Knowledge And Attitude Towards Medication Safety: Study From Religion Based Hospital

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Submission date: 28-Mar-2023 03:34PM (UTC+0800)
Submission ID: 2048877036
File name: Towards_Medication_Safety_Study_From_Religion_Based_Hospital.pdf (1,002.7K)
Word count: 4597
Character count: 24180

Jurnal Kesehatan Prima

http://jkp.poltekkes-mataram.ac.id/index.php/home/index

p-ISSN: 1978-1334 (Print); e-ISSN: 2460-8661 (Online

Knowledge And Attitude Towards Medication Safety: Study From Religion Based Hospital

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Received: 24 January 2023/Accepted:27 February 2023/Published Online: 28 February 2023

Abstract

The most prevalent patient safety incident in hospitals is medication errors. It is avoidable by a variety of safe treatment approaches known as medical safety. The topic of this research is the high rate of medical errors at 'X' Hospital Tuban in East Java, Indonesia, which accounted for 53.3% of all patient safety occurrences. The goal of this study was to investigate the impact of health workers' knowledge and attitudes on drug safety implementation at 'X' Hospital Tuban. Pharmacists, pharmaceutical technical staff, nurses, and midwives participated in an analytical cross-sectional study with 74 samples. Because of the COVID-19 outbreak, data was collected using an online survey. The survey was based on WHO's 5 Medication Safety Moments. To investigate effect identification, the Fisher's test method was applied. This survey received 87.8% response rate. The following characteristics were shared by the participants: 55.4% are nurses, 75.4% are between the ages of 26 and 36, 86.2% are female, and 36.9% work in an inpatient unit. The average score for medication safety knowledge, attitude, and implementation for each health worker was Good. The correlation coefficient (p = 0.000) between knowledge and drug safety implementation is 0.503. The correlation coefficient (p = 0.000) between attitude and drug safety implementation is 0.508. According to the findings of this study, drug safety knowledge, attitude, and implementation are all satisfactory. Medication safety knowledge and attitudes can aid in the implementation of medication safety. Suggestion for medical professionals, and 'X' Hospital Tuban is working on new pharmaceutical safety precautions.

Keywords: Medication safety; Knowledge; Attitude; Hospital

INTRODUCTION

Medication errors are one of many patient safety issues that arise in hospitals. Medication errors are incidents that should be avoided (Samaranayake & Cheung, 2013), hence pharmaceuticals must be distributed in a safe manner to patients (Surji, 2018). Medication errors can occur in any hospital around the world; for example, an estimated 2-3% of all patients treated to Australian hospitals have medication errors (Sassoli & Day, 2017) despite the fact that Norway reported 10,126 instances in 2017. One thousand six hundred of these instances were related to drug management, and one of them resulted in death (Waaseth et al., 2019).

A study conducted in Indonesia found that the incidence of drug service errors in hospitals and pharmacies is the same. Errors can arise in the prescribing, formulation, and delivery of medications (Anwar et al., 2022). Furthermore, a study on prescriptions conducted by the Anwar Makkatutu Bantaeng Regional General Hospital in 2012 revealed that incomplete prescriptions have the potential to cause 36.75% of medical errors (Bayang et al., 2013). Other incidents of medication error are continuously being discovered at the Surabaya Hajj General

Hospital, with 13 cases of medication error discovered in the most inpatient installations compared to other Surabaya Hajj General Hospital installations in 2014-2015. (Budihardjo, 2017). This suggests that drug errors are still a concern in many Indonesian hospitals. Whereas the Indonesian Minister of Health Decree (Indonesian Minister of Health Decree, 2019) specifies the basic hospital service requirements where prescription errors are not permitted.

Medication safety, as well as measures to limit and eliminate medication errors, are regarded as major contributors to lower sickness and health-care expenditures (Acheampong et al., 2014). Even a medication safety program in primary care can be successful if health personnel are trained in medication safety . (Khalil & Lee, 2018). However, information about pharmaceutical safety is still poor, such as that of pharmacists in Lebanon's hospitals (Hallit et al., 2019). The purpose of this study is to determine the impact of knowledge on medication safety implementation and attitudes toward medication safety implementation. Pharmacists, pharmaceutical technical professionals, nurses, and midwives are among the research subjects. This study will employ a questionnaire based on the 5 Moments of Medication Safety. (WHO, 2019).

