

Original Research Article

## Nurses' perception of medication administration errors in children hospital, Lahore, Pakistan

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**Abstract:** Nurses provide care to patients and they feel hope to get comfort and recover. Nurses use the knowledge and skills to provide care to the patients. There are many health care professionals who involved in providing care for sick patients but nurses are the central part of this process. There are many tasks which nurses have to perform in routine and medication administration is one of them. To assess nurses' perception about medication administration errors and the factors that are associated with the medication packaging, physician communication, pharmacy process, nursing staff and medication administration. Descriptive cross sectional study design and quantitative survey technique was used in this study. The sample size of this study was 264. The self-administered questionnaire was distributed to 300 nurses of Children Hospital, Lahore, Pakistan through convenient sampling and all the participants were females. The study found that nursing related factor is the highest reason of the medication error among the nurses of the Children hospital Lahore, Pakistan. However, pharmacy is the lowest reason of the medication error. Thus, management should focus on the training and development of the nurses regarding medication error so that the better health care services can be ensured.

**Keywords:** Medication administration, Packing error, Nursing error, Pharmacy error, Physician communication

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### INTRODUCTION

Nurses provide care to the patients and thus feel the hope to recover. They use their knowledge and skill to provide care to patients [1]. There are many health care professionals who are involved in providing care for sick patients but nurses are central part of this process. There are many tasks which nurses have to perform in routine and medication administration is one of them [2]. Athanasakis [3] mentions that medication error is the event that can be harmful for the patients. It needs to improve the nursing intervention for a patients' quality care.

However, medication error is the worldwide major concern in the nursing profession. Therefore, nurses need to determine the factors which can cause medication error and can save the patients from these errors [4]. Chaudhury *et al.* [5] describes that nurses perceive different factors which can cause medication error. These factors include environment, organizational leadership and management, policies and procedure, complex task, work culture and physical environment. Though, Aboshaiqah [6] mentions that the other factors which can cause medication administration error are

medicine as they look similar, physician orders are not clear and same packing. In addition, poor communication between the staff and delay in delivery of medication can cause errors. These errors may not effects the patients but have negative effect on the nurses and organization.

The study noted that lack of the pharmacological knowledge, lack of communication between the staff members and shortage of staff can cause medication error [7]. However, nursing and midwifery council of nurses in the United Kingdom makes the nurses accountable for the safe medication to the patients.

Henceforth, communication between nurses and patient plays a vital role in patient care. Nurses should be competent in communication with health care team and patients. The medication errors occurred when important information not communicated between the team members or sometime team members do not understand properly [8]

The study emphasizes that medication error is reported in all over countries but especially it is higher in the developing countries [9]. It is a very common problem that can lead to the serious illness. Similarly, several studies conducted on medication administration error while focusing the pediatric patients, prescribing error, administration error and others are dispensing the documentation error but very few studies assess the clinical severity of medication error [9].

To understand the medication and factors of this cause, the current study investigates the medication error among the public healthcare of Lahore, Pakistan.

### **Problem Statement**

The medication administration is very important tool to provide the healthcare services. Nurses made medication errors and do not think about the causes due to this error especially in the public hospitals of Pakistan. This medication error also increases the morbidity and mortality of the patients and increases the stay of patients in hospital. In Pakistan medication errors are eight leading cause of death and 7,000 deaths per year occur due to medication administration errors [10]. Thus, it is important to investigate the factors of medication error among the public healthcare sector of Pakistan.

### **Significance of the study**

This study will be helpful for the policy makers and higher authority of the hospitals to build the policy for the safe medication administration to reduce the errors. This study will be helpful for the public hospitals to identify the key medication errors and solution to avoid them as well. Private healthcare sector can also use the study results to avoid the medication error in their settings.

### **LITERATURE REVIEW**

Nurses play an important role to reduce the frequent medication administration error in the hospitals because they are the personnel who provide the medication to patient [11]. Moreover it is responsibility of the health care team to manage the medication administration error and improve the quality of care to the patient [12].

