

Conference Paper

Monitoring, Evaluation and Assessment of the Use of Personal Protective Equipment

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Abstract.

Personal protective equipment (PPE) is a set of safety tools that are used by workers to protect themselves against the potential hazards of the work environment and accidents from occupational diseases. In practice, the use of PPE has not been optimized yet, and there are still many findings that the use of PPE is not yet appropriate, including in hospitals. One of the tasks of the Infection Prevention Control (IPC) team is to monitor, evaluate and assess the use of PPE. This study used a descriptive research design and was conducted in a hospital in Malang. There was a sample size of 50 respondents consisting of IPC nurses, IPC link nurses, and the person in charge of the shifts. Data were collected using a monitoring questionnaire, and an evaluation questionnaire using the context, input, process and product model proposed by Daniel Stufflebeams. 48% of the respondents stated that monitoring of use of PPE by the IPC team (IPC nurses, IPC link nurses, the person in charge of the shift) was insufficient. The activity of evaluating the use of PPE was considered poor (54%). Observation of the use of PPE was fairly good (35%). The monitoring, evaluation and assessment of the use of PPE carried out by the IPC team at the hospital was not optimal. However, the observations by the researchers showed that nurses' obedience in using PPE was good.

Keywords: infection prevention control, infection, personal protective equipment, monitoring, evaluation

1. INTRODUCTION

The use of PPE is very important to be applied by medical personnel in serving as one of the efforts to prevent and control infection. The use of PPE by a nurse is mandatory in providing nursing care to patients to maintain their safety from the impacts and dangers caused. Protecting yourself by using PPE is the right step as a prevention or minimizing the occurrence of work accidents [1].

Based on data from the WHO in 2010 it was reported that there were 59 million health workers who were exposed to various hazards at work every day, thus potentially causing infectious diseases due to work accidents. Data reported in 2010 contained

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unsafe injections which caused 33,800 cases of HIV, 315 cases of Hepatitis C, 1.7 million cases of hepatitis B, and if a person has a work accident in the form of a needle stick, they will have a risk of infection in the form of 30 % HBV, 0.3% HIV, and 1.8% HCV [2].

The implementation of the Infection Prevention Control (IPC) Team program in hospitals in an effort to control the occurrence of nosocomial infections is by applying standard precautions, one of which includes the use of PPE. The PPE is a tool that is used to protect oneself or the body against the dangers of work accidents, this equipment does not eliminate or reduce existing hazards, but only reduces the number of contacts with hazards by placing barriers between workers and hazards.

The implementation of IPC in health facilities must be managed and integrated structurally and functionally among all relevant departments/agencies/divisions/units in health facilities in accordance with the philosophy and objectives of IPC[3]. Structurally, the IPC consists of the Director, Committee Chair, Secretary, IPCN (Infection Prevention Control Nurse), IPCLN (Infection Prevention and Control Link Nurse) and Members. The main task of IPCN is to supervise and supervise all activities related to infection prevention and control. IPCLN is a daily implementing nurse or liaison with IPCN from each inpatient unit/hospital service unit [4]. IPCLN has several main tasks, one of which is as a daily nurse, providing motivation and warning regarding the implementation of infection prevention compliance for each room personnel in their respective units, monitoring the compliance of other health workers in carrying out standard precautions and coordinating with IPCN regarding IPC reporting.

Join Commission on Accreditation Of Healthcare Organization included monitoring activities, evaluation reporting and organizations related to the IPC as a requirement for hospital accreditation. Monitoring (supervision), evaluation and assessment of the use of PPE, these three things are important to discuss because these three things are an organic function in the IPC organization. Based on the description above, the purpose of this research is how to implement a monitoring, evaluation and assessment system for the use of PPE.

2. DESIGN AND METHOD

Descriptive research method using a survey design, namely by collecting information, opinions, knowledge from someone by conducting interviews, observation checklists, giving questionnaires. The population used is IPCN, IPCLN, 50 people in charge of hospital shifts. Data were taken using questionnaires and observation sheets. The results

of the research are described and summarized in a scientific way that is displayed in the form of tables or graphs, using: measures of central tendency (mean, median, mode), frequency, proportion, ratio and measures of variation (standard deviation, variation, range, and quartiles).

3. RESULT

Monitoring the use of PPE was obtained 48% or 24 respondents said that the monitoring carried out by the IPC was classified as less optimal. It is proven by IPCN not supervising PPE in every room every day, IPCLN and Person in Charge of Shifts not monitoring every day in their respective rooms. Shift did not reprimand nurses who do not wear PPE according to the Standard Operating Procedure (SOP). The researcher assumed that one of the reasons for the less than optimal monitoring process was the lack of IPC human resources, the double workload of supervisors.

The evaluation system for the use of PPE in hospitals showed that there were 54% respondents who assessed that the evaluation of the use of PPE was still lacking, as evidenced by the absence of a follow-up process for reporting due to work accidents, the evaluation documentation process, and the supervision process to other rooms that was not optimal.

Observations made by researchers regarding the compliance of nurses in the use of PPE resulted in data that was 70% or 35 respondents using good and appropriate PPE compliance. But the accuracy of using PPE, the accuracy of putting PPE after use, compliance with washing hands before and after wearing PPE, the accuracy of using PPE at risk of exposure were still not done well.