Given that pharmaceutical errors can be avoided, a strategy can be devised in collaboration with the medical experts concerned. It claimed that medicine actions involve health workers from several professions (Manias et al., 2020). Pharmacists with positions in the health system have the obligation and expertise to lead and participate in multidisciplinary committees in order to be more proactive in teaching patients rather than reactively communicating (Billstein-Leber et al., 2018; Rixon et al., 2015). The performance of nurses, for example, requires attention because they spend nearly 40% of their time implementing medication safety measures such as delivering drugs in accordance with the 5 Patient Rights principle, monitoring the effectiveness of treatment, reporting unexpected events, and teaching patients about medication that has been prescribed. As a result, individuals bear responsibility for faults in the execution of their work (Agyemang & While, 2010).

Knowledge is an insight that develops from not knowing to knowing as a result of education and experience (Wan et al., 2016). Medication safety knowledge can take the shape of pharmacology in nurses (Shahrokhi et al., 2013) as well as concerns of medication mistakes, which can take the form of organizational and individual reasons causing medication errors (Agyemang & While, 2010; Mahajan, 2011). The goal of providing treatment information to patients is to help them learn about their condition, treatment options, risks and benefits of treatment options, and so on, as well as to clarify areas of concern expressed by the patient or felt by the clinical team, empowering patients to achieve specified therapeutic goals (Jotterand et al., 2016), lowering patient care costs, improving patient satisfaction and quality of life, and preventing unwanted complications (Angelidou et al., 2019).

Attitude is a proclivity toward social items derived from sentiments and conduct toward them. Positive or negative attitudes toward objects or persons are examples of attitudes (Angelidou et al., 2019). According to research, a proactive approach is regarded as preventive effort in developing activities to prevent pharmaceutical errors (Vilela & Jericó, 2015). A health worker's awareness of the elements that contribute to medication errors will persuade them to decrease the occurrence of errors and can assist them in overcoming personal issues that may interfere with their profession, increasing the risk (Agyemang & While, 2010). Education and training programs for health personnel are required to re-emphasize roles

and duties and to raise medication safety knowledge (Hallit et al., 2019).

Implementation is a display of action as a result of knowledge and attitudes toward a problem. The lack of misunderstandings and attitudes toward a disease can result in disease prevention implementation (Wan et al., 2016). Medication safety implementation is an action made to avoid, prevent, and improve the impact or injury caused by the process of receiving and using drugs.

Examples of medication safety implementation include distributing drugs using the 5 Patient Right Rights principle, monitoring the effectiveness of treatment, reporting unexpected events, and teaching patients about medications that have been prescribed (Agyemang & While, 2010) and implementing the 5 Moments of Medication Safety. 5 Medication Safety Moments. are critical points at which patients or caregivers can reduce the risk of harm associated with their drug use by more actively engaging patients in their own care, encouraging their curiosity about the drugs they are taking, and empowering them to communicate openly with healthcare professionals. Each moment has five essential questions. This patient engagement tool was created as part of the Third World Health Organization Global Patient Safety Challenge: Medicine Without Harm (WHO, 2019). This tool is intended for use by patients, their families, and caregivers when they are received or returned from a health facility, referred to another health facility, transferred to another health facility, or receive home care in all levels of care and health facilities, with the assistance of a health care worker. Starting medicine, taking medication, adding medication, reviewing medication, and discontinuing medication are the questions in 5 Moments of Medication Safety.

Hospital X is a religion-based hospital in Tuban, East Java, with a high prevalence of medication error, accounting for 53.3% of all patient safety occurrences. Hospital X has not established any medication safety program, including the WHO Five Moments. Therefore, the assessment using the 5 Moments of Drug Safety will assist the hospital in identifying areas for improvement.

METHOD

General Study Design

This is an analytical study since the researcher will test the data to obtain the required information. The study design is a cross-sectional study since the variables were investigated all at once, online, on 8-12 June 2020 at a private hospital in Tuban area. Because not all nurses dispense, distribute, or provide medication of any type to patients directly in their work, the sample of nurses is drawn using simple random sampling. There are 88 nurses in total at Tuban "X" Hospital. The Lemeshow formula is used to compute the sample size (Lemeshow et al., 1990).

