THE LONG-TERM IMPACT OF WORK AND EDUCATION ON COMPLIANCE OF APD USES ON HOSPITAL ROAD CARE EMPLOYEES

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ABSTRACT

The length of employment and the level of employee education significantly affect how employees carry out their tasks, particularly the use of self-protection devices (APD) in hospitals. APD usage is essential for reducing risks, especially for road care workers who face high infection risks due to the daily turnover and delayed treatment of patients. Unlike general hospital patients who stay for an average of two to five days, road care workers encounter new patients constantly, increasing their infection risk. This study aims to examine the impact of employment length and education level on APD compliance among RSUD road care employees in Karanganyar district. Using quantitative methods, the research was conducted at RSUD Karanganyar, involving 64 road care workers selected through stratified and random sampling. Data were collected via questionnaires and analyzed using double linear regression. The results indicated that both employment length and education level significantly influence APD compliance among RSUD road care workers, with a significance value of 0.049 < 0.05. In conclusion, both work duration and educational background play a crucial role in ensuring APD compliance among these workers.

KEYWORDS

Duration of work; Education; Compliance with the use of APD; Road caregivers; Hospitals

INTRODUCTION

A hospital is a place to provide health services to the community, especially to sick people. Health services provided to each person are health efforts and are carried out by health workers (Kurniawawati & Kusumawardhani, 2023). Hospital workers have a higher risk of occupational diseases (CAC) and work accidents (CAC) than workers in other fields. Article 165 of Health Law Number 36 of 2009 states that workplace managers are obliged to carry out all health efforts through preventive, curative, and rehabilitation efforts for their workers (Octaviani & Fauzi, 2020). Hospitals must guarantee the health and safety of patients, service providers, or staff, as well as the surrounding community, from various potential dangers that exist in the hospital (Kusumawardhani & Rejeki, 2023). There is a risk of work accidents for doctors and health workers, which can lead to exposure to diseases that can disrupt occupational health.In the medical profession (laboratory, pharmacy, and catering), there is a high possibility of direct or indirect contact with microorganisms that cause disease in patients (Yuantari & Nadia, 2018).

Personal protective equipment (PPE) is used to avoid risks. Compliance with the use of personal protective equipment is important for the prevention of work accidents, especially in the health service sector. Compliance with the use of personal protective equipment is a behavior that can be influenced by awareness and environmental factors (Rahmatilah et al., 2020). The use of personal protective equipment is included in environmental factors that can influence the fulfillment of the use of personal protective equipment. The use of personal protective equipment is a behavior that creates physical safety to prevent work accidents.Compliance with the use of personal protective equipment plays an important role in avoiding the risk of accidents (Adriansyah et al., 2021). The use of ADP is one of the workforce's efforts to create a healthy and safe environment from infection and protect themselves from work accidents. Neglect of the use of personal protective equipment among workers can be seen from factors related to knowledge, training, motivation, and length of service (Amirullah et al., 2022).

There are several reasons why hospital staff use PPE, namely knowledge, motivation, attitude, communication, availability of PPE, and behavior. Information is a factor that plays a very important role in the use of personal protective equipment to prevent work losses and accidents (Mafra et al., 2021; Pharmacy et al., 2022). Knowledge is knowledge gained from experience. Information can be generated when someone obtains information from books or social media. Information plays an important role in the development of human activities and behavior. Workers will, of course, increase the risk of work accidents if they do not use personal protective equipment. This happens because every day, workers are exposed directly to the environment, causing various diseases (Apriluana et al., 2016). One factor that influences compliance is knowledge.According to Notoatmodjo (2012), someone who has good knowledge and experience can do good things regarding the use of personal protective equipment. This is also good for employees while working. Based on Agung Widodo's research, data on the use of personal protective equipment in hospitals shows that hospital staff follow the use of personal protective equipment at a high level, up to 84.68%.

Based on data from the Work Accident Report from the Social Security Agency for Work Accidents (BPJS), the number of work accidents at the end of 2015 was 110,285 cases; in 2016, the number of cases decreased by 105,182 cases; and in August 2017, there were 80,392 cases.In the infection prevention and control strategy carried out by nurses and medical personnel, more emphasis is placed on the personal protective equipment used during work, which is in accordance with the instructions for the use of personal protective equipment used in your work. Personal protective equipment is special clothing or equipment used by medical professionals to protect against infectious agents. Used PPE has two functions, namely for the benefit of the patient and, at the same time, for the benefit of the nursing staff themselves. The purpose of PPE is to protect against contact with blood, all body fluids, secretions, and mucous membranes. Apart from protection, personal protective equipment also reduces the spread of infection between patients (Syifa & Kusumawardhani, 2023). Based on this explanation, researchers are interested in conducting research entitled Analysis of Working Time and Compliance Training in the Use of Personal Protective Equipment in Outpatients at the Karanganyar Regional Hospital.

