

Analysis of Factors Related to Employee Behavior in Implementing Patient Safety Program at Insan Permata Woman and Child Hospital Tangerang

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Abstract. Insan Permata Woman and Child Hospital was facing Patient Safety Incidence especially for periode of mid to late 2016 there were 12 incidents and 11 phlebitis cases. This indicated a gap between the conditions in the field and the ideal situation that should be achieved. This study aimed to see how the behavior of employees in implementing patient safety program and the factors that influence it. The sample of this study were 151 respondents as sample, consist of health and non health workers. The patient safety program focused on the accuracy of patient identification, reduction of risk of infection and reduction of risk of falling patients. This research was a quantitative research followed by qualitative method. The results showed that most employees already had good patient safety behavior, age and attitude were the most affecting factors in patient safety behavior. The lack of socialization of accreditation and patient safety, poor monitoring and some incomplete facilities should became the concern for the hospital as it was considered to have great influences in the daily implementation of patient safety program.

Keywords: patient safety, patient identification, hand washing, risk of falling

Abstrak. Insiden Keselamatan Pasien masih terjadi di RSIA Insan Pertama; khususnya pada periode pertengahan hingga akhir tahun 2016 terdapat 12 insiden dan 11 kasus flebitis. Hal ini menunjukkan adanya gap antara keadaan di lapangan dengan keadaan ideal yang seharusnya dicapai. Penelitian ini bertujuan untuk melihat bagaimana perilaku pegawai dalam menerapkan program keselamatan pasien dan faktor-faktor yang mempengaruhinya. Sampel penelitian sebanyak 151 responden, yang terdiri dari tenaga kesehatan dan non kesehatan. Program keselamatan pasien akan difokuskan pada ketepatan identifikasi pasien, pengurangan risiko infeksi dan pengurangan risiko pasien jatuh. Jenis penelitian adalah penelitian kuantitatif yang dilanjutkan dengan metode kualitatif. Hasil penelitian menunjukkan bahwa sebagian besar pegawai sudah memiliki perilaku keselamatan pasien yang baik, dengan faktor usia dan sikap adalah yang paling mempengaruhi perilaku keselamatan pasien. Kurangnya sosialisasi akreditasi dan keselamatan pasien, monitoring yang lemah dan beberapa fasilitas yang kurang lengkap harus menjadi perhatian karena dinilai berpengaruh pada penerapan program keselamatan pasien di lapangan.

Kata kunci: keselamatan pasien, identifikasi pasien, cuci tangan, risiko jatuh

INTRODUCTION

Patient safety is a system where hospital makes safer care of patients including risk assessment, identification and management regarding the risks of patients, report and analysis of incidents, the capability to learn from incidents and its follow-up also the implementation of solution to minimize the risks and prevent injuries caused by mistakes from activities or not taking the right action. In patient safety, there is a term of patient safety incidents, which are every accidental events and conditions that results or potentially resulting accidents that could be prevented upon patient. The incidents consist of Adverse Event, Near Miss, No Harm Incident, Reportable Circumstance and Sentinel Events (Kemenkes. 2011).

The occurrence of patient safety incidents in a hospital will cause the decrease of trust from society towards the

hospital. This is because the hospital is considered to have low quality of services, because patient safety has high correlation to the quality and image of the hospital. The quality of service in a hospital can be measured through accreditation. The Act Number 29 of 2004 on Medical Practice and Act Number 44 of 2009 on Hospital are mandated to all hospitals to undergo accreditation. Accreditation is a process to assess the healthcare organization by accreditation agency based on predefined standards. There are two types of accreditation in Indonesia, international and national accreditation. International Accreditation uses standard from Joint Commission International (JCI) and National Accreditation uses standard from *Komisi Akreditasi Rumah Sakit (KARS)* or Hospital Accreditation Commission (HAC). JCI and KARS are independent institution that organize accreditation set by The Minister of Health of Republic of Indonesia which written in the Minister of Health Decree

No.1195/MENKES/SK/VIII/2020 (Kemenkes, 2010). In the standard of accreditation by KARS 2012, which refers to JCI standard edition 4 of 2011, there is one specific group that discusses about patient safety, that is *Kelompok Sasaran Keselamatan Target (SKP)* or Target Safety Goals Group (TSG). The SKP group consists of 6 goals: (1) the accuracy of patient identification, (2) effective communication improvement, (3) drug safety improvement of high-alert medication, (4) certainty of exact location, procedure, and operation patient, (5) infection risk reduction regarding health service and (6) risk reduction of falling patient.