Though nurses face many problems related to the medication administration error and these errors can be harmful for the patient [13]. Benjamin [14] reported that one third of the drug effect is associated with the medication error and they are preventable. According to Benjamin *et al.* [14] medication error occurred due to medication packing. The name of the medicines is similar, some medication look alike and even after removal of the packing it is difficult to differentiate with one another. It is important for the health care

professional to check the medication before it is given to patient [11]. The study depicts that in South Korea the medication error occurred by nurses during night shift [15]. It is due to the shortage of nurses at night shift. Similarly, another factor which causes medication administration error at night shift is poor lighting.

Likewise, Gunes *et al.* [16] noted that in Turkey two third of the nurses made medication error because the doctors do not write medicines in time and avoid updating the orders. In the same manner, Flanders *et al.* [17] mentions that in American an average of 450,000 preventable medication errors are estimated each year because of the disturbance. Hayes *et al.* [18] stated that the disturbance in the medication administration process cause the medication administration error. Thus, it is essential for the nurses to manage these disturbances while medication administration process. However, the medication name that seems same is a common cause of the mistakes and the medication which sounds same on verbal order can also cause error. Thus, medicine be written with brand name, dose and potency [19].

Consequently, Bonnie *et al.* [20] mentions that communication between health care professional is inadequate. It includes written errors, use of abbreviations, handwriting which is not clear, physician orders are not correctly interpreted, use of verbal order as camper to written order, medicines deliver to the patients but forget to sign on order sheet lead to the error. Above all discussion, it is responsibility of the nurses to enhance their knowledge to overcome all the interruptions and avoid the medication administration error [18].

### **METHODOLOGY**

The current study is of quantitative and descriptive design. The Cross-sectional survey was conducted in this study. The self-administered questionnaire of 29 items [6] based on 6-point Likert-scale which measure the responses from "strongly disagree (1) to strongly agree (6) was distributed to 300 nurses of Children hospital of Lahore, Pakistan through convenient sampling and 275 were returned out of which 264 were useable. The consent was taken and privacy of the data was ensured. SPSS 21 was used to do the analysis of the data.

### **RESULTS**

This chapter contains 2 portions of analysis. First analysis is demographic analysis it gives us details of demographic questions and second is descriptive analysis which gives us detail of 29 questions of perception of nurses about medication administration errors that describe with the help table-1.

**Table -1: DEMOGRAPHICS**

	N (264)	% (100)
<b>GENDER</b>		
Male	Nil	Nil
Female	264	100
<b>Educational Back ground</b>		
Diploma	250	94.7
Specialization	10	3.8
Post RN BScN	4	1.5
<b>Marital Status</b>		
Married	121	45.8
Unmarried	143	54.2
<b>Age Group</b>		
20-25	37	14.0
26-30	153	58.0
31-35	65	24.6
36-40	9	3.4
Total	264	100.0
<b>Experience</b>		
Less than 1 year	34	12.9
1-5 years	96	36.4
6-10 years	93	35.2
above 10years	41	15.5

**DESCRIPTIVE ANALYSIS**

In this portion detail analysis of the responses is given. There are 29 questions related to assess the nurses’ perception about medication administration error were used.

The first question was that they know the names of the medication are similar can cause medication administration error. The results in table 2 show that 69(26.1%) is slightly agree and 68(25.8%) is moderately agree and 76 (28.8%) were strongly agree with that medication administration error occurred due to name of the medicine is similar.

**Question# 1: The names of the medication are similar.**

**Table-2: The names of the medication are similar.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	18	6.8	6.8	6.8
	Moderately disagree	7	2.7	2.7	9.5
	Slightly disagree	26	9.8	9.8	19.3
	slightly agree	69	26.1	26.1	45.5
	Moderately agree	68	25.8	25.8	71.2
	Strongly agree	76	28.8	28.8	100.0
	Total	264	100.0	100.0	

**Question# 2: Different medication looks alike**

Table 3 shows that 85(32.2%) respondents were strongly agreeing that different medicine look

alike. Similarly, 51(19.3%) were moderately agree and 73(27.7%) were slightly agree with this statement.

