

FACTORS ASSOCIATED WITH STUDENTS COMPLIANCE TO THE USE OF PERSONAL PROTECTIVE EQUIPMENT DURING CLINICAL PRACTICE AMONG ANESTHESIOLOGY NURSING STUDENTS

Nia Handayani^{1*})

¹Anesthesiology Nursing Study Program, Faculty of Health Sciences, Aisyiyah University Yogyakarta, Indonesia

Abstract

Personal Protective Equipment (PPE) is a set of required protective clothing to ensure worker safety. PPE is an essential need for healthcare staff that handles patients. PPE is one of the measures to control and prevent infections and protect health professionals from occupational safety and health hazards. During clinical practice in hospitals, using PPE when in contact with patients is crucial in preventing the spread of diseases and infections between students and patients. This study aims to determine the factors associated with Anesthesiology Nursing students' compliance to the use of personal protective equipment during clinical practice. This method of quantitative research takes a cross-sectional approach. The available data are presented as frequency distribution and cross-tabulation, then analyzed statistically using the pearson test. This research led to the submission of an article in a Shinta-indexed journal.

Keywords: Personal Protective Equipment; Compliance; Students; Anesthesiology Nursing

Article info: Sending on September 19, 2022; Revision on November 03, 2022; Accepted on November 30, 2022

*) Corresponding author:

E-mail: niahandayani@unisyayogya.ac.id

1. Introduction

Society uses the hospital as a referral service following the public health center to seek medical treatment for their illness. Hospitals are one of the health care services that provide a variety of individual services, including inpatient, outpatient, and emergency treatments, according to Minister of Health Regulation Number 30 of 2019. People believe the quality of hospital services will help them overcome their health problems (Listiyono, 2015). The hospital environment has a detrimental effect on the disease's spread. The dangers can be carried on by biological (viruses, bacteria, fungi, and parasites), chemical (antiseptics, regents, anesthetic gas), ergonomic (work environment, improper working posture), physical (temperature, light, noise, vibration, and radiation), and psychological (rotating work, workload, labor relations, relationships between workers and superiors) factors, which can lead to the development of occupational diseases (Zahara et al., 2017). When performing anesthesia, exposure to fluids and blood from the patient is inseparable.

Infection prevention and control in hospitals can be accomplished by improving

standard alert behaviors such as hand hygiene, PPE use, wound prevention from sharp objects, waste management, cleaning, disinfection, and sterilization of patient care equipment, and cleaning and disinfection of the environment performed by health workers (WHO, 2004). Knowledge, motivation, attitudes, communication, availability of PPE, and behavior are all factors that influence hospital workers' use of PPE (Wasty dkk., 2021). Several factors influence PPE compliance, including predisposing, enabling, and reinforcing factors. Predisposing variables are the fundamental factors that influence behavior formation, such as attitudes, knowledge, and individual traits, such as age, gender, and education. Enabling factors, such as the availability of PPE, allow individuals to carry out a behavior.

Clinical learning is essential in the curriculum of Anesthesiology Nursing Education for students to achieve competence. The clinical education process is a type of clinical teaching that involves conveying new knowledge and expertise to patients. Clinical practice learning is a process in which students engage with patients while being

guided and supervised by clinical supervisors (Haryani et al., 2014). Using personal protective equipment (PPE) when in contact with patients is essential in reducing the transmission of illnesses and infections to students and patients (Pratiwi et al., 2016). Students of anesthesiology nursing participate in providing anesthetic nursing care during clinical practices in the operating room; given the prevalence of infection transmission, this must be emphasized and considered a standard precaution.

2. Method

It is quantitative research with a cross-sectional approach. The attitude is the free variable, while the variable is linked to the level of compliance. Students from the Anesthesiology Nursing study program at 'Aisyiyah University in Yogyakarta who had learned through a clinical method, totaling 234 individuals, served as the study population in this study. A non-probability sampling group with a purposive sampling type is employed as a sampling technique. The sample size for this study was set at 150 participants. Sample was found using Slovin formula.

The compliance level questionnaire instrument was adopted from a study by Baunsele (2020). The motivation questionnaire instrument was adopted from Pratiwi's research (2016). The attitude and knowledge questionnaire instrument was adopted from the research conducted by Putra (2012). The questionnaire has been uploaded to a Google form. Specifically, pearson tests are used in data analysis to perform bivariate analysis to determine the relationship between free variables and bound variables. The study was conducted when it was determined as ethically viable with the numbers 2000/KEP-UNISA/III/2022.

Table 3. Average Scores for Knowledge, Attitude, Motivation, and Compliance Level

	N	Min	Max	Mean	Std. Deviation
Knowledge	150	7	14	11.15	1.43
Attitude	150	53	76	69.20	4.70
Motivation	150	45	80	72.17	6.09
Compliance Level	150	6	22	21.37	1.27

According to Table 4, the findings of the bivariate analysis using the *Pearson* test revealed no correlation between respondents' knowledge and compliance with using PPE during clinical practice, as shown by the p-value of the test, which was 0.144 ($p > 0.05$) with a close correlation of 0.120 and a positive correlation direction. The Pearson test p-value of 0.041 ($p < 0.05$), with a correlation intensity of 0.167 and a positive

3. Results and Discussion

Characteristics of Respondents

Table 1. Characteristics of Respondents According to Gender and Practice Hospitals

Characteristics	f	%
Gender		
Male	44	29.3
Female	106	70.7
Practice Hospitals		
Type B Hospitals	67	44.67
Type C Hospitals	69	46
Type D Hospitals	14	9.33

According to table 1, 106 respondents (70.7%) are women. In type C hospitals, there were 69 respondents (46%), and these characteristics were based on the hospital where most students completed their clinical practice.