RESEARCH METHOD

This type of research is quantitative. In this study, researchers conducted research on length of work and level of education on compliance with the use of PPE among outpatient employees at the Karanganyar Regency Regional Hospital. This research was conducted in February 2023 and was located in the outpatient hospital of Karanganyar

District Hospital. The population in this study were outpatient officers at Karanganyar Regency Regional Hospital. The sample used was 64 people from the Solvin formula. The sample selection technique used was stratified and simple random sampling so that all types of outpatient work could be sampled. Data collection uses questionnaires. Data processing uses SPSS with Multiple Linear Regression Data Analysis.

RESULT AND DISCUSSION

Result

Based on an analysis of the influence of length of work and education on compliance with the use of PPE among outpatient employees in hospitals :

Table 1

Variabel	β	Std. Error	t hitung	Sign.
(Constant)	1.390	.254	5.483	.000
Lama Kerja (X1)	-.104	.059	-1.764	.083
Pendidikan (X2)	.006	.070	.081	.935
R 0, 307	F_{hitung}	3,175		
R Square 0, 094	Probabilitas F	0,049		
Adjusted R^2 0, 065				

Length of work and level of education together have an influence on the use of PPE among outpatient officers at the Karanganyar Regency Regional Hospital which is stated to have an influence with a calculated F value > F table (3.175 > 3.14) with a significance of <0.05 (0.049). Meanwhile, partially, length of work and level of education have no effect. The value of length of work on PPE compliance with significance > 0.05 (0.83) and at education level significance > 0.05 (0.935).

Discussion

Based on the results of data processing, it was found that length of work and level of education jointly influenced the use of PPE for outpatient officers at the Karanganyar District Hospital, with a calculated F value > F table (3.175 > 3.14) and a significance of <0.05 (0.049). Meanwhile, partially, length of work and level of education have no effect. The value of length of work on PPE compliance has a significance > 0.05 (0.83) and at the education level, a significance > 0.05 (0.935).

Wasty et al. (2021) regarding the relationship between knowledge and compliance with the use of PPE among workers in hospitals: a systematic review found that knowledge can influence compliance with the use of PPE among workers in hospitals. One of the pieces of knowledge in question is seen from the perspective of educational knowledge. Contributions to PPE compliance among hospital workers consist of attitude, supervision, motivation, and knowledge. The better the knowledge, the better the hospital workers will be at complying with the use of PPE.

Apriluana et al. (2016), regarding the relationship between age, gender, length of work, knowledge, attitudes, and availability of personal protective equipment (PPE) among health workers, stated that there is a relationship. The results of the study showed that there was a significant relationship between age, length of work, knowledge, and attitudes (p-value < 0.05), and there was no significant relationship between gender, availability of PPE (p-value > 0.05), or the behavior of health workers using PPE at Banjarbaru Regional Hospital. Length of work, which can also be called work experience, is a combination of a person's knowledge and behavior, where knowledge is the result of someone sensing a particular object. Meanwhile, behavior is all forms of responses from individuals to their

environment. The longer someone works, the more experience they have. Experience will also influence workers' knowledge because one source of knowledge is experience.

Syifa & Kusumawardhani (2023) regarding nurses' compliance with using personal protective equipment (PPE): a literature review states that there are several factors related to compliance with the use of PPE. These factors consist of knowledge, attitudes, actions, supervision, training, length of service, motivation, level of education, support from colleagues, and availability of PPE. Meanwhile, there are also unrelated factors, namely age, workload, regulations, facilities, level of education, and compliance with the use of PPE. Many health and non-health workers have begun to realize that using PPE is important, even though the pandemic has passed. Health and non-health workers use PPE to avoid the risk of infection due to not using PPE.

Kusumawardhani et al. (2023) regarding the analysis of hand hygiene compliance and official personal protective equipment compliance on the incidence of nosocomial infection in outpatient Karanganyar Regency Hospital to support hospital accreditation found that the results had an influence. Compliance with hand hygiene and compliance with the use of personal protective equipment by officers have an effect onthe incidence of nosocomial infections where the calculated F exceeds the F table (47.313 > 3.10). Meanwhile, partially, compliance with hand washing and compliance with the use of protective equipmentPersonal protective equipment for officers influences the incidence of nosocomial infections. Compliance with hand hygiene and compliance with the use of personal protective equipment by staff influence the incidence of nosocomial infections.

