

The Implementation of Patient Safety by Nurses at Inpatient Rooms of Community Health Centers

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Abstract: The issue of patient safety has become a global issue since the Institute of Medicine (IOM) in the United States published a paper titled "to Err Is Human: Building A Safer Health System." However, the issue of patient safety at the community health centers (hereinafter-termed puskesmas) is not as dynamic as that of the hospital level. The aspect of clinical quality and patient safety in puskesmas is only recently implemented in Indonesia. This study aimed to identify the implementation of patient safety by the nurses in the inpatient rooms of two Puskesmas in Aceh. This comparative study employed the cross-sectional design. All nurses at Puskesmas Pidie and Pidie Jaya, 65 nurses and 40 nurses respectively, involved in the study. Using the independent t-test, the results show that there were no differences in the implementation of patient safety ($p = 0.322$), patient identification ($p=0.238$), correct drug administration ($p=0.889$), absence of errors in medical and nursing procedures ($p=0.421$), and infection prevention ($p=0.388$) in the two puskesmas. Only in the prevention of patients from being injured was a difference observed ($p=0.048$). It is necessary that the nurses improve their knowledge, skill, and motivation toward patient safety to increase medical services at the Puskesmas.

1 INTRODUCTION

The issue of patient safety has become a global issue since the Institute of Medicine (IOM) in the United States published a paper titled "to Err Is Human: Building A Safer Health System." Medication errors have caused the death of 44,000 to 98,000 people every year. This figure is more than the deaths caused by accidents, breast cancer and Acquired Immune Deficiency Syndrome (AIDS). In 2004, The World Health Organization (WHO) conducted a preliminary study in the United States, Australia, New Zealand, Canada, and Europe and learned that the incidence percentage of the patient adversary was between 3.2% and 16.6% in these countries (Utarini, Getrud, & Hill, P, 2009).

The issue of patient safety at puskesmas is not as dynamic as that of the hospital level. Patient safety in puskesmas is only recently implied in the Indonesian Ministry of Health Regulation Number 75, 2014 regarding puskesmas. The regulation states

that puskesmas provides comprehensive, sustainable, and quality primary health services and carries out health services that prioritize the safety of patients, health workers and visitors alike, which was later included in the puskesmas accreditation standard (as part of the accreditation standard for first-level health facilities in addition to clinics and private physician practice) (Permenkes RI, 2014). The Ministry of Health Regulation No. 46, 2015 concerning Puskesmas Accreditation Standards mentions clinical quality and patient safety in article 7, 11, 15, 16, and 17. However, no implementation guide such as at that of hospital accreditation was made (AIPKI, 2015).

Many incidences of patient safety in the healthcare facilities were recorded in Aceh. Some notable cases in 2016 include the blood transfusion error performed by the nurse in Lhokseumawe (Tribun News, 2016), the death of a baby in certain hospitals laced by cables in incubators, the death of the mothers and babies after surgery and other cases

that cannot be brought up to the public. This study aimed to learn the implementation of patient safety by the nurses in the inpatient rooms of puskesmas in Pidie and Pidie Jaya.

2 METHOD

This comparative quantitative study used a cross-sectional design. The data were collected through surveys by distributing questionnaires to the respondents. This study was conducted at two Puskesmas (Public Health Center) in Pidie and Pidie Jaya district. The study population was the nurses at one puskesmas in Pidie and one Pidie Jaya with a total of 105 nurses using total sampling technique. Independent t-test was then used for the statistical analysis. Ethical committee of Nursing Faculty, Syiah Kuala University had granted the ethic for this study. The study used the following ethical principles: respect for human dignity, respect for justice inclusiveness, respect for privacy and confidentiality

3 FINDINGS

3.1 Respondents Characteristics

Characteristics of respondents include education, age, gender, length of work and training attended by the nurses (Table 1). The majority of the nurses had an education Nursing Diploma, 38 people (95%) for Pidie Puskesmas and 59 people (90.8%) for Pidie Jaya Puskesmas. Most of the nurses were aged between 20-35 years old, 31 people (77.5%) for Pidie Puskesmas and 50 people (76.9%) for Pidie Jaya Puskesmas. While Pidie Jaya Puskesmas employed 55 female nurses (84.6%), Pidie Puskesmas contracted only 30 female nurses (75%). 42 nurses (64.4%) at Pidie Puskesmas reported as having 5 to 10 years experience while only 22 nurses in Pidie Puskesmas had the equivalent length of work. The majority of the respondents, 33 nurses (82.5%) in Pidie Puskesmas and 60 nurses (92.3%) in Pidie Jaya Puskesmas had not participated in any training.

