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Relationship Between Nurses Percerptions IPCLN Supervision with Adherence towards Hand Hygiene at the Hospital in Tasikmalaya City

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Abstract

Backgound: Infection Prevention and Control Program (ICP) is very important to be implemented in hospitals to protect patients, officers, visitors, and families from the risk of infection. IPCLN (Infection Prevention and Control Link Nurse) as a PPI program implementer in a hospital is expected to be able to carry out its duties to monitor health personnel compliance with standard precautions. **Objectives:** This study aims to identify the relationship between nurses' perceptions of IPCLN supervision and compliance with hand hygiene of nurses at the Hospital in Tasikmalaya City.**Methods:** The research method used is quantitative research with a descriptive correlation design using a cross sectional approach with a population of implementing nurses in 16 inpatients with a total sample of 152 implementing nurses. Analysis of research data with nonparametric statistics, with Mann Whitney's test.

Results: Results nurse's perception of effective IPCLN supervision was 50.7%, and adhrence hand hygiene is mean 69.96%. The relationship between IPCLN supervision and compliance with hand hygiene ρ-value 0.006. **Conclusion:** The implications of this study indicate that nurses 'perceptions of effective supervision will be able to improve compliance with nurses' hand hygiene when taking nursing care actions. To hospital management there needs to be an increase in understanding of IPCLN about the importance of supervising implementing nurses when providing care with resocialization of tasks and IPCLN functions.

Keywords: Adherence, Hand Hygiene, Nurse, Supervision.

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1. Introduction

People who receive health services, health workers and visitors to hospitals are faced with the risk of infection. Healthcare Associated Infections (HAIs) are infections that occur in patients during hospital care and other health care facilities where when there is no infection and not in the incubation period, including infection in the hospital but

appears after the patient returns home, also infection due to hospital staff and labor health related to the process of health services in health care facilities [1].

The impact of HAIs can pose a risk of exposure to infection that is not only experienced by patients but also for health workers, families, and visitors [2]. According to [3] that HAIs also have an impact on patients and families will lose income, danger, disability or death, increased length of care, additional expenses for the hospital and can reduce the image of the hospital. The incidence of HAIs is not limited to patients but also to health workers who are obtained when providing services to patients.

Data from the World Health Organization [4], The prevalence of HAIs in developed countries varies from 3.5% to 12%. The European Centers for Diseases Control reports the average prevalence in European countries is 7.1%. The prevalence of HAIs is in the range of 5.7% and 19.1%. The results of the HAIs survey in America published in 2014 are estimated to have around 722,000 infections and around 75,000 patients die while being hospitalized [6].

The Ministry of Health of the Republic of Indonesia conducted a survey in 2013 at 10 Education General Hospitals, obtained that the number of HAIs was quite high at 6-16% with an average of 9.8%. Surveys conducted in 11 hospitals in DKI Jakarta showed that 9.8% of inpatients received new infections during treatment [6]. The incidence of infection in Indonesia according to [7]. Mother Prabumulih found that the incidence of plebitis infection was 21%, which exceeded the standard incidence of infection set by the Ministry of Health. It was also strengthened by the research of [8] at Ungaran Hospital with respondents having 47% infection.

Research conducted to see the level of compliance of nurses in implementing standard precautions. Like the 2014 [9] study at National Hospital in Kabul, it was found that health workers were not compliant in implementing standard precautions. Reducing the possibility of transmission of the virus through exposure to body fluids, blood and other common organisms, the Centers for Disease Control and Prevention (CDC) recommends preventing infection in providing health services by adhering to the implementation of standard precautions [4]. Research conducted by [10] found that nurses' compliance in performing hand hygiene was only 48.3%. While research conducted by [11], it was found that the level of compliance implementing hand hygiene at the Regional General Hospital dr. Iskak Tulungagung is still very low at 36%.

The application of compliance by health workers to carry out standard precautions for the role of IPCN and IPCLN is very important especially to provide motivation, remind and monitor. IPCLN is a daily executive nurse or liaison with IPCN from each inpatient unit in the hospital. According to [12] an ideal IPCLN personnel must be diligent, enthusiastic

and as a volunteer who is motivated and has an interest in infection control problems. According to Dawson (2003) IPCLN should be a pioneer of ”opinion leader” which is shown by providing education to fellow co-workers and can show changes in behavior in the inpatient room.

Research by [13], at the University of Oxford found the effectiveness of the supervision system affecting the level of compliance with the implementation of service standards by health workers. The results of Afriani's research in the City of Padangsidempuan have a significant relationship between motivation and supervision of the compliance of medical personnel in implementing service standards.

The purpose of this study was to identify the relationship between nurses perception of nurses on supervision of Infection Prevention Control Link Nurses (IPCLN) with adherence hand hygiene of nurses in Hospital dr Soekardjo Tasikmalaya City.

2. Methods

2.1. Study Design

The study used quantitative methods with a descriptive correlation design with a cross sectional approach, to see the relationship between nurses' perceptions of IPCLN supervision and hand hygiene adherence of nurses at The Hospital in Tasikmalaya City. The independent variable in this study is the perceptions of the nurses implementing IPCLN supervision, and the dependent variable in this study is the compliance of nurses in hand hygiene.