Kusumawardhani, Adriana, et al. (2023) found that hand hygiene compliance and the use of personal protective equipment by staff impact the incidence of outpatient nosocomial infections. Hospital staff are expected to adhere to hand hygiene and use PPE to avoid nosocomial infections. Nosocomial infections are infections that occur in patients being treated in hospitals or other health facilities and can also occur in hospital staff. Compliance with hand hygiene and the use of PPE by hospital staff is an important step in protecting patients and health workers themselves.

Ramadhani & Kusumawardhani (2023), with the title Analysis of Knowledge and Compliance of Nurses Using PPE in Supporting Hospital Accreditation, found that there is an influence of knowledge and compliance of PPE on hospital accreditation. The values obtained are F count > F table (10.320> 3.12) and significance < 0.05 (0.000). Meanwhile, both partially influence accreditation. Knowledge influences hospital accreditation with T count > T table (2.286 > 1.67) and significance < 0.05 (0.007). Compliance affects hospital accreditation with T count > T table (2.277 > 1.67) and significance < 0.05 (0.026).

Kusumawardhani, Kismanto, & Widyastuti (2023), with the title Hand Hygiene Education for the Community When Visiting Hospitals, stated that there was an influence after the education was carried out. The research results show the value of Asymp. Sign <0.05 (0.000), which means there is a difference in the results of knowledge, attitudes, and actions for the pre-test and post-test. So it can be concluded that there is a significant effect of hand hygiene education on the public when visiting hospitals. Kusumawardhani & Rejeki (2023) regarding Reducing Occupational Safety Risks in Handling Patients found that there was an influence before and after socialization was carried out on hospital staff. From the test results, the result value was 8.604923 (t count) > 2.069 (t table), and from the comparison of t count > t table, it can be concluded that the data is significant at a significance level of < 0.05. From the significance test, it can be seen that before the socialization, hospital staff did not really understand the occupational safety risks of handling patients using the SNARS instrument. After the socialization was carried out, it showed that there was an increase in results and that hospital staff understood the occupational safety risks in treating patients using the SNARS instrument, increasing

participants' knowledge. Work safety includes matters relating to compliance with the use of PPE and includes several factors, including length of service, age, gender, and level of education.

Amirullah et al. (2022) conducted research on the description of nurses' compliance with using personal protective equipment (PPE) to prevent nosocomial infections at the Lung Health Center in Makassar City. The results of the study showed that 30 people (80.3%) showed adequate results in nurses using PPE, and 22 people (19.7%) showed insufficient results. 14 (19.4%) nurses' knowledge of using PPE was sufficient, and 38 (80.6%) were insufficient. Based on adequate attitudes, 19 people (29.1%) and less than 33 people (70.9%) Action was sufficient for 38 people (78.3%) and less than 14 people (21.7%) at the Makassar City Lung Health Center. From the results of this research, it is hoped that various activities will be carried out and improvements in the quality of human resources, especially nurses, will better understand PPE, and apart from knowing and understanding, they will also implement and use personal protective equipment properly so that they can avoid all threats of danger while working.

CONCLUSION

The value of length of work on PPE compliance has a significance of > 0.05, and at the education level, it has a significance of > 0.05. One of the pieces of knowledge in question is seen from the perspective of educational knowledge. Contribution to PPE compliance among hospital workers consists of attitude, supervision, motivation, and knowledge. The better the knowledge, the better the hospital workers will be at complying with the use of PPE. There is a relationship between age, gender, length of work, knowledge, attitudes, and availability of personal protective equipment among health workers, indicating that there is a relationship. These factors consist of knowledge, attitudes, actions, supervision, training, length of service, motivation, level of education, support from colleagues, and availability of PPE. Meanwhile, there are also unrelated factors, namely age, workload, regulations, facilities, level of education, and compliance with the use of PPE. Compliance with hand hygiene and compliance with the use of personal protective equipment by staff influence the incidence of nosocomial infections where the F count exceeds the F table. Meanwhile, partially, compliance with hand washing and compliance with the use of personal protective equipment for officers have an effect on the incidence of nosocomial infections.

REFERENCE

Adriansyah, A. A., Suyitno, S., & Sa'adah, N. (2021). Kepatuhan Penggunaan Alat Pelindung Diri (Apd) Masker Ditinjau Dari Pengetahuan Dan Sikap Pekerja. Ikesma, 17(1), 39. https://doi.org/10.19184/ikesma.v17i1.22452

Amirullah, A. N., Mudrika, M., & Salki Sasmita. (2022). Gambaran Kepatuhan Menggunakan Alat Pelindung Diri (APD) Perawat Guna Mencegah Infeksi Nosokomial di Balai Besar Kesehatan Paru Kota Makassar. Jurnal Kesehatan Masyarakat, 1(2), 150–154. https://doi.org/10.54259/sehatrakyat.v1i2.936

Apriluana, G., Khairiyati, L., & Setyaningrum, R. (2016). Hubungan Antara Usia, Jenis Kelamin, Lama Kerja, Pengetahuan, Sikap dan Ketersediaan Alat Pelindung Diri (APD) Dengan Perilaku Penggunaan APD Pada Tenaga Kesehatan. Jurnal Publikasi Kesehatan Nasional Indonesia, 3(3), 82–87.

