COMPREHENSIVE HEALTH CARE e-ISSN : 2722-1563 p-ISSN : 2580-7137

Overview of the Source of Covid-19 Infection in H. Andi Sulthan Daeng Radja Hospital Nurses in 2020

Sitti Rahmawati [1], Asnidar[2], Hasriani [3], Erwa Nurwaji [3], Nurawaliah Rasyid [3]*

Nurse at H. Andi Sulthan Daeng Radja Bulukumba Hospital [1,3]
Lecturer of the Department of Pediatric Nursing S1 Nursing Study Program, High School of Health Sciences, Panrita Husada [2]

**Corresponding Autor : Asnidarnidar16@yahoo.com*

ABSTRACK

Corona Virus Disease-19 (Covid-19) is an infectious disease caused by the SARS-CoV 2 virus or corona virus. Until now, the number of nurses who were exposed to COVID-19 continued to increase. Nurses as the front line in handling COVID- 19 have a vulnerability to exposure. This study aims to describe the possible sources of Covid-19 infection in nurses at RSUD H. Andi Sulthan Daeng Radja during 2020. The research design was descriptive, the number of samples was 32, the sampling technique was total sampling. Data analysis is frequency distribution and percentage. The results showed that most of the 22 people (68.75%) the source of exposure to covid 19 in nurses were colleagues.

Keywords : Infection ; Covid-19

INTRODUCTION

Covid-19 can be transmitted through droplets or splashes when someone infected with COVID-19 sneezes, coughs or talks within one meter, the droplets are at risk of contacting the mucosa (mouth and nose) or conjunctiva (eyes), Covid-19 can also be transmitted through contact (touching) directly with someone who is infected and indirect contact through items that have been contaminated by the SARS COV 2 virus (Kemenkes RI, 2020), transmission through indirect contact can occur when touching objects contaminated with the SARS COV 2 virus (eg. equipment, furniture, stethoscope, thermometer) followed by touching the mouth, nose and eyes (WHO, 2020b) in addition, Covid-19 can also be transmittedthrough the air over a distance of more than 1 meter when aerosol procedures are performed such as bronchoscopy, endotracheal intubation , sputum induction using nebulized hypertonic saline solution, manual ventilation before intubation, , pressure ventilation positive non-invasive (BiPAP, CPAP), tracheostomy, cardiopulmonary resuscitation (CPR), dentistry and autopsy procedures. It remains unclear whether the aerosols produced

by nebulizer therapy or the use of high flow oxygen are infectious as data on this are limited (WHO, 2020a). Outsidehealth care facilities, aerosol transmission can occur in crowded spaces with inadequate ventilation for a long period of time, such as in restaurants, choirs, gyms, clubs, offices and places of worship (WHO, 2020d).

Along with the increasing number of Covid-19 cases in the community, thenumber of Covid-19 cases among health workers has also increased. According toWHO data in countries in Europe and America, it is estimated that 14% of Covid- 19 cases are health workers, where transmission of the SARS-Cov-2 virus to health workers occurs between patients and visitors to health workers or among health workers (WHO). , 2020c).

Health workers are at risk of illness, injury and even death due to COVID-19. These occupational risks include occupational COVID-19 infections, skindisorders and heat stress due to long-term use of PPE, exposure to toxins due to increased use of disinfectants, psychological stress, chronic fatigue, and stigma, discrimination, violence and physical abuse, physical and psychological abuse. (World Health Organization and International Labor Organization, 2021). Transmission to health workers also occurs in the community, including those from families (WHO, 2020c).

Based on data from the Indonesian Ministry of Health as of December 26, 2020, globally there were 78,797,776 confirmed cases with a death toll of 1,747,100 cases (CFR 2.2%) while in Indonesia there were 706,837 confirmed cases with 20,994 deaths (CFR 3.0%).) (Ministry of Health of the Republic of Indonesia, 2020a). Based on ICN data as of May 6, 2020, it shows that there are 90,000 confirmed cases of health workers with deaths of more than 260 nurses, this number is still increasing every day (Banjarnahor et al., 2021). The limited published data on COVID-19 infection among health workers is related to the difficulty in distinguishing transmission of infection in the community and health care facilities as well as differences in the confidentiality aspects of surveillance data for health workers (WHO, 2020c).

