

# Medication Safety in Health Care Settings – Perspective of Pharmacists

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**Abstract**—Medications play a very important role in the health care delivery system for management of the patients. Medication safety is one of the major components in patient safety but unfortunately medication incidents do occur and often go undetected or unreported. Identifying and addressing the risks of medication use are important aspects of quality of care offered. This study was aimed to describe the socio demographic details of nurses and the knowledge and attitude on medication errors/ incidents among pharmacists in selected hospitals in Sri Lanka. It was a descriptive study carried out by quantitative method using self administered questionnaire. According to the results, 39% of pharmacists were less than 30years and 53.7% had less than 10years experience. 39% had “sometimes” heard the term medication incidents/errors. 56.1% “sometimes” had noted the errors / incidents were reporting and 21.9% had only “rarely” come across for the preventive action taken following the event. 52.6% had noted the minor effects following errors whereas %. 40% of pharmacist had observed 2-5 medication errors/incidents observed on average per month. 97.6% agreed that medication incidents/ or errors could cause significant harm to patients and 97.6% agreed that prefer to have a reporting system in hospitals. As a conclusion pharmacists were observed the medication errors and its harmfulness and they were having the positive attitude towards the establishing the reporting system. Therefore this study is recommended that there were awareness programmes regarding medication incidents/ errors, readiness for reporting if a reporting system is established.

**Keywords**— Pharmacists, medication safety, awareness, reporting system.

## I. INTRODUCTION

Health Sector in Sri Lanka delivers free health services to the citizens providing a wide range of management options. Medications play a very important role in the health care delivery system for management of the patients.

World Health Organisation (WHO) launched medication without harm as its third global patient safety challenge to prevent serious harm due to medication errors by 50% in the next 5 years (Donaldson et al 2017)

Medication incidents include the errors and near misses. Nesreen and Amiral(2013), stated the types of errors with the impact on patient safety giving an account of the types of the medication errors that are reported and its implications and end results.

Medication error is defined as a failure in the treatment process, which leads to, or has the potential to lead to, harm to the patient. It involves manufacturing, compounding, prescribing, transcribing, dispensing, administration of a drug and continuous monitoring, of its effects (Montesi and Lechi, 2009).

Many developed countries in the world have established medication incident reporting systems, which identify high-risk situations for errors. Reporting incidents enable learning from errors and to take actions to prevent similar errors occurring.

Reporting incidents enable learning from errors and to take actions to prevent similar errors occurring. However error reporting mechanisms are complex for implementation and effective system-level approaches are needed to reduce medication errors (Runciman et al., 1993).

Pharmacists are the key professionals to delivering the correct medication to the patients in clinics and outpatient departments and delivering the medicines to the wards to administer the medicine for inward patients from drug stores in the hospitals.

## II. OBJECTIVE

1. To describe the socio demographic details of the pharmacists in selected hospitals, Sri Lanka.
2. To describe the knowledge and attitude of pharmacists on medication safety and medication incident /errors reporting in selected hospitals, Sri Lanka.

## III. METHODOLOGY

This was a descriptive cross sectional study carried out as a health system research with basic survey in 4 tertiary care hospitals which were National Hospital of Sri Lanka (NHSL), Castle street hospital for women (CSHW), Lady Ridge way hospital for children (LRH) and National institute of Mental Health (NIMH). Study was done with qualitative methodology and self administrated questionnaire was introduced for randomly selected participants who had given written consent. Data were analysed with SPSS version 21.0 after appropriate coding.

## IV. RESULTS

A. The socio demographic details of nurses are given in Table 1

Table 1: Distribution of pharmacists with socio demographic details (n = 41)

Parameter (in years)	Pharmacist N=41&%	
Age (in years)	<30	16(39.0%)
	31-40	8(19.5%)
	41-50	13(31.7%)
	>50	4(9.8%)
Sex	Male	17(41.5%)
	Female	24(58.5%)
Experience (in years)	<10	22(53.7%)
	11-20	7(17.1%)
	21-30	9(22.0%)
	>30	3(7.3%)

According to the above table, 39% of pharmacists were less than 30 years and 9.8% were more than 50 years of age. 58.5% were female and 53.7% had less than 10 years experience.

**B. Knowledge and attitudes on medication safety and medication incidents/errors reporting**

The following tables give the analysis of results on the key questions used in assessing knowledge and attitudes on medication incidents/ errors, their occurrence and error reporting.

39% had “sometimes” heard the term medication incidents/errors among pharmacists whereas 17.1% had heard it “always”.

56.1% “sometimes” had noted the errors / incidents were reporting and 24.4% among pharmacists “rarely” noted it.

21.9% had only “rarely” come across for the preventive action taken following the event.

Regarding the most common medication errors had encountered among pharmacists were errors in doses (33.3%) and errors in frequency (33.3%). 7.5% had observed that medication was giving the wrong patient.

40% of pharmacist had observed 2-5 medication errors/incidents observed on average per month whereas 14.6% were not answered this question.

Regarding the consequences of errors / incidents 52.6% had noted the minor effects and 35.9% had noted the serious harm to the patient. 2.6% had note death as the consequences of medication error / incidents.