**Table-3: Different medication looks alike Different medication look alike**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	3	1.1	1.1	1.1
	moderately disagree	20	7.6	7.6	8.7
	slightly disagree	32	12.1	12.1	20.8
	slightly agree	73	27.7	27.7	48.5
	Moderately agree	51	19.3	19.3	67.8
	strongly agree	85	32.2	32.2	100.0
	Total	264	100.0	100.0	

**Question#03: The packaging of many medications is similar.**

Table 4 shows that 82 (31.1%) nurses were slightly agreeing, 80(30.3%) nurses were moderately

agree and 61(23.1%) were strongly agree that the packaging of many medicines is similar.

**Table-4: The packaging of many medications is similar**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Moderately disagree	21	8.0	8.0	8.0
	Slightly disagree	20	7.6	7.6	15.5
	Slightly agree	82	31.1	31.1	46.6
	Moderately disagree	80	30.3	30.3	76.9
	strongly agree	61	23.1	23.1	100.0
	Total	264	100.0	100.0	

**Question # 04: Physicians' medication orders are not legible.**

Table 5 shows that 87 (33.0%) registered nurses gave response in slightly agree, 68(25.8%) were

moderately agree and 49(18.6%) were strongly agree that physicians' medication orders are not legible.

**Table-5: Physicians' medication orders are not legible.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	7	2.7	2.7	2.7
	Moderately Disagree	12	4.5	4.5	7.2
	slightly disagree	41	15.5	15.5	22.7
	slightly agree	87	33.0	33.0	55.7
	moderately agree	68	25.8	25.8	81.4
	strongly agree	49	18.6	18.6	100.0
	Total	264	100.0	100.0	

**Question #05: Physicians' medication orders are not clear.**

Table 6 show that 106(40.2%) registered nurses gave response in slightly agree, 57(21.6%) were

moderately agree and 43(16.3%) were strongly agree that physicians' medication orders are not clear

**Table-6: Physicians' medication orders are not clear**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	7	2.7	2.7	2.7
	moderately disagree	14	5.3	5.3	8.0
	slightly disagree	37	14.0	14.0	22.0
	slightly agree	106	40.2	40.2	62.1
	moderately agree	57	21.6	21.6	83.7
	strongly agree	43	16.3	16.3	100.0
	Total	264	100.0	100.0	

**Question # 06: Physicians' change orders frequently**

In response to the next question that physician's change orders frequently, table 7 show that

102(38.6%) nurses were slightly agreeing, 49(18.6%) were moderately agree and 52(19.7%) were strongly agree with this statement.

**Table-7: Physicians' change orders frequently**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	moderately disagree	8	3.0	3.0	3.0
	slightly disagree	53	20.1	20.1	23.1
	slightly agree	102	38.6	38.6	61.7
	Moderately agree	49	18.6	18.6	80.3
	Strongly agree	52	19.7	19.7	100.0
	Total	264	100.0	100.0	

**Question#07: Abbreviations are used instead of writing the orders out completely.**

Table 8 show that that 86(32.6%) respondents were slightly agreeing, 78(29.5%) were moderately

agree and 54(20.5%) were strongly agree with the Abbreviations are used instead of writing the orders out completely.

**Table-8: Abbreviations are used instead of writing the orders out completely**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	7	2.7	2.7	2.7
	moderately disagree	5	1.9	1.9	4.5
	slightly disagree	34	12.9	12.9	17.4
	slightly agree	86	32.6	32.6	50.0
	moderately agree	78	29.5	29.5	79.5
	strongly agree	54	20.5	20.5	100.0
	Total	264	100.0	100.0	

**Question#8: Verbal orders are used instead of writing the orders out completely.**

The results in table 9 show that 93(35.2%) registered nurses were strongly agreeing, 57(21.6%)

were moderately agree and 69(26.1%) were slightly agree with verbal orders are used instead of writing the orders out completely.