Table 2. Characteristics of Respondents According to Age

Characteristics	N	Min	Max	Mean	Std. Deviation
Age	150	20	25	21.23	0.92

Table 2 indicates that the average age of the respondent is 21.23 with the youngest and oldest ages being 20 and 25, respectively.

According to Table 3, the average knowledge level of respondents was 11.15, with 7 representing the lowest knowledge score and 14 representing the highest. The respondents' average attitude score was 69.20, ranging from 53 for the lowest attitude score to 76 for the highest. The respondents' motivation scores ranged from 45 to 80, with an average of 72.17 as the lowest and highest scores, respectively. The average compliance score for respondents was 21.37; the lowest compliance score was 16, and the highest was 22.

correlation direction, indicates a relationship between respondents' views and compliance with using PPE during clinical practice. The *Pearson* test p-value of 0.107 ($p > 0.05$), with a relationship density of 0.132 and a positive correlation direction, shows no relation between motivation and respondent compliance in using PPE during clinical practice.

Table 4. Cross-tabulation of the Relationship of Knowledge, Attitude, and Motivation Regarding Personal Protective Equipment (PPE) to Compliance of Personal Protective Equipment (PPE)

		Knowledge	Attitude	Motivation	Compliance Level
Knowledge	Pearson Correlation	1	.050	.146	.120
	Sig. (2-tailed)		.540	.075	.144
	N	150	150	150	150
Attitude	Pearson Correlation	.050	1	.482**	.167*
	Sig. (2-tailed)	.540		.000	.041
	N	150	150	150	150
Motivation	Pearson Correlation	.146	.482**	1	.132
	Sig. (2-tailed)	.075	.000		.107
	N	150	150	150	150
Compliance Level	Pearson Correlation	.120	.167*	.132	1
	Sig. (2-tailed)	.144	.041	.107	
	N	150	150	150	150

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Health professionals use personal protective equipment (PPE) to protect themselves while performing their duties. Similarly, students conducting the clinical practice in hospitals cannot be separated from the risk of exposure to various microorganisms. To prevent and control the spread of infection, students who interact directly with patients in hospitals are emphasized the importance of compliance.

According to Astuti et al., (2018), knowledge is not the only element influencing compliance in using PPE; there are other supporting and driving variables. Although the level of knowledge is high, if the availability of existing facilities does not support it, it cannot be utilized appropriately. A person's attitude can be significantly influenced by the availability of helpful and accessible services. When covid-19 cases are rising, there is a shortage of personal protective equipment (PPE) among students practicing clinics at hospitals. Another study by Dewi et al., (2019) found that although people know about using personal protective equipment (PPE) before performing necessary actions, compliance with using PPE does not happen naturally. Instead, compliance with using PPE is supported by the presence of a strong driver as a person's willingness in accordance with the knowledge possessed.

The attitude a person has when performing a crucial task is taken into account when making decisions, according to research by Sulistyawati et al., (2021), and good decisions affect good behavior. Janah and Nur Janah et al., (2021) found that respondents with a positive attitude toward PPE use were aware of the risks posed by not wearing complete PPE and avoided the possibility of transmitting infectious diseases while in the hospital. They are aware of the dangers they may encounter when operating clinics in hospitals

because they are health students. The attitude encourages students to respond positively to compliance with the use of PPE.

There are several things that might affect someone's motivation, and one of them is something inside of them. Because high motivation can have an effect on better behavior in the use of PPE, internal variables themselves can take the shape of experience and education gained while working as well as from prior educational experiences (Kustriyani et al., 2018). Due to the fact that students practice in a hospital, Mau & Prayogi (2018) claim that strong motivation is required to increase compliance in the usage of PPE. This is because students must realize and understand that the work they are doing is risky. External factors, such as the practice area's rules requiring students to wear PPE when interacting with patients, serve to further motivate students. Motivation as a driving element in engaging students to carry out clinical practice in hospitals. Since motivation plays a significant part in the learning process, it's possible for students who are highly motivated to follow the regulations that have been established when offering services to patients. The strength and weakness of a person's motivation can show how much responsibility he has for his work.

4. Conclusions and suggestions

This study concludes a relationship between respondents' attitudes and PPE compliance during clinical practice. While in the variables of knowledge and motivation, there is no relationship with respondents' compliance with using PPE during clinical practice.

