

ANALYSIS OF NURSE'S EFFORTS TO CONTROL NOSOCOMIAL INFECTIONS IN THE COVID-19 PANDEMIC PERIOD IN HOSPITAL

Rafi'ah Rafi'ah^{1*)} & David Hariyanto¹

¹Nursing Study Program, STIKES Griya Husada, Sumbawa, Indonesia
Jl. Kebayan, Brang Biji, Kec. Sumbawa, Kabupaten Sumbawa, Nusa Tenggara Barat

Abstract

Nosocomial infection is an infection acquired from the hospital. The risk of nosocomial disease can occur in addition to patients treated in the hospital. It can also happen in hospital staff, including nurses. The purpose of this study was to identify respondent characteristics and analyze the relationship between the knowledge and skills of nurses on efforts to control the Nosocomial infection chain during the Covid-19 pandemic. This research is quantitative research with observational analytic and using a cross-sectional research design. The sampling technique used in this study was cluster random sampling with a sample size of 51 respondents. Data analysis in this study used the SPSS test with Spearman Rank analysis. This study indicated that the majority of respondents are in the age range between 20-30 years, as many as 34 respondents (66.7%). The majority of them are female, as many as 35 respondents (68.6%). Most respondents were a Bachelor's degree, as many as 26 respondents (51.0%). Lastly, most respondents had a service period of > 5 years, as many as 25 respondents (49.0%). The results of the Spearman Rank analysis show that the p-value is 0.015, which means less than < 0.05, which means that there is a significant relationship between knowledge and skills of nurses in nosocomial infection chain control efforts during the Pandemic Covid-19. Therefore, apart from providing personal protective equipment (PPE), hospital management must educate health workers, especially nurses, about controlling the chain of nosocomial infections and Covid-19.

Keywords: Nosocomial Infection; Nurse; Knowledge; Skills

*) Corresponding author:
Email: rafiastikesghs@gmail.com

1. Introduction

Nosocomial infection (Nosocomial Infection) is an infection acquired from the hospital. Nosocomial infection is an important problem throughout the world, besides increasing morbidity and mortality, it also consumes a large amount of funds. Based on research conducted by the National Nosocomial Infections Surveillance (NNIS) and the Center for Disease Control and Prevention's (CDC'S), there were 5-6 cases of nosocomial infection from every 100 visits to the hospital (Mardan, 2001).

According to Hastuti et al., (2020), stated that nosocomial infections cause 1.4 million deaths every day in the world. In Indonesia, a study in 11 hospitals in Jakarta in 2004 showed 9.8 percent of hospitalized patients had nosocomial infections. The risk of nosocomial infection can occur in addition to patients who are hospitalized, it can also occur in hospital staff. Various patient control procedures allow officers to be exposed to germs from the patient (Habni, 2009). The Infection Prevention and Control Program (PPI) is very important for hospitals, the risk of nosocomial infections can be minimized by implementing infection prevention and control (Ramayanti et al.,

2019).

The world community and also Indonesia in 2019, exactly a year ago there was an outbreak of the corona virus (Covid-19), namely the Corona virus Disease that was Discovered in 2019. Signs and symptoms possessed by Covid-19 include signs and symptoms of infection including respiratory symptoms, fever, cough, shortness of breath and difficulty breathing. In more severe cases, infection can lead to pneumonia, acute respiratory syndrome, kidney failure, and even death (Hanevi, 2020).

Ladimo (2020) suggests that everyone experiences different symptoms for each individual, for example indigestion and kidney disorders are only a few that experience. There are even some cases without symptoms, this virus attacks people with low immune systems. Elderly. Small children, people who get tired easily and people who are on the move. The average incubation period for disease is 2-14 days after exposure.

The corona virus has been infected quite massively in the world so that the status of the corona virus is said to be a pandemic. Pandemic is a term used

when an outbreak or virus has spread globally. According to (Moudy & Syakurah, 2020) stated that globally until April 15, 2020, confirmed cases reached 1,991,275 cases spread across 205 countries and 2 international transportation, with 127,147 deaths.

The Indonesian National Nurses Association (PPNI) explained that based on data as of May 8, 2020, the number of health workers (nurses) exposed to Covid-19 continues to grow. The number of people under monitoring (ODP) is 596 people, patients under surveillance (PDP) are 48 people, people without symptoms (OTG) are 97 people, positive 53 people, and 19 people died (Pesulima & Hetharie, 2020).