**Table-9: Verbal orders are used instead of writing the orders out completely**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	7	2.7	2.7	2.7
	Moderately disagree	10	3.8	3.8	6.4
	Slightly disagree	28	10.6	10.6	17.0
	slightly agree	69	26.1	26.1	43.2
	moderately agree	57	21.6	21.6	64.8
	strongly agree	93	35.2	35.2	100.0
	Total	264	100.0	100.0	

**Question#09: Pharmacy delivers incorrect of written orders.**

Table 10 show that 83(31.4%) registered nurses were slightly agreeing, 54(20.5%) were

moderately agree and 46(17.4%) were strongly agree with that the pharmacy delivers incorrect of written orders.

**Table-10: Pharmacy delivers incorrect of written orders.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	21	8.0	8.0	8.0
	moderately disagree	15	5.7	5.7	13.6
	slightly disagree	45	17.0	17.0	30.7
	slightly agree	83	31.4	31.4	62.1
	Moderately agree	54	20.5	20.5	82.6
	strongly agree	46	17.4	17.4	100.0
	Total	264	100.0	100.0	

**Question# 10: Pharmacy does not prepare the medication correctly**

Table -11show that 53(20.1%) nurses were slightly agreeing, 62(23.5%) nurses were moderately agreeing,

52(19.7%) were strongly agree that pharmacy does not prepare the medication correctly.

**Table-11: Pharmacy does not prepare the medication correctly**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	24	9.1	9.1	9.1
	moderately disagree	30	11.4	11.4	20.5
	slightly disagree	43	16.3	16.3	36.7
	slightly agree	53	20.1	20.1	56.8
	moderately agree	62	23.5	23.5	80.3
	strongly agree	52	19.7	19.7	100.0
	Total	264	100.0	100.0	

**Question# 11: Pharmacy does not label the medication correctly.**

Table -12 show that 88(33.3%) were slightly agree, 48(18.2%) were moderately agree and 61(23.1%)

were strongly agree that pharmacy does not label the medication correctly.

**Table-12: Pharmacy does not label the medication correctly.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	33	12.5	12.5	12.5
	moderately disagree	19	7.2	7.2	19.7
	slightly disagree	15	5.7	5.7	25.4
	slightly agree	88	33.3	33.3	58.7
	moderately agree	48	18.2	18.2	76.9
	strongly agree	61	23.1	23.1	100.0
	Total	264	100.0	100.0	

**Question#12: Pharmacists are not available 24 hours a day.**

Table 13 that 31 (11.7%) were slightly agree, 80(30.3%) respondents were moderately agreeing and

78(29.5%) were strongly agree that pharmacist are not available 24 hours a day.

**Table-13: Pharmacists are not available 24 hours a day.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	25	9.5	9.5	9.5
	moderately disagree	21	8.0	8.0	17.4
	slightly disagree	29	11.0	11.0	28.4
	slightly agree	31	11.7	11.7	40.2
	moderately agree	80	30.3	30.3	70.5
	moderately agree	78	29.5	29.5	100.0
	Total	264	100.0	100.0	

**Question#13: Frequent substitution of drugs**

Table 14 shows that 70(26.5%) were slightly agree, 70(26.5%) were moderately agree and

102(38.6%) nurses were strongly agree that frequent substitution of the drugs can cause medication administration error.

**Table-14: Frequent substitution of drugs**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	.8	.8	.8
	moderately disagree	23	8.7	8.7	9.5
	slightly disagree	27	10.2	10.2	19.7
	slightly agree	70	26.5	26.5	46.2
	moderately agree	40	15.2	15.2	61.4
	strongly agree	102	38.6	38.6	100.0
	Total	264	100.0	100.0	

**Question#14: Poor communication between nurses and physician**

Table 15 show the responses on the poor communication between nurses and physician can cause

medication administration error. The results show that the 43(16.3%) nurses were slightly agreeing, 35(13.3%) were moderately agree and 165(62.5%) were strongly agree with this statement.