The increasing number of Covid-19 cases in Indonesia, especially in RSUD H. Andi Sulthan Daeng Radja Bulukumba, increases the risk to health workers, this risk comes from patients, visitors, fellow health workers and the community. This study aims to find out the description of the source of Covid-19 infection in the nurses of RSUD H. Andi Sulthan Daeng Radja during 2020.

METHODS

The design of this research is descriptive, namely collecting data related to the source of COVID-19 exposure to nurses working at RSUD H. Andi SulthanDaeng Radja through the contact tracking method which was carried out from February to December 2020. Data was collected using a questionnaire based on the covid 19 epidemiology investigation form. KEMENKES RI, the total population is 32 people and the number of samples is 32 people, the sampling technique is total sampling. Data were collected and analyzed based on frequency distribution and percentage.

RESULTS AND DISCUSSION

Table 1. Characteristics of Respondents (Nurses) exposed to Covid 19 at H. Andi Sulthan Daeng Radja Hospital in 2020

Characteristics	Frequency	Percentage
Age		
17 – 25	1	3,12
26 – 35	19	59,37
36 - 45	12	38,4
Gender		
Male	2	6,25
Female	30	93,75
Education		
D III Nursing	10	31,25
S1 Nursing	3	9,37
Nurse Profession	18	56,25
Magister of Nursing	1	3,12
Working duration		
$<$ 5 years	10	31,25
$\geq$ 5 years	22	68,75
Work unit		
Outpatient	3	9,37
Inpatient	9	28,12
Intensif Care	14	43,75
Emergency	3	9,37
Administration	1	3,12
Total	**32**	**100**

Respondents involved in this study were nurses at RSUD H. Andi Sulthan Daeng Radja who were confirmed positive for COVID-19, totaling 32 people. It isknown that in general nurses are in the age group of 26-35 years, as many as 19 people (59.37%). The majority of nurses are female, as many as 30 people (93.75%). The last education of nurses is generally the nurse profession, as many as 18 people (56.25%) with the majority of working years 5 years. In general, nurses on duty in intensive care are 14

people (43.75%). Distribution of Frequency and Percentage of Characteristics is shown in table 1.

Table 2. Distribution of Frequency of Respondents (Nurses) exposed to Covid 19 based on Sources of Exposure at H. Andi Sulthan Hospital Daeng Radja Year 2020

Source of Exposure	Frequency	Percentage
Patient	8	25
Peers	22	68,75
Family	2	6,25
Total	**32**	**100**

The data was obtained through contact tracing equipped with a Covid-19 epidemiological investigation form. From these results, it was found that as many as 22 nurses (68.75%) were exposed to Covid-19 from colleagues, 8 nurses (25%) were exposed to patients and 2 nurses (6.25%) were exposed from family. Distribution of Frequency and Percentage of Response Characteristics is shown intable 2.

DISCUSSION

Covid-19 spreads between humans when an infected person comes into close contact with another person where the virus spreads from the mouth or nose of an infected person through larger droplets (droplets) to smaller aerosols when the person coughs, sneezes, sings, talks. Close contact can result in inhalation, inoculation of the SARS-Cov-2 virus through the mouth, nose and eyes (WHO, 2020b). Aerosol transmission can occur in situations where aerosol-generating medical procedures are performed (WHO, 2020b).