Insan Permata Mother and Child Hospital that has only been 3 years old has a few targets in 2017, which are cooperation with BPJS Kesehatan or Social Security Administrator of Health, change of status to Type C General Hospital and undergo the accreditation. Basically, the preparation towards accreditation has been conducted since 2015, the Working Group Team and work program of SKP have been formed, but they have yet to work maximally. The records of patient safety incidents have only been working since 2016 by KSP Working Group. According to the data, there are 12 incidents and 11 cases of phlebitis happened in Insan Permata Mother and Child Hospital and listed in the table below:

Table 1. Table of Patient Safety Incidents

No.	Time of Incident	Incident	Type of Incident	Work Unit
1	29/07/2016	Drug Preparation Mistake	No Harm Incident	Pharmaceutical Installation
2	01/08/2016	Falling from bed	Adverse Event	Nursing Installation
3	26/08/2016	Drug Administer Mistake	Adverse Event	Emergency Department
4	24/09/2016	Drug Preparation Mistake	No Harm Incident	Pharmaceutical Installation
5	30/10/2016	Drug Discoloration	Near Miss	Pharmaceutical Installation
6	31/10/2016	Drug Preparation Mistake	No Harm Incident	Pharmaceutical Installation
7	31/10/2016	Patient Does Not Wear Identity Bracelet	Near Miss	Emergency Department
8	10/11/2016	Patient Identification Mistake	Near Miss	Nursing Installation
9	14/11/2016	Patient Identification Mistake	Near Miss	Nursing Installation
10	21/11/2016	Patient Identification Mistake	Near Miss	Nursing Installation
11	25/11/2016	Drug Ordering Mistake	No Harm Incident	Nursing Installation
12	12/12/2016	Slipped in Bathroom	Adverse Event	Nursing Installation

Source: Patient Safety Incidents Data of KSP Working Group of 2016

Table 2. Phlebitis Incidents Table

No.	Date	Ward	Diagnosis
1	7/7/16	Tulip 1	Febris
2	15/7/16	Anggrek 1	DHF
3	4/8/16	Tulip 2	Obs febris
4	16/8/16	Anggrek 1	Gastroenteritis
5	17/9/16	Tulip 1	Typhoid
6	4/10/16	Tulip 2	Typhoid
7	16/10/16	Anggrek 1	Febris
8	7/11/16	Tulip 1	Type II DM
9	19/11/16	Tulip 2	DHF
10	5/12/16	Anggrek 1	DHF
11	21/12/16	Tulip 2	DHF

Source: Patient Safety Incidents Data of KSP Working Group of 2016

METHOD

This is a quantitative research that continued with qualitative methods. The research time is from April to May 2017 at Insan Permata Mother and Child Hospital, Tangerang.

The research sample consists of 151 individuals which include the employees working in Insan Permata Mother and Child Hospital that consists of registration, administration, cashier, storage, finance, marketing, procurement, employee affair, nutrition, pharmaceutical, radiology, medical records, laboratory, nursing division, and management unit. The inclusion criteria for this research is all employees that have a Decree from Hospital Director. Meanwhile the exclusion criteria in this research is employees who are on leave, maternity leave, assignment or study permit and not willing to be a research respondent.

Primary data collection is conducted by doing observation, distributing questionnaire and doing in-depth interview to confirm the results of questionnaire processing. The questionnaire consists of introductory sheet, informed consent, respondent identity, 10 knowledge question and 40 behavioral, guide and procedures, cooperation, attitude, motivation, physical work area and communication question with the choice of answer consists of 'yes' and 'no' along with 4 Likert scale. The interviewed informants are three people from KSP Group, Head of Nursing Division, Head of Medical Division, Head of General Affair Division, and the Director. Apart from that, the secondary data is also analyzed through document review. The questionnaire is first gone through trials to assess the validity and reliability before it is distributed.