**Table-15: Poor communication between nurses and physician**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	7	2.7	2.7	2.7
	Moderately disagree	7	2.7	2.7	5.3
	Slightly disagree	7	2.7	2.7	8.0
	Slightly agree	43	16.3	16.3	24.2
	Moderately agree	35	13.3	13.3	37.5
	Strongly agree	165	62.5	62.5	100.0
	Total	264	100.0	100.0	

**Question# 15: Nurses on this unit have limited knowledge about medication**

Table -16 show the responses showed that 71(26.9%) nurses were slightly agreeing, 34(12.9%)

were moderately agree and 59(22.3%) were strongly agree with that nurses have limited knowledge about medication error.

**Table-16: Nurses on this unit have limited knowledge about medication**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	10	3.8	3.8	3.8
	moderately disagree	34	12.9	12.9	16.7
	slightly disagree	56	21.2	21.2	37.9
	slightly agree	71	26.9	26.9	64.8
	moderately agree	34	12.9	12.9	77.7
	strongly agree	59	22.3	22.3	100.0
	Total	264	100.0	100.0	

**Question# 16: Nurses get pulled between teams and from other units.**

Table -17 show the results that 47(17.8%) nurses were slightly agree, 81(30.7%) were moderately

agree and 89(33.7) were strongly agree and with this statement.

**Table-17: Nurses get pulled between teams and from other units.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	9	3.4	3.4	3.4
	moderately disagree	12	4.5	4.5	8.0
	slightly disagree	26	9.8	9.8	17.8
	slightly agree	47	17.8	17.8	35.6
	moderately agree	81	30.7	30.7	66.3
	strongly agree	89	33.7	33.7	100.0
	Total	264	100.0	100.0	

**Question# 17: When scheduled medications are delayed, nurses do not communicate the time when the next dose is due.**

Table 18 show the responses on question that when medication is delayed and nurses do not

communicate to the other team members. The results show that 72(27.3%) nurses were moderately agree, 70(26.5%) were slightly agree and 68(25.8%) were strongly agree.

**Table-18: When scheduled medications are delayed, nurses do not communicate the time when the next dose is due.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	moderately disagree	20	7.6	7.6	7.6
	slightly disagree	34	12.9	12.9	20.5
	slightly agree	70	26.5	26.5	47.0
	moderately agree	72	27.3	27.3	74.2
	strongly agree	68	25.8	25.8	100.0
	Total	264	100.0	100.0	

**Question#18: Nurses on this unit do not adhere to the approved medication administration procedure.**

Table 19 show the results that 62 (23.5%) were slightly agree, 51(19.3%) were moderately agree

and 74(28.0%) respondents were strongly agree that nurses in units do not adhere to approve medication administration procedure.

**Table-19: Nurses on this unit do not adhere to the approved medication administration procedure.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	7	2.7	2.7	2.7
	moderately disagree	7	2.7	2.7	5.3
	slightly disagree	63	23.9	23.9	29.2
	slightly agree	62	23.5	23.5	52.7
	moderately agree	51	19.3	19.3	72.0
	strongly agree	74	28.0	28.0	100.0
	Total	264	100.0	100.0	

**Question# 19: Nurses are interrupted while administering medications to perform other duties.**

Table 20 show that nurses have many other responsibilities in the ward. The results show that

99(37.5%) registered nurses were strongly agree, 54(20.5%) were moderately agree and 51(19.3%) were slightly agree with that nurses are interrupted while administering medications to perform other duties.

**Table-20: Nurses are interrupted while administering medications to perform other duties.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	moderately disagree	17	6.4	6.4	6.4
	slightly disagree	43	16.3	16.3	22.7
	slightly agree	51	19.3	19.3	42.0
	moderately agree	54	20.5	20.5	62.5
	strongly agree	99	37.5	37.5	100.0
	Total	264	100.0	100.0	

**Question#20: Unit staffing levels are inadequate**

Table 21 depicts that 93(35.2%) were strongly agree, 49(18.6%) were moderately agree and 76(28.8%)

were slightly agree with the statement that unit staffing levels are in adequate.