Based on the results of the study, it was shown that most of the sources, namely 68.75% of the sources of COVID-19 exposure to nurses, came from colleagues, where in general nurses were less aware of their colleagues so they did not use personal protective equipment when interacting within 1 meter distance with temporary colleagues. when in contact with patients nurses have high vigilance, this is in line with this study conducted by Jin et al. (2020) in a study (Banjarnahor et al., 2021) showed that the route of transmission of 39 cases occurred through contact with colleagues. The incidence of covid-19 due to exposure from family is 6.25% because in general nurses do not use PPE when interacting with family within a distance of less than 1 meter. Meanwhile, the incidence of covid-19 in nurses due to exposure from patients was 25% because nurses did not use eye protection when in

close contact within 1 meter or did not use an N95 mask according to the standard for aerosol action. This is in line with research that reported that health workers contracted Covid-19 from infected patients when there were deviations in the use of personal protective equipment (eg health workers who did not use eye protection when interacting with patients who did not wear masks) or interacted closely with others. colleagues (Klompas M, 2021), is also in line with research (Sikkema et al., 2020) which shows that generally exposure to health workers comes from social interactions from fellow health workers, with families and communities outside the hospital.

CONCLUSIONS

Transmission of covid-19 to nurses at H. Andi Sulthan Daeng Radja Hospital generally occurs through exposure from colleagues as much as 68.75%, exposure from patients (25%), exposure from family (6, 25%). Suggestions in this study are that all officers including nurses should increase awareness of each individual including colleagues and family by implementing prevention and control of covid-19 infection including through the application of health protocols such as maintaining distance, doing hand hygiene and using personal protective equipment according to standards based on the level of risk of exposure anytime and anywhere so as to reduce the spread of covid-19.

REFERENCE

Banjarnahor, S., Studi, P., & Keperawatan, I. (2021). Analisa Penularan Covid-19 Pada Perawat Di Rumah Sakit. *Jurnal Perawat Indonesia*, *5*(1), 620–628. https://doi.org/10.32584/jpi.v5i1.857

Kementrian kesehatan RI. (2020a). *Data Covid-19*.

Kementrian kesehatan RI. (2020b). *Pedoman Covid 19 Revisi 5*. https://doi.org/10.29239/j.agrikan.9.2.i-iii

Klompas M, et al. (2021). *A SARS-CoV-2 Cluster in an Acute Care Hospital _ Annals of Internal Medicine*.

Sikkema, R. S., Pas, S. D., Nieuwenhuijse, D. F., O'Toole, Á., Verweij, J. J., van der Linden, A., Chestakova, I., Schapendonk, C., Pronk, M., Lexmond, P., Bestebroer, T., Overmars, R. J., van Nieuwkoop, S., van den Bijllaardt, W., Bentvelsen, R. G., van Rijen, M. M. L., Buiting, A. G. M., van Oudheusden,

A. J. G., Diederen, B. M., … Koopmans, M. P. G. (2020). COVID-19 in health-care workers in three hospitals in the south of the Netherlands: a cross-sectional study. *The Lancet Infectious Diseases*, *20*(11), 1273–1280. https://doi.org/10.1016/S1473-3099(20)30527-2

WHO. (2020a). Infection Prevention And Control During Health Care When Coronavirus Disease (COVID-19) Is Suspected Or Confirmed. *World Health Organization Interim Guidance*, *29 June 2020*, 1–5.

https://apps.who.int/iris/rest/bitstreams/1272420/retrieve

WHO. (2020b). Mask use in the context of COVID-19. *World HealthOrganization*, *December*, 1–10. https://www.who.int/publications/i/item/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of- the-novel-coronavirus-(2019-ncov)-outbreak

WHO. (2020c). Prevention, identification and management of health worker infection in the context of covid-19. *Guia Provisional*, *2*(1), 1–6. https://apps.who.int/iris/bitstream/handle/10665/331340/WHO-2019- nCov-HCW_risk_assessment-2020.1-eng.pdf

WHO. (2020d). Transmission of SARS-CoV-2 : implications for infection prevention precautions, Scientific brief 09 July 2020. No. WHO/2019-nCoV/Sci_Brief/Transmission_modes/2020.3. *WHO*, *July*, 1–10.

WHO Indonesia. (2021). *Pertanyaan dan Jawaban terkait Corona Virus*.

World Health Organization and International Labour Organization. (2021).COVID-19 : Occupational health and safety for health workers. *COVID-19:Occupational Health and Safety for Health Workers*, *February*, 1–16. https://www.who.int/publications/i/item/WHO-2019-nCoV-HCW_advice- 2021.1