Ethical Aspect

The instrument has passed the Health Research Ethics Commission number: 2028-KEPK ethical evaluation, which was conducted by the Health Research Ethics Commission, Faculty of Nursing, Universitas Airlangga Indonesia.

Data Collection Process

The primary data for this study were acquired utilizing a Google form based on the 5 Moments of Medication Safety, which were translated into Indonesian and separated into three measured variables about medication safety knowledge, attitudes, and implementation. and has passed validity and reliability tests. This validity and reliability test included 32 participants who met the research target criteria but were not health workers at Hospital 'X' Tuban. The IBM SPSS version 21 computer application was used for analysis. Six invalid

statement items were collected as a consequence of the validity and reliability tests. The study did not include any invalid items.

The questionnaire is divided into three sections. The first section includes an introduction to the goals and objectives of data collecting, as well as a question on respondents' desire to participate. The second section includes questions about the respondent's identification. The third section includes 15 questions regarding knowledge, 21 questions about attitude, and 21 questions concerning medication safety implementation. Online surveys are distributed by transmitting a web address linked to the online questionnaire through media in the form of online posters and hospital WA group. Along with the research criteria, the online poster invites health workers to complete a questionnaire.

Statistical Analysis

The acquired primary data will next be examined to answer the objective of writing. It is important to note that the data scale for knowledge, attitudes, and medication safety implementation contains a scale of ordinal data in the form of good, average, low, and poor. The influence test was used twice in this study: once to examine the effect of the knowledge variable on implementation and once to determine the effect of the attitude variable on implementation. The Chi Square test will be used for each effect test with an ordinal data scale (Franke et al., 2012).

The IBM SPSS version 21 is used for analysis. The first stage in calculating Chi Square is to determine if the Chi Square test conditions were met or not based on the predicted results. If the Chi Square test cannot be performed because there is no expected value that is 1 or if it is 5, it cannot be 20% of the total expected number, then a Fisher's Test can be performed. The Fisher test will yield the value of its significant value in comparison to the limit of significance () = 0.05. The Fisher test's final step is to determine the Fisher test's strength value, which can be observed from the value of the contingency coefficient. Chi Square testing is used to determine the strength of the association, which has a value between 0 and 1.

RESULT AND DISCUSSION

According to the data collecting statistics, 65 of the 74 samples completed the questionnaire, for a response percentage of 87.8%. The 65 samples were chosen based on general factors such as age, gender, and work unit, which are detailed in the table below.

Table 1. Demographics of Health Workers in Hospital 'X'

General Criteria	Number of Health Workers n (%)				Total n (%)
	Pharmacy Technical Staff	Pharmacist	Nurses	Midwives	
Number of Health Workers	6 (9,2)	6 (9,2)	36 (55,4)	17 (26,2)	65 (100)
Age (years)					
- 15-25	3 (4,6)	2 (3,1)	5 (7,7)	1 (1,5)	11 (16,9)
- 26-36	2 (3,1)	4 (6,2)	27 (41,5)	16 (24,6)	49 (75,4)
- 37-47	1 (1,5)	0 (0)	4 (6,2)	0 (0)	5 (7,7)
Sex					
- Pria	1 (1,5)	0 (0)	8 (12,3)	0 (0)	9 (13,8)
- Wanita	5 (7,7)	6 (9,2)	28 (43,1)	17 (26,2)	56 (86,2)
Working unit					
- Casemix (Indonesian Health Assurance Unit)	0 (0)	0 (0)	1 (1,5)	0 (0)	1 (1,5)
- Covid Service	0 (0)	0 (0)	0 (0)	1 (1,5)	1 (1,5)
- Pharmacy Installation	5 (7,7)	4 (6,2)	0 (0)	0 (0)	9 (13,8)
- Central Surgical Installation	0 (0)	0 (0)	5 (7,7)	0 (0)	5 (7,7)
- Intensive Care Unit (ICU)	0 (0)	0 (0)	1 (1,5)	0 (0)	1 (1,5)