Table 1: Characteristics of Respondents.

Characteristics	PHC Pidie		PHC Pidie Jaya	
	f	%	f	%
Education				
Nursing Specialist	1	2.5	4	6.2
Nursing Diploma	38	95.0	59	90.8
Bach.of Nursing+Nurse	1	2.5	2	3.1
Age				
20 -35 years old	31	77.5	50	76.9
>35 years old	9	22.5	15	23.1
Gender				
Male	10	25.0	10	15.4
Female	30	75.0	55	84.6
Length of Work Exp.				
< 5 years	11	27.5	18	27.7
5 s/d 10 years	22	55.0	42	64.4
11 s/d 15 years	5	12.5	2	3.1
> 15 years	2	5.0	3	4.6
Training Participated				
BTCLS	2	5.0	0	0
KESWA	0	0	1	1.5
MTBS	2	5.0	0	0
EKG	1	2.5	2	3.2
Infection Prevention	1	2.5	0	0
Resuscitation	0	0	1	1.5
HIV/AIDS	0	0	1	1.5
Rabies	0	0	1	1.5
No Training	33	82.5	60	92.3

Table 2: Implementation of Patient Safety

Variable / sub-variables	PHC	Mean	Means difference	95 % CI		P value	t value	
				Low	Up		Count	Table
Patient safety	Pidie Distrcit	141.95	2.112	-2.116	6.339	0.322	0.999	2.400
	Pidie Jaya District	144.06						
Patient identification	Pidie District	30.93	-0.787	-2.100	0.527	0.238	-1.188	1.983
	Pidie Jaya District	30.14						
Correct drug administration	Pidie District	42.90	0.100	-1.311	1.511	0.889	0.141	1.983
	Pidie Jaya District	43.00						
Absence of errors in medical and nursing procedures	Pidie District	20.38	0.533	-0.780	1.845	0.421	0.810	1.996
	Pidie Jaya District	20.91						
Infection Prevention	Pidie District	25.00	0.523	-0.675	1.721	0.338	0.866	1.993
	Pidie Jaya District	25.52						
No patient injured	Pidie District	22.75	1.650	0.016	3.284	0.048	2.021	2.001
	Pidie Jaya District	24.40						

3.2 The Implementation of Patients Safety

The Implementation of patient safety is described in Table 2. There is no difference in the implementation of patient safety between nurses in Puskesmas in Pidie and Pidie Jaya (p-value = 0.32). The patient identification in Pidie Puskesmas (30.93) was not significantly better compared to in Pidie Jaya Puskesmas (30.14) (p-value = 0.24). The implementation of correct drug administration in Pidie Jaya Puskesmas (43.00) was not significantly better compared to in Pidie Jaya Puskesmas (42.90) (p-value = 0.89). The error-free practices in medical and nursing procedures among nurses in Pidie Jaya Puskesmas (20.91) was not significantly better compared to in Pidie Puskesmas (20.38) (p-value = 0.42). The implementation of infection prevention among nurses in Pidie Jaya Puskesmas (25.52) was not significantly better compared to nurses in Pidie Puskesmas (25.00) (p-value = 0.38). There is a difference in the prevention of patients from being injured between puskesmas in Pidie and Pidie Jaya (p-value = 0.048).

4 DISCUSSION

Regarding the implementation of patients safety, finding of this study shows that there was no difference in the implementation of patient safety at both puskesmas. The fact that all nurses in both

puskesmas have not participated in training about patient safety contributed to the poor implementation of patient safety. The absence of training or socialization on patient safety also added to the lack of nurses' knowledge on patient safety. A study conducted at one public hospital in Banda Aceh revealed that there is a correlation between knowledge and the efforts to implement patient safety (Dahlia, 2014). A similar study reported that patient safety training influenced effective communication, organizational climate, and patient safety culture (Triana S, 2017).