5. References

- Astuti, Y., Yuliwar, R., & Dewi, N. (2018). Hubungan Tingkat Pengetahuan dan

- Sikap Perawat Dengan Tingkat Kepatuhan Penggunaan Alat Pelindung Diri di Ruang ICU, IGD dan IRNA Imam Bonjol RSUD 'Kanjuruhan'
- Baunsele, N.P. (2020). Hubungan Tingkat Pengetahuan Dengan Kepatuhan Mahasiswa Dalam Melakukan Prosedur Penggunaan Alat Pelindung Diri Kajian di Jurusan Kesehatan Gigi Poltekkes Kemenkes Kupang. Skripsi, Poltekkes Kemenkes Yogyakarta, 2020 diakses dari <http://eprints.poltekkesjogja.ac.id/> pada 18 November 2021
- Dewi, I.P., Adawiyah, W.R., & Rujito, L. (2019). Analisis Tingkat Kepatuhan Pemakaian Alat Pelindung Diri Mahasiswa Profesi Dokter Gigi di Rumah Sakit Gigi dan Mulut UNSOED. *Jurnal Ekonomi, Bisnis, dan Akuntansi* 21(4) <https://doi.org/10.32424/jeba.v21i4.1541>
- Haryani, W., Soewadi, Brotopuspito, K.S., Prihatiningsih, T.S., Suryono. (2014). Evaluasi Mutu Pembelajaran Klinik Pendidikan Keperawatan Gigi Politeknik Kesehatan Kementerian Kesehatan. Diakses dari <http://eprints.poltekkesjogja.ac.id/55/1/> pada 12 November 2021
- Janah, E.N., & Sari, E.D. (2021). Hubungan Pengetahuan dan Sikap Perawat dengan Kepatuhan Penggunaan Alat Perlindungan Diri Pada Masa Pandemi Covid-19. *Jurnal Kesehatan Mahardika* 8(1), 46-54 <https://doi.org/10.54867/jkm.v8i1.11>
- Kustriyani, M., Kharisa, A.S., & Arifianto. (2018). Hubungan Antara Motivasi Perawat dengan Kepatuhan Penggunaan Alat Pelindung Diri (Handsocon dan Masker) di Instalasi Rawat Inap RSUD Dr. Loekmono Hadi Kudus. *Journal of Holistic Nursing Science* 5(1), 36-42 <https://doi.org/10.31603/nursing.v5i1.1877>
- Listiyono, R.A. (2015). Studi Deskriptif Tentang Kualitas Pelayanan di Rumah Sakit Umum Dr. Wahidin Sudiro Husodo Kota Mojokerto Pasca Menjadi Rumah Sakit Tipe B. *Jurnal Kebijakan dan Manajemen Publik 1(1)*
- Mau, Y.A., & Prayogi, A.S. (2018). Hubungan Motivasi Perawat dengan Kepatuhan Kepanjen Kabupaten Malang. *Nursing News : Jurnal Ilmiah Keperawatan* 3(3), 663-669 <https://doi.org/10.33366/nn.v3i3>
- Perawat Dalam Penerapan Universal Precaution di RSUD Rajawali Citra Yogyakarta. *Caring : Jurnal Keperawatan* 7(2), 86-93 <https://doi.org/10.29238/caring.v7i2.360>
- Pratiwi, S., Aminuddin, M., Harianto, J.W. (2016). Hubungan antara Konsep Diri dengan Motivasi Penggunaan Alat Pelindung Diri Dasar (Handsocon & Masker) pada Mahasiswa Semester VI Prodi S1 Keperawatan STIKES Muhammadiyah Samarinda. Skripsi, Stikes Muhammadiyah Samarinda, 2016 diakses dari <https://dspace.umkt.ac.id/> pada 13 November 2021
- Putra, M.U.K. (2012). Hubungan Tingkat Pengetahuan dan Sikap dengan Perilaku Penggunaan Alat Pelindung Diri pada Mahasiswa Profesi Fakultas Ilmu Keperawatan Universitas Indonesia. Skripsi, Universitas Indonesia, 2012 diakses dari <https://library.ui.ac.id/> pada 19 November 2021
- Sulistiyawati, W., Etika, A.N., & Yani, D.I. (2021). Pengetahuan dan Sikap Berhubungan dengan Kepatuhan Perawat dalam Penggunaan Alat Pelindung Diri (APD) di Masa Pandemi Covid-19 di Rumah Sakit. *Jurnal Penelitian Perawat Profesional* 3(4), 783-790 <https://doi.org/10.37287/jppp.v3i4.670>
- Wasty, I., Doda, V., Nelwan, J.E. (2021). Hubungan Pengetahuan Dengan Kepatuhan Penggunaan APD Pada Pekerja Di Rumah Sakit: *Systematic Review. Jurnal Kesmas 10(2)*
- WHO. (2004). Practical Guidelines For Infection Control In Health Care Facility. India: WHO Regional office South East Asia
- Zahara, R.A., Effendi, S.U., Khairani, N. (2017). Kepatuhan Menggunakan Alat Pelindung Diri (APD) Ditinjau dari Pengetahuan dan Perilaku pada Petugas Instalasi Pemeliharaan Sarana dan Prasarana Rumah Sakit (IPSRs). *Jurnal Aisyah: Jurnal Ilmu Kesehatan 2(2)*