- Emergency Room	0 (0)	0 (0)	1 (1,5)	4 (6,2)	5 (7,7)
- Inpatient Installation	0 (0)	0 (0)	18 (27,7)	6 (9,2)	24 (36,9)
- Outpatient Installation	1 (1,5)	2 (3,1)	6 (9,2)	3 (4,6)	12 (18,5)
- Head of Nurses Department	0 (0)	0 (0)	1 (1,5)	0 (0)	1 (1,5)
- Birthing room	0 (0)	0 (0)	0 (0)	3 (4,6)	3 (4,6)
- Nurse of Risk Management	0 (0)	0 (0)	1 (1,5)	0 (0)	1 (1,5)
- Perinatology Staff	0 (0)	0 (0)	1 (1,5)	0 (0)	1 (1,5)
- Nurse of Infection Control and Prevention Department	0 (0)	0 (0)	1 (1,5)	0 (0)	1 (1,5)

According to Table 1, the majority of the health workers at Hospital 'X' Tuban who participated in this study were nurses, 75.4% were between the ages of 26 and 36, 86.2% were female, and 36.9% worked in an inpatient setting. The score of each component will be detailed in depth in the following table based on the responses of the health professionals.

Table 2. The Score of Knowledge, Attitude, and Implementation of Health Workers in Hospital 'X' Tuban

Aspect	Score Category	Score Range	Number of Health Worker n (%)	Average Score	Average Score Category
Knowledge	Poor	0-15	0 (0)	55,69	Good
	Low	16-30	3 (4,6)		
	Average	31-45	3 (4,6)		
	Good	46-60	59 (90,8)		
	Total n (%)		65 (100)		
Attitude	Poor	0-21	1 (1,5)	67,7	Good
	Low	22-42	2 (3,1)		
	Average	43-63	19 (29,2)		
	Good	64-84	43 (66,2)		
	Total n (%)		65 (100)		
Implementation	Poor	0-21	0 (0)	72,4	Good
	Low	22-42	0 (0)		
	Average	43-63	15 (23,1)		
	Good	64-84	50 (76,9)		
	Total n (%)		65 (100)		

According to table 2, the average value of knowledge of health workers in Hospital 'X' Tuban regarding pharmaceutical safety is 55.69, which falls into the category of good value. 90.8% of health personnel at Hospital 'X' Tuban have a Good rating. The average value of health personnel' attitudes toward drug safety at Hospital 'X' Tuban was 67.7 in the Good category. The majority of health care personnel at Hospital 'X' Tuban scored Good (66.2%). The average value of implementation of health workers connected to drug safety at Hospital 'X' Tuban was 72.4 in the category of Good value. The majority of health personnel at Hospital 'X' Tuban have a Good rating of 76.9% and are led by as many as 27 nurses.

A Chi Square test was used to examine the effect of knowledge on drug safety implementation. The following cross tabulation table will explain the expected figures for knowledge variables on the variable implementation of medicine safety.

Table 3. Cross-Tabulation of Knowledge and Attitude Variables Related to Medication Safety with the Implementation Variable of Medication Safety for Health Workers at Hospital 'X' Tuban

			Implementation Score		Total
			Good	*Average*	
Knowledge Score	Good	Total	50	9	59
		Expected Value	45,4	13,6	59,0
	Average	*Total*	0	3	3
		Expected Value	2,3	0,7	3,0
	Low	*Total*	0	3	3
		Expected Value	2,3	0,7	3,0
Total		Total	50	15	65
		Expected Value	50,0	15,0	65,0
Attitude Score	Poor	Total	40	3	43
		Expected Value	33,1	9,9	43,0
	Good	Total	1	0	1
		Expected Value	0,8	0,2	1,0
	Average	*Total*	9	10	19
		Expected Value	14,6	4,4	19,0
	Low	*Total*	0	2	2
		Expected Value	1,5	0,5	2,0
Total		Total	50	50	65
		Expected Value	50,0	50,0	65,0

According to Table 3, there are four predicted values less than 5 for knowledge variables and five expected numbers less than 5 for attitude variables. As a result, the Chi Square test case cannot be completed, and a Fisher's test is performed. The Fisher test

findings on the knowledge variable on drug safety implementation are shown in the table below.