RESULTS AND DISCUSSION

Results

Table 3. Respondent Characteristics (n = 151)

Variable	Category	Frequency	Percentage (%)
Age	≤ 40 years old	136	89,4 %
	> 40 years old	15	10,6 %
Gender	Male	41	27,2 %
	Female	110	72,8 %
Education	Low	62	41,1 %
	High	89	58,9 %
Work Experience	≤ 3 years	90	59,6 %
	> 3 years	61	40,4 %
Employment Status	Health Worker	89	58,9 %
	Non-Health Worker	62	41,1 %

Respondent characteristic in terms of age shows that respondents have a wide and uneven variety of ages starting from 17 to 62 years old. Therefore, the calculation of middle value is conducted and it is obtained the 40 years old mark. For research purposes, the ages of respondents are divided based on the middle value then formed a group of respondents aged ≤ 40 years old and another group of respondents aged > 40 years old. Meanwhile, for the variable of education, respondents are grouped into low education and high education group. Low education group consists of respondents with the last education of Elementary School, Middle School, and High School, while the high education group consists of respondents with the last education of Diploma to Doctoral studies. The respondent status is divided into Health Worker and Non-Health Worker where the ones that is considered as Health Worker includes medical specialist, dentist specialist, general practitioners, dentists, nurses, midwives, pharmacists, pharmacist assistants, medical checkers, laboratory analysts, radiographers, nutritionists, public health workers and environmental health expert, the people apart from those categories are put to Non-Health Workers.

The normality test result upon the answer of respondents generally is a normal data to ease research analysis on knowledge, guidelines and procedures, attitude, motivation, physical working condition, cooperation and communication variables which would be done in regards of mean value. If the grade of the respondents are below the mean value, then will be categorized in the poor group. And if the grade of respondents above the mean value, then will be categorized as good group.

Table 4. Results Categorization of Each Variables (n=151)

Knowledge Variable	Frequency	Percentage (%)	Average	Value Range
Good	64	42,4 %	9,08	5 – 10
Poor	87	57,6 %		
Guide and Procedure Variable				
Good Perception	109	72,2 %	4,89	0 – 6
Poor Perception	42	27,8 %		

Attitude Variable	Frequency	Percentage (%)	Average	Value Range
Good	95	62,9 %	11,88	0 – 15
Poor	56	37,1 %		
Motivation Variable				
Good	89	58,9 %	11,02	0 – 15
Poor	62	41,1 %		
Physical Work Area Variable				
Good Perception	72	47,7 %	18,32	0 – 27
Poor Perception	79	52,3 %		
Cooperation Variable				
Good	112	74,2 %	4,6	1 - 5
Poor	39	25,8 %		
Communication Variable				
Good	89	58,9 %	11,38	0 – 15
Poor	62	41,1 %		
Attitude Variable				
Good	103	68,2 %	3,95	1 - 5
Poor	48	31,8 %		

Table 4 shows that more than half of the respondents still have below average of knowledge regarding patient safety. But when seen from the high average of 9.08, it means that in general, respondents understood the basic principal of patient safety. Most of the respondents have good perception upon guidelines and procedures of patient safety, attitude, motivation, and cooperation. But, some of the respondents still have poor perception upon physical work area.

In the table above also listed that most of the respondents have good attitude in implementing the patient safety program. This shows that respondents are adequately identify the patients using two kinds of identity, handwashing with the standard from WHO and five moments of handwashing, also able to describe to the patient or family of patients regarding the risk of falling.

Chi Square test is done to understand the correlation between each of the independent variables towards the dependent variables. The value of p will be compared to the value of alpha (0,05), where if the value of p < alpha, it is said that there is a correlation between independent and dependent variable and vice versa, if p > alpha than it is said that there is no correlation between the independent and dependent variable.

Table 5. Chi Square Test Results

No.	Variable	p-value	Description
1	Guidelines and procedures	0,106	No Correlation
2	Attitude	0,000	Correlated
3	Motivation	0,001	Correlated
4	Work Experience	0,969	No Correlation
5	Age	0,053	No Correlation

No.	Variable	p-value	Description
6	Gender	0,079	No Correlation
7	Education	0,525	No Correlation
8	Knowledge	1,000	No Correlation
9	Physical Work Area	0,892	No Correlation
10	Cooperation	0,247	No Correlation
11	Communication	0,089	No Correlation

Based on the statistical analysis results, it is obtained that from the 11 tested variables, there are only 2 variables that have a correlation with the behavior of the employees in implementing the patient safety program, which are attitude and motivation. However, for the variables with the value of $p > 0.25$ will still be continued to Multivariate Test. This means that guidelines and procedures, age, gender, cooperation and communication will be entered to multivariate test.

This test is conducted a modeling which enter all the variables that have passed bivariate selection followed by the release of variables that have sig value. > 0.05 incrementally, starting from the variable with the largest sig., but still keeping in mind the change in the value of coefficient B on other variables should not be more than 10%. If there is a change in the value of coefficient B over 10%, then the variable must be put into the model again because it is a confounding. The modeling method used is called stepdown method.