Kurniawawati, R. F., & Kusumawardhani, O. B. (2023). Faktor-Faktor Yang Mempengaruhi Petugas Dalam. Prosiding Seminar Informasi Kesehatan Nasional,

44, 125–136.
Kusumawardhani, O. B., Adriana, N. P., Kismanto, J., Sari, A. P., Hidayati, E. N., Kur'aini, S. N., & Anggraini, A. N. (2023). Kepatuhan Kebersihan Tangan dan Penggunaan Alat Pelindung Diri Petugas Dampak Terhadap Angka Kejadian Infeksi Nosokomial Rawat Jalan (Issue July). Penerbit Widina Media Utama.
Kusumawardhani, O. B., Kismanto, J., Adji, I. S., Widyastuti, K., & Adriana, N. P. (2023). ANALYSIS OF HAND HYGIENE COMPLIANCE AND OFFICIAL PERSONAL PROTECTIVE EQUIPMENT COMPLIANCE ON THE INCIDENCE OF NOSOCOMIAL INFECTION IN OUTPATIENT KARANGANYAR REGENCY HOSPITAL TO SUPPORT OF HOSPITAL ACCREDITATION. Gaster Jurnal Kesehatan, 21(2), 168–175.
Kusumawardhani, O. B., Kismanto, J., & Widyastuti, K. (2023). Edukasi Kebersihan Tangan Kepada Masyarakat Ketika Berkunjung Ke Rumah Sakit. I-Com: Indonesian Community Journal, 3(3), 1222–1231. https://doi.org/10.33379/icom.v3i3.3006
Kusumawardhani, O. B., & Rejeki, M. (2023). Pengurangan Risiko Keselamatan Kerja Dalam Menangani Pasien. Abdi Psikonomi, 4(1), 28–33. https://journals2.ums.ac.id/index.php/abdipsikonomi/article/view/1475
Mafra, R., Riduan, R., & Zulfikri, Z. (2021). Analisis Kepatuhan Penggunaan Alat Pelindung Diri (APD) Pada Peserta Pelatihan Keterampilan Tukang dan Pekerja Konstruksi. Arsir, 5(1), 48. https://doi.org/10.32502/arsir.v5i1.3362
Notoatmodjo, S. (2012). Promosi Kesehatan & Ilmu Perilaku. In Jakarta: Rineka Cipta.
Octaviani, E., & Fauzi, R. (2020). Analisis Faktor yang Berhubungan dengan Kepatuhan Mencuci Tangan pada Tenaga Kesehatan di RS Hermina Galaxy Bekasi. Jurnal Kedokteran Dan Kesehatan, 16(1), 12–19.
Pharmacy, C., During, S., Citra, K., Permata, D., Syafhan, N. F., & Sianipar, I. (2022). Optimalisasi Manajemen Alat Pelindung Diri dan Pelayanan Farmasi Klinis Selama Pandemi COVID-19 : Narrative Review. 12(2), 78–96.
Rahmatilah, S., Asriwati, & Jamaluddin. (2020). Associated Nurser Behaviour And Compliance With The Use Of Self- Protective Equipment In Prevention Of Nosocomial Infections In Inpatient Room Dr. R. M Djoelham Binjai In 2020. Journal of Healthcare Technology and Medicine, 6(2), 1142–1157.
Ramadhani, R., & Kusumawardhani, O. B. (2023). Analisis pengetahuan dan kepatuhan perawat menggunakan APD dalam mendukung akreditasi rumah sakit. Prosiding Seminar Informasi Kesehatan Nasional, 137–142.
Syifa, V. A., & Kusumawardhani, O. B. (2023). Kepatuhan Perawat Dalam Penggunaan Alat Pelindung Diri (APD) dan Perilaku Mencuci Tangan. Jurnal Kesehatan Medika Udayana, 9(01), 110–124. https://doi.org/10.47859/jmu.v9i01.259
Wasty, I., Doda, V., & Nelwan, J. E. (2021). Hubungan Pengetahuan Dengan Kepatuhan Penggunaan APD Pada Pekerja Di Rumah Sakit: Systematic Review. Kesmas, 10(2), 117–122.
Yuantari, C., & Nadia, H. (2018). Analis Resiko Keselamatan dan Kesehatan Kerja Pada Petugas Kebersihan di Rumah Sakit. Faletehan Health Journal, 5(3), 107–116. https://doi.org/10.33746/fhj.v5i3.20