2.2. Sample

The samples in this study were nurses implementing at the Hospital in Tasikmalaya City in 16 inpatient rooms. The research sampling technique using proportional stratified random sampling is done to balance the number of members of the population based on strata. Executing nurse samples were 152 nurses from a total population of 245 nurses in patient room. Calculation of sample formulas according to [14]:

$$n = \frac{N}{1 + N(d^2)}$$

Information:

n = sample

N = population

d = signifiant 0,05

The inclusion criteria in this study were nurses in the inpatient room with a work period of more than one year and willing to become respondents. Exclusion criteria in this study were the head of room and IPCLN room.

2.3. Instrument

Instrument A used is a questionnaire to measure the perceptions of implementing nurses about IPCLN supervision by adopting the Manchester Clinical Supervision Scale (MCSS) developed by [15]. The Manchester Instrument Clinical Oversight Scale consists of 26 definitions in three components of the Proctor model (normative, formative, and restorative) of clinical supervision. The calculation uses a Likert scale with scores of 1 to 4. The Manchester Clinical Supervision Scale perception instrument was not tested for validity and reliability, because previously a validity and reliability test had been conducted in a study conducted by [16] at the Medan Workers Imelda Hospital, with a value of r = 1. The Manchester Clinical Supervision reliability test Scale (MCSS) with Cronbach's alpha value: 0.93. Instrument B which is used for observation measures nurses' compliance in carrying out the alertness of hand hygiene standards by using an audit / observation format from WHO. The audit format is a hand hygiene audit format using a standard observation sheet from WHO in the WHO Guidelines on hand hygiene in health care.

2.4. Data Collection Procedure

The study of nurses' perceptions of IPCLN supervision, with the questionnaire sheets given by the researchers themselves to each inpatient room to be filled by nurses between breaks and hours not busy nurses both in the morning and evening shifts. The researcher asked the head of the room for help to determine the research respondents according to the inclusion criteria. So the determination of respondents is done by the head of the room. After the nurse is determined to be the respondent, the researcher contracts with the respondent, and provides a questionnaire to complete. The completed questionnaire was coded by the researcher, and was used as the basis for determining respondents for observation.

Observing compliance with hand hygiene, the researchers requested assistance from four IPCN Dr Soekardjo Hospital to assist researchers in observing hand hygiene

compliance. Determination of respondents to be observed based on respondents who have filled out a questionnaire from each treatment room.

In this study, researchers uphold ethical principles to humans as research subjects. ethical principles that will be upheld by researchers, respect for autonomy, privacy, benefit, non-malficence, and juctice.

2.5. Data Analysis

Univariate analysis, the data is described in the form of tables, graphs, and narratives to evaluate the proportion of each factor found in the sample for each variable. Bivariate analysis, if the data is not normally distributed the Sig value is less than 0.05 using the nonparametric statistical test with data analysis using the Mann Whitney test. Kolmogorov-Smirnov normality test results obtained 0.003 <alpha 0.05 concluded that the data were not normally distributed, so the data analysis used the Mann Whitney test.

3. Results

The results of the nurse nurses' research questionnaire about IPCLN supervision were at an average value of 73.11, the median value of the questionnaire results was at 73, the lowest was 51 and the highest was 104 (Table 1). The description of perceptions of implementing nurses half of the respondents perceived supervision by IPCLN as effective with 77 respondents (50.7%), and perceived supervision by IPCLN as ineffective with 75 respondents (49.3%) at The Hospital in Tasikmalaya City (Table 2).

The difference in compliance in the category of hand hygiene with the nurse nurse's perception of effective IPCLN supervision with an average compliance value of 72.12%, a median of 75%, and a minimum score of 40-92%, is greater than the perception of the implementing nurse about ineffective supervision of IPCLN with an average value of 67.75%, a median of 66%, and a minimum - maximum value of 45 - 92%.

Seen from the indications of compliance with the five moment hand hygiene observations of nurses at the Hospital in Tasikmalya City prior to contact with patients with 55.8% (table 5). These results are in line with research conducted by Ponco (2016) at Bojonegoro Hospital, that the results of direct observation of the implementation of hand hygiene five moments before treatment were obtained that nurses were not good in the implementation of hand hygiene at the moment before touching the patient and before performing aseptic measures with a mean value average 56.5%.

The results of the mann-whityney test showed that there was a correlation between the perception of the implementing nurses regarding supervision of IPCLN and compliance with hand hygiene with a p-value of 0.006, <from alpha 0.05, so the hypothesis was accepted (Table 4). These results indicate that there is a relationship between the perception of implementing nurses about the supervision of IPCLN with the compliance of nurses' hand hygiene at the Tasikmalaya City Hospital. The results of the analysis can be concluded that the more effective the supervision conducted by IPCLN, the better the nurses' hand hygiene compliance.

Table 1: Frequency Distribution of Questioner Statistical Test Results of Executing Nurse Perception (n= 152) About IPCLN Supervision at The Hospital in Tasikmalaya City.