Table 6. Multivariate test results

No.	Variable	B	S.E	Wald	df	Sig.	Exp (B)	95% CI for Exp (B)	
								Lower	Upper
1	Age	-1,417	0,403	12,380	1	0,000	0,242	0,110	0,534
2	Attitude	1,518	0,292	27,106	1	0,000	4,563	2,577	8,080

Based on the table above, it can be seen that there are two variables with p value $< 0,05$ which means it has significant influence towards employee behavior in implementing patient safety program. Both variables are age with $p = 0.000$ and attitude with p value = 0.000 . Based on the table above, it can estimate employee behavior using age and attitude variables. The interpretation for each variable are:

- a. Employees with a good attitude will cause employee behavior in applying patient safety 4.5 times better than employees who have less good attitude after controlled by age variable;
- b. Every 1 year of age increasement, the behavior of the employee in applying patient safety will decrease by 0.2 times.

Discussions

Policies, guidelines and procedures are important factors to ensure the patient safety program goes according to the existing corridor. Patient safety policies, guidelines and procedures have been made by hospitals on the basis of government regulation. Routine socialization is conducted since the hospital began to make preparations towards accreditation. Socialization is conducted by involving all hospital employees through daily intensive meetings done by each working unit and also weekly routine meetings done with management and other units. However, when the priority of the hospital changed to focus on the preparation of cooperation with BPJS Kesehatan and hospital type change into General Hospital, the socialization becomes not routine and hospital employees seem to forget the accreditation, especially the patient safety. The distribution of guides and procedures to units has not been done so that the guidelines and procedures are difficult to find and being implemented, in addition, the availability of facilities and infrastructure that are not yet routinely made makes the procedures implementation is harder.

According to Gibson et al., (1997), the age factor affects behavior because in principle, if a person gets older, it will increase the maturity and the absorption of information that will affect his behavior. In contrast to the literature, based on the results of research, it is known that the research respondents generally include the age group ≤ 40 years, with the most age range is between 21-25 years of 63 respondents. The statistical results indicate that age has a negative relationship to employee behavior in implementing patient safety program which every 1 year of age increasement, the employee behavior in applying patient safety will decrease as much as 0,2 times. This may happen because the young employees tend to be more obedient, more thorough, open with changes and have a great desire to learn.

According to Notoatmodjo (2007), education determines the breadth of knowledge, in which a person with low education is very difficult to accept something new. This principle indirectly affects employee behavior. Education in this term is a formal education obtained in school. Unlike the theory, the results showed that education has no relationship to employee behavior in implementing patient safety program. In fact, it is not only formal education that needs to be considered in working, but also supportive training, socialization or intense coaching will also contribute to improve the knowledge and skills of employees.

Knowledge is a dominant and very important thing in the formation of someone's action. From the experience of some researches, apparently, actions that are not based on good knowledge will not produce

good results. Basically, employees at Insan Permata Mother and Child Hospital understand the basic principles of patient safety, especially regarding patient identification, hand washing and reduction of falling patients risk. It is seen from the high average value, which is 9.08, there are approximately one-third of employees are still lacking or unaware of the order of Patient Safety Goals by *KARS* Standard Version 2012, this may be due to lack of socialization. In addition, the high turn over of the employees causing a lot of new employees never received any socialization about patient safety. Socialization is not only in the form of regular meetings, but also in the form of information and education media such as banners or posters about the safety of patients placed in strategic places so that it can be seen by everyone. Insan Permata Mother and Child Health Hospital itself has only one patient safety poster in the pharmacy waiting room, and several posters of five handwashing moments and six handwashing steps according to WHO in other units.

The depiction of patient safety behavior in general is good, the employees are basically have enough awareness and responsibility to provide safe service to patients. But the controlling activities are still weak, even from the unit level, awareness and sense of responsibility that already existed gradually can be reduced. If we see the age variable, most of the age range is between 21 - 25 years, which if calculated roughly, the age range is in accordance with the calculation of the age of first graduate employee with the level of education Diploma or Bachelor. Therefore, strong controlling is necessary in directing employees to implement safety behavior appropriately, especially for young employees.

Attitude is the view or feeling of someone which accompanied by a tendency to act toward something (Barsky et al., 2011). An attitude is not necessarily manifested to be an action automatically (overt behavior). To realize the attitude into a real action, the supporting factors or a possible condition is required, e.g facilities (Notoatmodjo, 2007). The lack of understanding related to patient safety due to lack of socialization, not optimal monitoring and evaluation, and not supportive facilities and infrastructure is possibly causing less good attitude in a few number of respondents. This is in line with the results of research which states that attitudes have a significant relationship (4.5 times) toward employee behavior in implementing patient safety program. As long as the view of employee regarding patient safety is not good enough, the employee behavior will also be less good as well.