Table 4. Fisher Test Results for Knowledge and Attitude Variables Related to Medication Safety with the Implementation Variable of Medication Safety for Health Workers at Hospital 'X' Tuban

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)
Knowledge				
Pearson Chi-Square	22,034	4	0,000	0,000
Likelihood Ratio	19,829	4	0,000	0,000
Fisher's Exact Test	17,104	-	-	0,000
Number of Valid Cases	65	-	-	-
Attitude				
Pearson Chi-Square	22,595	4	0,000	0,000
Likelihood Ratio	22,178	4	0,000	0,000
Fisher's Exact Test	20,671	-	-	0,000
Number of Valid Cases	65	-	-	-

Based on Table 4, it can be seen that the Exact Sig. The (2-sided) Fisher's exact test is 0.000. The value from Fisher's exact test is smaller than the limit of significance (α) = 0.05. This suggests that knowledge and attitude have a varying influence on the variable of medication safety implementation. The following table shows the magnitude of the knowledge variable's influence on the implementation variable.

Table 5. Symmetrical Measurement of Knowledge and Attitude Variables Related to Medication Safety with the Implementation Variable of Medication Safety for Health Workers at Hospital 'X' Tuban

		Value
Knowledge		
	Phi	0,582
	Cramer's V	0,582
	Contingency Coefficient	0,503
Number of Valid Cases		65
Attitude		
	Phi	0,590
	Cramer's V	0,590
	Contingency Coefficient	0,508
Number of Valid Cases		65

According to Table 5, the contingency coefficient value is 0.503, which falls into the adequate group and is positive. Meanwhile, the contingency coefficient value is 0.508, which is sufficient and positive. This implies that information and attitude have a sufficient influence on medication safety implementation, and because it has a positive effect, the better the knowledge, the better the medication safety implementation.

The same is true for knowledge and implementation; a Chi Square test was used to examine the effect of attitudes on medication safety implementation. The following cross tabulation table will describe the effects of the predicted number of attitude variables on the variable medicine safety implementation.

This study discovered that information has a sufficient influence on medication safety implementation, and because it has a positive effect, the better the knowledge, the better the medication safety implementation. This is consistent with previous research (Shahrokhi et al., 2013) on medication errors in nurses, which found that a lack of pharmacology knowledge is one of the factors influencing the prevalence of medication errors. Medication safety knowledge can include medication errors so that health personnel can behave more safely (Agyemang & While, 2010). Health personnel can be educated about medication errors in the form of organizational and individual variables that cause medication errors (Mahajan, 2011).

Because patients rely greatly on pharmacists' knowledge, abilities, and competence; pharmacists can engage with other health professionals to be more proactive in teaching patients rather than merely communicating reactively (Rixon et al., 2015). Even a drug safety program in primary care can be successful if health workers learn about medication safety (Khalil & Lee, 2018). Knowing the benefits of good medication safety will influence the implementation of medication safety for health workers in order to reduce the frequency of errors in drug distribution to patients.

This study discovered that attitude has a sufficient influence on medication safety implementation, and because the effect is positive, the

better the attitude, the better the medication safety implementation. According to research, a proactive approach is regarded as preventive effort in developing activities to prevent pharmaceutical errors (Vilela & Jericó, 2015). Medical health workers are responsible for creating an environment in which high-quality health counseling can be routinely practiced by providing information, motivation, and (Schwappach & Wernli, 2010) and are responsible for creating an environment in which high-quality health counseling can be routinely practiced (Shitu et al., 2018).

A health worker's awareness of the elements that contribute to medication errors will persuade them to decrease the occurrence of errors and can assist them in overcoming personal issues that may interfere with their profession, increasing the risk (Agyemang & While, 2010). Education and training programs for health personnel are required to re-emphasize duties and responsibilities and to raise understanding of medication safety attitudes (Hallit et al., 2019). Having a good medication safety awareness will influence the implementation of medication safety for health workers in order to reduce the occurrence of errors in the distribution of medicine to patients.

CONCLUSION

The knowledge and the attitude of health workers at Hospital 'X' Tuban has a sufficient impact on drug safety implementation. The better the knowledge and the attitude, the better the medical safety implementation. Future research could be directed to look the implementation in different work unit in the hospital.

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