Table 2: Current status pertaining to medication incidents/ error reporting by Pharmacists (n=41)

	Responses	Never	Rarely	Some times	Often	Always	Total
1.	Heard the term medication incidents /errors:	1 & (2.4%)	4 & (9.8%)	16& (39%)	13 & (31.7%)	7& (17.1%)	41 & (100%)
2.	Noted previous reporting of errors /incidents	4& (9.8%)	10& (24.4%)	23& (56.1%)	1& (2.4%)	3& (7.3%)	41 & (100%)
3.	Any preventive action taken following medication incidents/errors?	0	9& (21.9%)	21& (51.2%)	4& (9.8%)	7& (17.1%)	41 & (100%)

Table 3: Types of medication errors, numbers and consequences observed by pharmacists (n= 41)

Situational assessment - Responses		Pharmacists N= 41 & %
The most common errors that you have encountered	Errors in drug names	5(12.8%)
	Errors in doses	13(33.3%)
	Errors in frequency	13(33.3%)
	Giving to wrong patient	3(7.7%)
	Giving the wrong drug	4(10.3%)
	Any other	1(2.4%)
Number of medication errors/incidents observed on average per month	No answer	2(4.9%)
	<2	7(20.0%)
	2-5	14(40.0%)
	5-10	7(20.0%)
	>10	7(20.0%)
The consequences of errors / incidents were noted	No answer	6(14.6%)
	No harm	2(5.3%)
	Minor effect	20(52.6%)
	Serious harm to patient	15(39.5%)
	Death	1(2.6%)
No answer	3(7.3%)	

Table 4: Attitudes of pharmacists on medication errors / incidents and reporting (n= 41)

	Response	Disagree	Neither agree nor disagree	Agree	No answer	Total
1.	Medication incidents/ errors could cause significant harm to patients	0	0	40 & (97.6)	1 & (2.4%)	41 & (100)
2.	Staff involved in medication errors should be punished as for negligence	5 & (12.2%)	21& (51.2%)	14 & (34.1%)	1 & (2.4%)	41 & (100%)
3.	System to report medication incidents/errors should be established without blaming the responsible staff	12 & (29.3%)	4 & (9.8%)	24 & (58.5%)	1 & (2.4%)	41 & (100%)
4.	Preference to have a to have a reporting system for medication incidents to be implemented in the hospital	0	0	40 & (97.6%)	1 & (2.4%)	41 & (100%)
5.	Staff would report medication incidents, if a system is established?	1 & (2.4%)	35& (85.4%)	5 & (12.2%)	1 & (2.4%)	41 & (100%)

97.6% agreed that medication incidents/ or errors could cause significant harm to patients. 51.2% “neither agree nor disagree” that the staff involved in medication errors should be punished as for negligence but 34.1% were “agreed” on that.

12.2% “disagreed” on that the staff involved in errors/incidents should be punished.

58.5% agreed that reporting system should be established without blaming the responsible staff however 29.3% “disagreed” with it. 97.6% agreed that prefer to have a

reporting system in hospitals and 85.4% “neither agree nor disagree” on that staff would report if the reporting system is established.

#### V. DISCUSSION

Medication use is a complex process involving a variety of people and many steps, with potential for serious error and patient harm. This study was done to assess the knowledge and attitude towards medication safety and medication incident reporting from pharmacists in selected tertiary care hospitals.

According to the socio demographic factors among pharmacists, 39% of pharmacists were less than 30 years and 53.7% had less than 10 years experience. 39% had “sometimes” heard the term medication incidents/errors among pharmacists. 56.1% “sometimes” had noted the errors / incidents were reporting and 21.9% had only “rarely” come across for the preventive action taken following the event.

Regarding the most common medication errors had encountered among pharmacists were errors in doses (33.3%) and errors in frequency (33.3%). 40% of pharmacist had observed 2-5 medication errors/incidents observed on average per month. Regarding the consequences of errors / incidents 52.6% had noted the minor effects and 2.6% had noted death as the consequences of medication error / incidents.

97.6% agreed that medication incidents/ or errors could cause significant harm to patients. 34.5% “agreed” that the staff involved in medication errors should be punished as for negligence. 58.5% agreed that reporting system should be established without blaming the responsible staff. 97.6% agreed that prefer to have a reporting system in hospitals. As a summary of responses of pharmacist regarding the medication safety showed that mostly were observed averagely 2-5 errors a month and errors causing significant harm to the patient. And they had agreed to establish the reporting system without blaming the staff. Majority were experienced to minor effect following the errors but next they had experienced death also due to error.

#### VI. CONCLUSION

This study was identified that there is adequate awareness among pharmacists. Further Pharmacists were observed the medication errors and its harmfulness. And they were having

the positive attitude towards the establishing the reporting system.

#### VII. RECOMMENDATION

There are following recommendations coming out of this study:

1. Establishing the medication error reporting system
2. Carrying out the awareness programmes
3. Encourage the reporting culture without blaming the staff.

#### VIII. LIMITATION

This study was carried out in the major referral hospitals in Sri Lanka in selected wards with pharmacists. If it is expanded to other hospitals in different levels of care and other health care professionals it will give more comprehensive results.

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