The intensity describes how hard a person is trying and being a central element in motivation, but a great power will not produce satisfactory performance results unless the effort is channeled in a direction (Pinder, 2008). The direction in this term is monitoring from the superiors.

In carrying out its functions, the management is expected to have sufficient capability in directing employees. One of the abilities in this term is the ability to motivate existing human resources. With the motivation given, it is expected that employees will be eager in implementing the patient safety program. This is in accordance with the results of research that motivation has a relationship to employee behavior in implementing patient safety program. Based on the results of the study, some respondents who still have poor motivation caused by the lack of awareness and understanding of patient safety importance due to lack of direction and monitoring from the supervisors and management directly, and also the lack of availability of facilities and infrastructure that support. From the in-depth interview it is known that up to now the head of the room (Karu) is not always stand-by at the unit headed at office hour due to Karu being included in the shift schedule, and the team head (Katim) appointed to each shift also can not fulfill the monitoring function maximally.

As stated by Notoatmodjo (2007) that to realize the attitude into a real action, the supporting factors or a possible condition is required, e.g. facilities. This indicates that complete facilities and infrastructure are essential to the continuity of the patient safety program. Most respondents said the workspace is often less cold and noisy so the employees may feel less comfortable in working. It was also found that hand washing soap, tissues and handrubs were not routinely replenished, some of the sinks did not work properly, and there were no sign on the footing of the staircases and sloping floors. When confirmed to the informants, it is justified. Actually, the hospital has tried to equip facilities related to patient safety, but until now it has not reached 100% and still in procurement process. Although statistical results indicate that there is no correlation between perceptions of physical work environment and employee behavior in implementing patient safety program, but in the implementation, it is clear that the unavailability of facilities and infrastructure are obstacles.

Cooperation is one of the factors that affects someone to be able to work more productively, effectively and efficiently. If we associate it with the age of respondents who are dominated by the age range 21-25 years old, in which at those ages are the age of first graduate who have not had work experience so that they have never been exposed to previous cooperation system. In general, employees with first graduate are more prominent in their personal ability compared to teamwork, but with coaching and monitoring from the supervisors directly, then it can be transferred to the ability to work with colleagues.

Communication is essential for work efficiency and coordination between implementers, teams and leaders. Communication is considered to be effective if it has

some aspects in it, namely clarity, accuracy of information, context, flow and culture in the delivery. In Insan Permata Mother and Child Hospital, the communication that runs mostly via oral so that the potential for error is very large. In addition, some written instructions are often difficult to read which results in the information delivered can not be accepted by the information receptor. Although statistical results show that perceptions of communication have no relationship to employee behavior in implementing patient safety programs, but in practice, poor communication remains a constraint.

CONCLUSIONS

Insan Permata Mother and Child Hospital strongly supports the patient safety program, seen from the availability of policies, guidelines and procedures in accordance with government regulations to regulate the implementation of patient safety programs, accompanied by the completion of facilities related to patient safety.

Based on the results of the research, it is known that most respondents have applied good patient safety behavior. From the results of statistical analysis, it is found two variables that have relationship to employee behavior in implementing patient safety program, namely attitude and motivation. However, after further analysis, it was concluded that the most significant effect on patient safety behavior was attitude and age. However, although other variables are considered to have no relationship to patient safety behavior, a corresponding increasement is needed to reduce the constraints.

The lack of socialization, monitoring and some facilities and infrastructure which are not routine available are the things we need to pay attention into because it is related to the understanding and awareness of employees in implementing patient safety program.

RECOMMENDATIONS

From the conclusions above, there are some recommendations that can be taken into consideration for the hospital:

1. Improving the understanding of employee about patient safety by re-activating socialization activities regularly and adding socialization media such as banners or posters of patient safety placed in strategic places;
2. Incorporating the socialization of patient safety program into the new employee's initial orientation activities so that all new employees will be exposed to patient safety early on;
3. Improving the monitoring efforts through optimizing the role of incharge staff on each shift. The team leader is not only focus on the service only, but also monitor the implementers and the availability of facilities related to the

implementation of patient safety;

4. Distributing patient safety procedures equally to all hospital units in order to increase the knowledge and understanding of employee about patient safety;
5. Completing facilities and infrastructure related to patient safety so it is expected to reduce obstacles in the implementation of patient safety program.

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