In term of patients identification, the finding suggests no difference in the implementation of patient identification at the two puskesmas. Even though the service area of puskesmas is limited, errors in identifying patients are inevitable considering every day tens or even hundreds of patients visit these community health center. Patient identification is one of the critical patient safety standards. Errors during identification will lead to medication, transfusion, test, and procedural errors in the patient. The National Patient Safety Agency in the UK reported 236 cases of errors which are dangerously close to fatalities from November 2003 to July 2005 due to incorrect use of patient identification bracelets (WHO, 2007). A study conducted by Yudhawati & Listiowati (2015) described that all nurses could identify patients, explain the benefits of identity bracelets and specify when patient identification is required. While 40% of the patients knew the benefits of the wristband

worn, only 20% of patients said that the nurses checked the identity bracelet before carrying the treatment. It means that the hospital nurses have not carried out an efficient patient identification.

Result for correct drug administration shows that there was no difference between the two puskesmas. Properly administering drugs is important because incorrect prescription may lead to, in the extreme case, the death of the patient. A study conducted in Sanglah General Hospital in Denpasar suggested that there was a significant relationship between the implementation of the six rights of medication administration and the incidence of medication errors (KresnaYana, 2015). Other study reported no correlation between the nurses' level of education and the length of work and the application of the six right principles in administering drugs. Many other factors influence the application of the six principles right in administering drugs by the nurses. Socialization, supervision, and training may help affect nurses' motivation to apply the six right principles (Armiyati, Ernawati, & Riwayati, 2007).

A study conducted at RSPN reported that 64.9% of the nurses practiced the right patient, 86.5% of the nurses practiced the right medication, 64.9% of the nurses practiced the right time, and 100% of nurses practiced the right dose, the right route, and documentation (Stepani, Dewanto, & Dwiyantri, 2015). On the other hand, 89% of the inpatient nurses at RSPN had good knowledge of seven right principles. The nurses also had a positive attitude toward the implementation of drug administration based on seven rights and wanted to implement the seven rights (Stepani, Dewanto, & Dwiyantri, 2015).

For the implementation of no medical and nursing procedures errors, finding of this study suggests that there was no difference between puskesmas in Pidie Jaya and Pidie. Stetler et al. (2000) and Hume (1999) showed that 10% to 18% of reported hospital accidents were related to errors in treatment. Errors in treatments were caused by health workers such as doctors and pharmacists (Mrayyan et al. 2007), and nurses were often the health workers who made the most errors in terms of treatment (Khasanah, 2012).

The result of the statistical analysis shows that both puskesmas had no difference in the implementation of infection prevention. The WHO estimated that more than 1.4 million people worldwide suffer from infectious diseases due to hospitalization. Healthcare-associated infection (HAI) reported that 5%-10% of patients in developed countries suffer from nosocomial infections. A study by HAI suggested that hand

hygiene can reduce the development of infection. Hand washing is an essential measure in preventing infection (WHO, 2007a). Kurniawati, Satyabakti, Arbianti (2015) reported that health workers who ignored hand hygiene had a risk of experiencing multidrug resistance organisms (MDROS) 6,000 times more than those who did otherwise. A total of 42 out of 100 health workers who treated patients in the intensive care unit (ICU) could avoid MDROS infection if they care to wash their hand properly and could prevent 0.42 out of 0.67 or 62.60% of MDROS infections (Kurniawati, Prijono, & Novita, 2015).

Based on the statistical test, a difference was observed in the patient prevention from being injured between the puskesmas in Pidie Jaya and Pidie. Even though the difference was observed, the implementation of the patient prevention from falling in both puskesmas has not reached its best due to the lack of socialization about this safety measure. A study conducted in one of the hospitals in Malang (Budiono, Alamsyah, & Wahyu, 2014) revealed that after nurses received training and socialization about the management of patients at risk of falling and implemented the procedure for two weeks, the care of nurses to screen patients at risk of falling increased to 26.5%. The nurses later put on the identification bracelets and educated both patients and families about their risk of falling. The prevention of falling injuries in every health service can be performed from patient entry to discharge. Preventing patients from falling is made to provide safe nursing services to the patients (Budiono, Alamsyah, & Wahyu, 2014).

5 CONCLUSION

The current study found that there were no differences in the implementation of patient safety with the p-value of 0.322, patient identification with the p-value of 0.238, correct drug administration with the p-value of 0.889, absence of errors in medical and nursing procedures with the p-value of 0.421, and infection prevention with the p-value of $p=0.388$ in the two puskesmas. The difference was observed in the prevention of patients from being injured with the p-value of 0.048. All nurses are expected to improve their knowledge and motivation and take part in patient safety training to increase medical services at the Puskesmas.

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