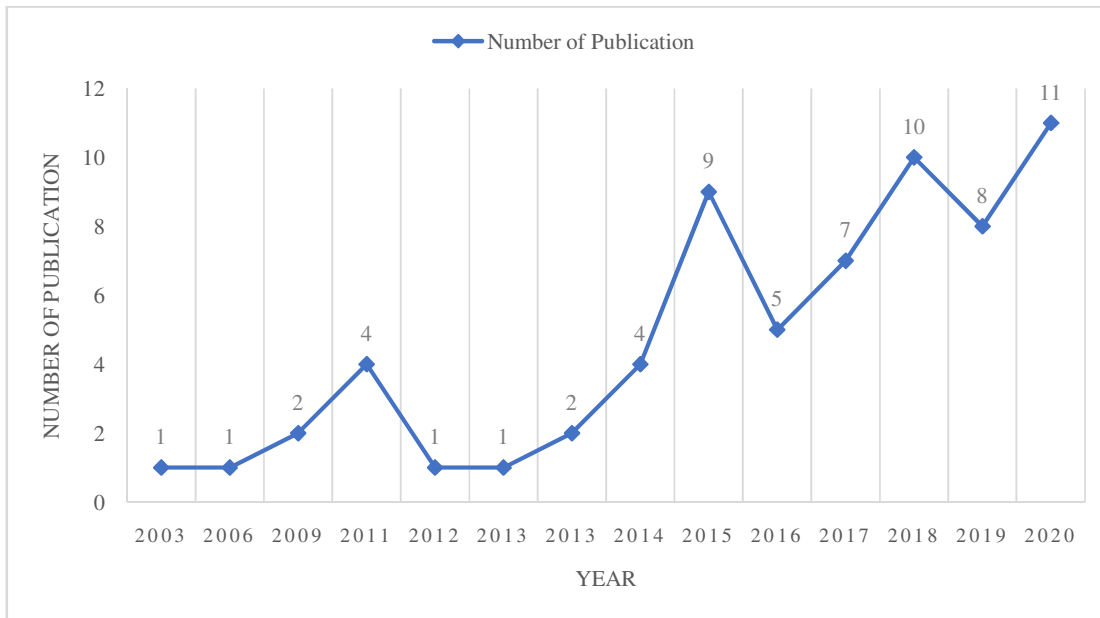


Fig 3 – Number of publications according to year (up to 12th March 2021)

This study shows that total number of studies done were 66 and for the period of 2003 to 2020 (for 17 years) an average of 4 studies per year. This figure shows a low level of studies. This raises a question of whether in reality a smaller number of studies done or studies done and not published. Validity and acceptability of study depend after the publication of the study. Therefore, it should be assumed that studies done are reflected by these publications. During this review only electronic databases were used to gather the relevant articles. Some professional colleges' publications and locally held conference proceedings could not be accessed via online and may be a limitation of this study.

Conclusions

According to this review, only four studies on patient safety were published per year reflecting a dearth of studies on the subject in Sri Lanka. This finding also reflect that some areas are minimally covered (e.g., Anaesthesia, Radiology and Gynecology etc.) and some areas are not covered at all (e.g., Paediatric, Emergency Care). The analysis reflect that only a few studies done on patient safety and it is time to promote more research and publications that will contribute to improvement of patient safety in Sri Lanka. The health system should provide motivation and facilities to conduct the studies and publish the findings. These findings should be used for Sri Lankan health system improvement with the goal of providing quality and safe health care delivery to the population.

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