Statistik	Nilai
Mean	73.11
Median	73
Minimum – maximum	51 – 104

Table 2: Overview of Executing Nurse Perceptions of IPCLN Supervision at The Hospital in Tasikmalaya City.

Perception Nurses to Supevision IPCLN	Frekwensi	Persentase (%)
Efektive	77	50.7
Inefektive	75	49.3

Table 3: Overview of Frequency of Compliance with Standard Handling of Hygiene in Hand Hygiene at The Hospital in Tasikmalaya City May - June 2019.

Compliance Category	Mean (%)	Median (%)	Nilai Minimum – maximum (%)
Hand Hygiene	69.96	71	40 – 92

Table 4: Relationship between Executing Nurse Perceptions About IPCLN Supervision with Hand Hygiene at The Hospital in Tasikmalaya City.

Compliance	Perception Nurses to Supevision IPCLN	Mean (%)	Median (%)	Minimum Maksimum (%)	ρ-value
Hand Hygiene	Inefektive	67.75	66	45 - 92	0.006
	Efektive	72.12	75	40 - 92	

TABLE 5: Distribution of Frequency Compliance with Nurse Standards (Hand Hygiene) at The Hospital in Tasikmalaya City, May - June 2019.

No	Indikator Five Moment Hand Hygiene	Kategori				Total	
		Obedient		Disobedient			
		n	%	n	%	N	%
1	Before contact with patients	239	55.8	189	44.2	428	100
2	Before aseptic task	219	63.3	127	36.7	346	100
3	After Bodyfluid exposure risk	189	76.8	57	23.2	246	100
4	After patient contact	335	78.3	93	21.7	428	100
5	After contact with patient sourrondings	261	70.7	108	29.3	369	100

4. Discussion

The results of research carried out in line with previous studies, such as research Hand hygiene is in line with the Pitted (2011) study on 40 hospitals reporting that the compliance of health workers who performed hand hygiene before and after patients varied between 24.5% to 89% (average 56.6%). The results of this study were corroborated by the study of [10] in Imanuel Hospital Bandung, nurses' compliance in hand hygiene was 48.3%. This is in line with the research of [17] in X Hospital in Malang, a potential factor related to hand hygiene compliance was lack of knowledge of nurses, the absence of periodic hand hygiene audits known to nurses, and the absence of supervision of the head of the room towards implementation hand hygiene in the hospital inpatient room.

Nurses do not realize that their hands can make patients contaminated with germs from previous patients, previous actions, or items around the patient. The increasing number of patients contaminated due to nurses not compliant with hand hygiene will cause the number of HAIs in hospitals to increase, and reduce the quality of nursing services.

The results of research at The Hospital in Tasikmalaya City compliance with hand hygiene in nurses before contact with patients at 55.8%. Implementation of supervision and availability of handrud alcohol facilities is a factor causing non-compliance of nurses in implementing hand hygiene. In an effort to improve nurses' compliance with hand hygiene, it is necessary to have a policy from the leadership by increasing the role of IPCLN in the program and providing facilities to support the implementation of hand hygiene.

The results of the study stated that the perception of implementing nurses at The Hospital in Tasikmalaya City, felt the importance of effective supervision from IPCLN to improve professionalism, skills and knowledge development, and support in the implementation of hand hygiene when providing nursing care. Supervision is an important part of helping to improve good clinical governance by providing support for the provision of safe and effective health services [18]. In line with Dawson's research, effective supervision means the implementation of actions will be according to plan and in accordance with standards. Which will have implications for no cross-transmission of infectious agents to patients, officers, families and visitors.

The results of this study indicate that to increase the effectiveness of supervision of IPCLN, the IPCLN must carry out its main tasks and functions to carry out infection prevention and control programs at The Hospital in Tasikmalaya City. The ability of supervision of IPCLN needs to be improved, in this case the competencies that need to be improved are knowledge, entrepreneurial, intellectual, socio emotional, and interpersonal competencies so that supervision can be more effective and efficient. In addition, an evaluation of the implementation of IPCLN supervision is conducted every six months.

Compliance with nurses' hand hygiene can be improved in addition to supervision, as well as continuing the implementation of Standard Operating Procedure (SPO) regarding standard precautions. Compliance behavior is temporary because this behavior will persist if there is supervision. If supervision is lost or loosened, non-compliance will occur. This is also justified by research that there is a relationship between organizational factors and nurse compliance [19].

5. Conclussion

The results of the study show that it is in line with the statement that the perceptions of the nurse nurses about effective supervision relate to the compliance of the implementing nurses in applying the alertness to hand hygiene standards. Supervision activities by IPCLN need to be conducted routinely, so that the implementing nurses can work according to the SPO in implementing standard precautions at The Hospital in Tasikmalaya City.

Increasing the effectiveness of supervision by IPCLN can not be separated from the role of management in the hospital, especially the PPI Committee to continue conducting audits and evaluations of IPCLN. Activities in order to improve IPCLN capabilities can be

carried out in the form of in-house trainning to increase the implementation of clinical supervision and infection prevention and control management programs in hospitals.

Conflict of Interest

The authors have no conflict of interest to declare.

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