**Table-21: Unit staffing levels are inadequate**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	moderately disagree	20	7.6	7.6	7.6
	slightly disagree	26	9.8	9.8	17.4
	slightly agree	76	28.8	28.8	46.2
	moderately agree	49	18.6	18.6	64.8
	strongly agree	93	35.2	35.2	100.0
	Total	264	100.0	100.0	

**Question#21: All medication for one team of patients cannot be passes within an accepted time frame.**

Table 22 show that 62(23.5%) were slightly agree, 88(33.3%) were moderately agree and 57(21.6%)

were strongly agree with this problem and cause medication administration error.

**Table-22: All medication for one team of patients cannot be passes within an accepted time frame.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	.8	.8	.8
	moderately disagree	20	7.6	7.6	8.3
	slightly disagree	35	13.3	13.3	21.6
	slightly agree	62	23.5	23.5	45.1
	moderately agree	88	33.3	33.3	78.4
	strongly agree	57	21.6	21.6	100.0
	Total	264	100.0	100.0	

**Question# 22: Medication orders are not transcribed to the Kardex correctly.**

Table -23 show the responses on the question that was medication orders are not transcribed to the

Kardex correctly. The results show that 89(33.7%) registered nurses were slightly agree, 37(14%) were moderately agree and 67(25.4%) were strongly agree with this statement.



**Table-23: Medication orders are not transcribed to the Kardex correctly.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	12	4.5	4.5	4.5
	moderately disagree	13	4.9	4.9	9.5
	slightly disagree	46	17.4	17.4	26.9
	slightly agree	89	33.7	33.7	60.6
	moderately agree	37	14.0	14.0	74.6
	strongly agree	67	25.4	25.4	100.0
	Total	264	100.0	100.0	

**Question#23: Errors are made in the Medication Kardex.**

Table 24 show the results 34(12.9%) nurses were slightly agree, 89(33.7%) respondents were

moderately agree and 65(24.6%) were strongly agree with the statement that errors are made in the medication Kardex.

**Table-24: Errors are made in the Medication Kardex.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	.8	.8	.8
	moderately disagree	19	7.2	7.2	8.0
	slightly disagree	55	20.8	20.8	28.8
	slightly agree	34	12.9	12.9	41.7
	moderately agree	89	33.7	33.7	75.4
	strongly agree	65	24.6	24.6	100.0
	Total	264	100.0	100.0	

**Question# 24: Equipment malfunctions or is not set correctly.**

Table25show the responses on the question that equipment malfunctions or is not set correctly in

the units and can cause medication administration error. The results show that 72(27.3%) nurses were strongly agree, 58(22%) were moderately and 70(26.5%) were slightly agree with it.

**Table-25: Equipment malfunctions or is not set correctly.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	.8	.8	.8
	moderately disagree	10	3.8	3.8	4.5
	slightly disagree	52	19.7	19.7	24.2
	slightly agree	70	26.5	26.5	50.8
	moderately agree	58	22.0	22.0	72.7
	strongly agree	72	27.3	27.3	100.0
	Total	264	100.0	100.0	

**Question #25: Unit staffs do not receive enough in service on new medication**

Table 26 show that 56(21.2%) nurses were slightly agree, 96(36.4%) registered nurses were

moderately agree and 75(28.4%) nurses were strongly agree that unit staff do not receive enough in service on new medication.

**Table-26: Unit staffs do not receive enough in service on new medication**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	8	3.0	3.0	3.0
	moderately disagree	16	6.1	6.1	9.1
	slightly disagree	13	4.9	4.9	14.0
	slightly agree	56	21.2	21.2	35.2
	moderately agree	96	36.4	36.4	71.6
	strongly agree	75	28.4	28.4	100.0
	Total	264	100.0	100.0	

**Question#26: On this unit, there is no easy way to look up information on medications.**

Table 27 show that 91(34.5%) registered nurses were slightly agreeing, 25(9.5%) were

moderately agree and 76(28.8%) were strongly agree with statement.