Health service institutions play a role in increasing the level of health through quality services according to predetermined standards and must be applied by all health workers. Hospitals can be a source of infection if medical measures are not carried out according to procedures (Ramayanti et al., 2019). Medical personnel, especially nurses, are at the forefront of health services including covid-19 patients so that they are a group at risk of being exposed and infected and also transmitting the corona virus. Based on this, it is necessary to analyze the efforts of nurses in controlling the chain of nosocomial infections in the hospital.

2. Metode

This research is a quantitative research with observational analytic and using cross sectional research design. The purpose of this study was to identify respondent characteristics and analyze the relationship between the knowledge and skills of nurses on efforts to control the Nosocomial infection chain during the Covid-19 pandemic. The population in this study were nurses who worked in the health sector (hospital) with the criteria of being active nurses, with diplomas, degrees, and masters degrees.

The sampling technique used in this study was cluster random sampling. Of the 70 total population of nurses who were research respondents, 51 respondents returned the questionnaire using the online google form. Analysis of the data in this study using the SPSS test with Spearman Rank analysis.

The instrument used in this study was a questionnaire. Kuesioner consists of three parts: the first is demographic data containing the identity of the nurse, two nurses and a third questionnaire knowledge skills of nurses in an effort pengendalian chain nosocomial infection during a pandemic covid-19. This research was conducted in April-August 2020.

The questionnaire for the respondent's demographic data consisted of the respondent's initials, age, gender, education level and length of work, and had attended training in nosocomial infections. Knowledge Questionnaire consisted of 30 questions with category statement with

the answer (yes) be given a score of 1 and an answer (not) be given a score of 0. The questionnaire skills of nurses dengan choice answers are always (SL), Often (SR), Never (TP) consists of 25 question items compiled by (Habni, 2009).

Bivariate analysis was carried out using the Spearman Rank to determine the relationship between the knowledge variable and the nurse skill variable in efforts to control nosocomial infections during the Covid-19 pandemic.

3. Result and Discussion

Description of the Characteristics of Respondents in Research Subjects by Age.

Table 1. Characteristics of Research Respondents by Age

Category	Frequency	Percentage (%)
20-30	34	66.7
30-40	15	29.4
>40	2	3.9
Total	51	100

Table 1 shows that the majority of respondents were in the age range between 20-30 years as many as 34 respondents (66.7%), 15 respondents in the 30-40 year age category (29.4%) and 2 respondents in the age category > 40 (3, 9%).

Characteristics of Respondents Based on Gender

Table 2. Characteristics of Research Respondents Based on Gender.

Category	Frequency	Percentage (%)
Male	16	31.4
Female	35	68.6
Total	51	100

Table 2 shows that the majority of respondents are women, namely 35 respondents (68.6%) and men as many as 16 respondents (31.4%).

Characteristics of Respondents Based on Education

Table 3. Characteristics of Research respondents based on education.

Category	Frequency	Percentage (%)
Diploma	22	43.1
Bachelor	26	51.0
Masters	3	5.9
Total	51	100

Table 3 shows that the majority of respondents have a Bachelor's degree as many as 26 respondents (51.0%), 22 respondents (43.1%) with Diploma education and 3 respondents (5.9%).

Characteristics of Respondents Based on Working Period

Table 4 shows that the majority of respondents have a service period of > 5 years, as many as 25 respondents (49.0%), 17 respondents (33.3%) have worked > 1 year and 9 respondents (17.6 %).

Table 4. Characteristics of Research Respondents Based on Working Period

Categori	Frequency	Percentage (%)
<1 year	9	17.6
>1 year	17	33.3
>5 year	25	49.0
Total	51	100

Analysis of The Relationship between Knowledge and Skills of Nurse's Efforts to Control Nosocomial Infections in The Covid-19 Pandemic Period.

Table 5. Results of the Spearman Rank Test Analysis

Spearman Rank	N	r	p
Nursing Knowledge and Skills Relationships	51	0.339	0.015

Table 5 shows that based on the results of the Spearman Rank analysis, it is found that the p value is 0.015 which means less than <0.05, so it can be concluded that there is a significant relationship between knowledge and skills of nurses in Nosomial Infection Control Efforts during the Covid Pandemic 19.