4. DISCUSSION

Research on monitoring the use of PPE is obtained by respondents saying that the monitoring carried out by the IPC was classified as less optimal. In this study, the researcher also assumes that one of the causes of the less than optimal monitoring process is the lack of IPC human resources, the double workload of supervisors. This was in accordance with research conducted by [5]. The results showed that nursing supervision in one of the hospitals in Bantul did not get maximum results. The obstacles experienced were internal and external barriers. Internal barriers were in the form of demotivation, while external obstacles were in the form of supervisor's workload, and awards from hospitals that are felt to be lacking [5]. Research conducted by

Mahendra (2015) states that the lack of officers in the monitoring process in a job causes supervision to run not optimally [6].

The compliance of nurses in the use of PPE resulted in data that was 70% or 35 respondents using good PPE compliance. One of the factors that cause nurse compliance in the use of PPE is years of service (experience) and good nurse education. The period of work is the period of time a person begins when he enters the first working day until he is still in the work process. This was in accordance with the research conducted by [7], with the results of this study is that there is a relationship between tenure and compliance with the use of PPE in workers. This study was also supported by research with the results of this study, data produced that there was a relationship between compliance with the use of PPE in iron metal fabricators with worker attitudes, education levels, and years of service [8]. The results of this study were also strengthened by research conducted by Evi Fitriani and Sri Sudewi (2019). It was found that there is a relationship between tenure and nurses' attitudes in using PPE for nurses in the confinement room of a hospital in Aceh [9]. On the characteristics of education also affect nurse compliance in the use of PPE. The average education of respondents in this study was bachelor and diploma of nursing, additionally, this was in accordance with Lathif's research (2015), which stated that there was a relationship between education level and compliance with the use of PPE. Notoadmojo's (2012) theory noted that education was one of the characteristic factors that influence a person's behavior. The higher a person's level of education, the higher the information obtained [10]

5. CONCLUSION

The monitoring of the use of PPE is carried out by the IPC team at hospital in Malang was still less optimal. Furthermore, it takes additional officers who have the ability to do good monitoring. Meanwhile, the evaluation of the use of PPE was carried out by the IPC team, which was also not less optimal, required measuring tools, follow-up and recommendations for evaluation results that have been carried out.

References

- [1] R. Iriani, "Hubungan Pendidikan , Pengetahuan , Dan Masa Kerja Dengan Tingkat Kepatuhan Perawat Dalam Penggunaan APD Di RS Harum Sisma Medika Tahun 2019.," *Jurnal persada Husada Indonesia*. vol. 6, no. 20, pp. 21–27, 2019.

- [2] A. Laranova, I. Afriandi, and Y.S. Pratiwi, "Persepsi Tenaga Kesehatan terhadap Penggunaan Alat Pelindung Diri dan Kejadian Kecelakaan Akibat Kerja di Salah Satu Rumah Sakit di Kota Bandung.," *Jurnal Sistem Kesehatan*. vol. 3, no. 4, pp. 189–197, 2018.
- [3] Kementerian Kesehatan RI, "Pedoman monitoring dan evaluasi pembelajaran.,"
- [4] M. Rismayanti and H. Hardisman, "Gambaran Pelaksanaan Program Pencegahan dan Pengendalian Infeksi Di Rumah Sakit Umum X Kota Y.," *Jurnal Kesehatan Andalas*. vol. 8, no. 1, p. 182, 2019.
- [5] D. Desi Harmatiwi, S. Sumaryani, and E. Maria Rosa, "Evaluasi Pelaksanaan Supervisi Keperawatan di Rumah Sakit Umum Daerah Panembahan Senopati Bantul.," *Jurnal Medicoeticolegal dan Manajemen Rumah Sakit 10.18196/jmmr.2016*. vol. 6, no. 1, pp. 47–54, 2017.
- [6] R. Mahendra, B. Kurniawan, and Suroto, "Faktor-Faktor Yang Berhubungan Dengan Perilaku Penggunaan Alat Pelindung Diri (Apd) Pada Pekerjaan Ketinggian Di Pt. X.," *Jurnal Kesehatan Masyarakat (e-Journal)*. vol. 3, no. 3, pp. 572–581, 2015.
- [7] A. Setiawan and K. Febriyanto, "Hubungan Masa Kerja dengan Kepatuhan Penggunaan APD pada Pekerja di Galangan Kapal Samarinda.," vol. 2, no. 1, pp. 433–439, 2020.
- [8] L.S. Fairyo and A.S. Wahyuningsih, "Kepatuhan Pemakaian Alat Pelindung Diri pada Pekerja Proyek.," *Higeia Journal Of Public Health Research And Development*. vol. 2, no. 1, pp. 80–90, 2018.
- [9] E. Fitriani and S.S.P. Sitio, "Hubungan Motivasi Dengan Sikap Dalam Penggunaan Alat Pelindung Diri Pada Perawat.," *Jurnal Penelitian Kesmasy*. vol. 1, no. 2, pp. 48–53, 2019.
- [10] A.Z. Lathif, T. Suwandi, F. Kesehatan, and M. Universitas, "ANALISIS TINGKAT PENDIDIKAN DAN PELATIHAN DENGAN KEPATUHAN PENGGUNAAN APD DI BAGIAN PRODUKSI PT. X.," *Personal Protective Equipment (PPE) is the last risk control to protect the workers from hazard and decrease the impact that caused by an accident. Obedience of wearing PPE is a duty for worker who enter working area. This study was conducted to analyze e. p. 2015.*