**Table-27: On this unit, there is no easy way to look up information on medications.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	8	3.0	3.0	3.0
	moderately disagree	27	10.2	10.2	13.3
	slightly disagree	37	14.0	14.0	27.3
	slightly agree	91	34.5	34.5	61.7
	moderately agree	25	9.5	9.5	71.2
	strongly agree	76	28.8	28.8	100.0
	Total	264	100.0	100.0	

**Question#27: Nurse is unaware of a known allergy.**

Table 28 show that 66(25.0%) nurses were slightly agree, 36(13.6%) were moderately agree and

62(23.5%) nurses were strongly agree with that nurses are unaware of known allergy.

**Table-28: Nurse is unaware of a known allergy.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strogly disagree	10	3.8	3.8	3.8
	moderately disagree	44	16.7	16.7	20.5
	slightly disagree	46	17.4	17.4	37.9
	slightly agree	66	25.0	25.0	62.9
	moderately agree	36	13.6	13.6	76.5
	strongly agree	62	23.5	23.5	100.0
	Total	264	100.0	100.0	

**Question#28: Patients are off the ward for other care.**

Table 29 show that 47 (17.8%) nurses were slightly agreeing, 53(20.1%) were moderately agree and

84(31.8%) nurses were strongly agree that when patients are out of the ward for other care it can cause medication administration error.

**Table-29: Patients are off the ward for other care.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	7	2.7	2.7	2.7
	moderately disagree	25	9.5	9.5	12.1
	slightly disagree	48	18.2	18.2	30.3
	Slightly agree	47	17.8	17.8	48.1
	moderately agree	53	20.1	20.1	68.2
	Strongly agree	84	31.8	31.8	100.0
	Total	264	100.0	100.0	

**Question # 29: Many patients are on the same or similar medication.**

Table 30 show the responses of nurses on the question that when many patients are on the same

medication it is cause the medication administration error. The results show that 85(32.2%) nurses were strongly agree, 74(28.0%) were moderately agree and 48 (18.2%) were slightly agree with statement.

**Table-30: Many patients are on the same or similar medication.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	6	2.3	2.3	2.3
	moderately disagree	25	9.5	9.5	11.7
	slightly disagree	26	9.8	9.8	21.6
	slightly agree	48	18.2	18.2	39.8
	moderately agree	74	28.0	28.0	67.8
	strongly agree	85	32.2	32.2	100.0
	Total	264	100.0	100.0	

## DISCUSSION

This study investigates the medication error among the health care services sector by targeting Children hospital Lahore, Pakistan. Furthermore, this study also identifies the factors of the medication error as well. This study involves five factors Medication Packaging, Physician Communication, Pharmacy Process, Nursing Staff, Medicine Administration of the medication error. The results in table 4.7 to 4.34 depicts that all the factors of the medication error exist in the Children hospital, Lahore, Pakistan. However, nursing related and the packing are the highest factors of the medication error respectively and pharmacy is the lowest factor of the medication error.

Therefore, administration of the Children hospital Lahore, Pakistan should emphasize on the training and development of the nurses regarding medication errors and also demand the suppliers to provide the unique packing so that the medication errors can be removed. The results of the study are in line with the study of Shawahna *et al.* [21] which mentions that medication errors arise mostly in public hospital.

## CONCLUSION

In the current study the factors of the medication errors are accessed in the Children hospital, Lahore, Pakistan. This study found that nursing related errors are the greatest reason of the medication error and pharmacy is the lowest one. Thus, hospital administration should make effective intervention and focus on the training of the nurses to enhance the medication administration accuracy and elimination of the factors which contribute to cause the medication administration error. Moreover, management should provide the complete guidelines to avoid the errors.

## Limitation and Recommendations

- The data was collected from only one public hospital because of shortage of time. Further studies should consider the other healthcare institutes (Public and private) as well.
- The data was collected from only nurses and physicians and doctors were excluded. Further studies can consider the as well.
- In this study only quantitative survey techniques were uses. The qualitative study can also be conducted for the comparison and generalizability of the results. Sample size was short.

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