A highly contagious disease caused by an identified corona virus named SARSCoV-2. Medical staff infections have attracted worldwide attention and are mostly nosocomial infections. One of the largest local hospitals that received many patients is Zhongnan Hospital at Wuhan University from nurses who were infected with 65.6% from nosocomial infections, 15.6% were infected outside the hospital and 18.8% had no known cause. Among the nosocomial infected nurses 85.7% had direct contact with confirmed covid-19 patients without effective isolation measures, 14.3% were infected through contact with patients and confirmed under strict isolation conditions (Sun et al., 2020).

The majority of research respondents indicated that the respondents were in the age range between 20-30 years and as many as 34 respondents (66.7%). Nurses as nursing care providers are closely related to the occurrence of nosocomial infections in the hospital, nurses are responsible for providing a safe environment for patients . Based on the research of Motamed et al (2006) it is stated that the 20-30 year age group has high knowledge and practice of alertness related to nosocomial infection control.

In carrying out infection prevention and control measures, nurses need to carefully understand the chain of infection. Menkes (2017) describes the guidelines infection prevention and control in health care facilities that the incidence of infection in health care facilities may be caused by the transmission chain components 6, if one link is disconnected or removed, then the transmission of the infection can be prevented or stopped.

This Corona virus is a contagious virus. The virus is spread by human-to-human transmission via droplets or direct contact, and infections are estimated to have an average incubation period of 6.4 days. Currently, infection control to prevent the spread of SARS-CoV-2 is the main intervention used (Lai et al., 2020).

Based on the results of the study showed that the majority of nurses in this study were female, namely 35 respondents (68.6%), of course at risk of infection . Research on " SARS-CoV-2 seroconversion in health care workers " Prevalence of infection points in health workers 2, 39% (Shields et al., 2020) Research AL Maskari et al (2020) argued ba hwa as much as 64% of the officers keseha tan infected are women. Health care workers infected were 38% nurses with an infection rate of 4.1%.

The education level of the respondents in this study was a bachelor degree 26 respondents (51%) with the majority working period > 5 years . namely 25 respondents (49%). This is contrary to the research of Ali Qassim et al (2020) This study states that the lowest level of education is 8% undergraduate graduates with a nurse work duration of 1-5 years as much as 30%. This study also suggests that the majority of nurses have insufficient knowledge about modes of transmission, spread of infection and nosocomial symptoms.

The results of the Spearman Rank analysis show that the p value is 0.015 which means less than <0.05, so it can be concluded that there is a significant relationship between knowledge and skills of nurses in Nosomial Infection Control Efforts during the Covid Pandemic 19.

Nurses in charge of providing services to the community must can be have professionally by possessing and applying nursing professional skills and using nursing ethics as a guide in carrying out nursing practice and professional life (Herpan & Wardani, 2013).

The knowledge of nurses with the results of controlling nosocomial infections shows that there is a significant relationship between knowledge and prevention of nosocomial infections (Agustina , 2019) . With the number of SARS-CoV-2 infected patients who need to visit the hospital, the incidence of nosocomial infections is expected to be high. Nurses and doctors are the most affected among the infected medical staff. Therefore, it is necessary to have a comprehensive and objective understanding of

nosocomial infections to guide epidemic prevention and control (Zhou et al., 2020).

Education and training programs also need to be provided to nurses to increase their knowledge and skills on nosocomial infection control. Nurses who participate in education and training early have a better knowledge than non-participating (Ali Qassim et al., 2020).

Health staff are at the forefront of dealing with patients affected by Covid-19. Doctors and nurses are at the forefront of dealing / direct contact in treating patients. In this case, the hospital requires efforts to develop Hospital Occupational Health and Safety (K3RS). PPE that must be used in dealing with this epidemic includes N95 masks, gowns, gloves, eye protection, aprons and boots. In fact, the PPE that is used is sometimes inappropriate. There are still minimal hospitals / health services with PPE for health workers (Putri, 2020)

4. Conclusion

The results of this study indicate that there is a relationship between knowledge and skills of nurses about Nosocomial infections during the Covid-19 pandemic. Therefore, apart from providing Personal Protective Equipment (PPE), hospital management must provide education and training to health workers, especially nurses on controlling the chain of nosocomial infections and Covid-19 to continue to improve nurse skills.

5. Suggestion

Hospitals can take not of the availability of personal protective equipment and the workload of nurses to prevent the risk of nosocomial infections during the Covid-19 pandemic. hospital management must provide education and training to health workers, especially nurses on controlling the chain of nosocomial infections and Covid-19 to continue to improve nurse skills.

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