

# WORKLOAD AND UNIVERSAL PRECAUTIONS COMPLIANCE AMONG HEALTH WORKERS IN AN EMERGENCY ROOMS

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Info Artikel	Abstract
<b>DOI :</b> <a href="https://doi.org/10.26751/ijp.v9i2.2597">https://doi.org/10.26751/ijp.v9i2.2597</a>	<i>Healthcare-associated infections (HAIs) are prevalent in nearly all healthcare facilities worldwide. The most effective way to prevent these infections is to implement universal precautions during patient care in hospitals consistently. In Indonesia, the reported incidence of HAIs is significantly higher than the rates in developed countries. Several risk factors influence the occurrence of HAIs, including advanced age, compromised immune systems, disruptions to anatomical barriers, the presence of implanted foreign objects, and changes in normal microflora caused by antibiotic use. If not addressed promptly, non-compliance with Universal Precautions can lead to various adverse outcomes for patients, including potential disability or even death. This research aims to analyze the relationship between workload and compliance with the implementation of Universal Precautions among healthcare workers. The study used an analytic correlation design with a cross-sectional approach, targeting healthcare staff working in the Emergency Department of Bhakti Wira Tamtama Hospital in Semarang, totaling 33 participants. A total sampling technique was used for participant selection. The research utilized a workload questionnaire and an observation sheet for Universal Precaution compliance. Data analysis using the Chi-Square test revealed a significant relationship between workload and compliance with Universal Precautions among healthcare workers, with a p-value of 0.000 (p&lt;0.05). The findings of this study highlight the importance of providing additional education for healthcare workers who have limited knowledge and awareness of Universal Precautions to enhance compliance and reduce the incidence of HAIs.</i>
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## I. INTRODUCTION

Health Care-Associated Infections (HAIs) become problem infections, Which are most often found in almost all facility service health in a number of countries all over the world. HAIs occur during treatment at health care facilities which is detrimental to patients as recipients of health care services. The problem is that this also threatens power health, which gives service health to patients. (Ministry of Health of the Republic of Indonesia, 2017)

A systematic review and meta-analysis published in 2023 recorded the global incidence of HAIs at 0.14% of the world's total population, and the percentage of HAI incidence increases by 0.06 percent annually (Raoofti et al., 2023). The reported incidence of HAIs in Indonesia reached 15.74%. This condition is far above developed countries, which range from 4.8 - 15.5% (Jatiputri et al., 2023).

The occurrence of HAIs is caused by several risk factors, including age, where neonates and the elderly are more vulnerable, and patients with low/impaired immune

status ( immunocompromised ), such as patients with chronic diseases. These malignant tumor patients use immunosuppressant drugs. Anatomical barrier disorders/interruptions such as urinary catheters, surgical procedures, intubation and use of ventilators, venous and arterial cannulas, and burns and trauma. (Ministry of Health of the Republic of Indonesia, 2017) . The most effective way to prevent HAIs is to implement Universal Precautions in every patient treatment in the hospital. (Karo et al., 2019)

Infection prevention and control efforts in healthcare facilities can prevent HAIs by protecting patients, healthcare workers, visitors, and the community as a whole by interrupting the cycle of infectious disease transmission by adhering to precautionary protocols (Universal Precaution) and general prevention (Asmawi, 2019).

The inability to obey universal precautions can cause some conditions that can be detrimental to patients. Among them are UTIs, urinary catheter use, local infections, surgery, Ventilator-Associated Pneumonia, and bloodstream infections, which, if not handled properly, will cause disability until death (Ministry et al. of Indonesia, 2017).

A study in April (2016) shows that the workload causes power health to become non-compliant (Apriana et al., 2016). Research conducted by Simandalahi in 2019 proved that there is a significant relationship between the level of knowledge and the implementation of universal precautions. (Simandalahi et al., 2019) . Researchers examined the relationship between the workload of health workers and the implementation of universal precautions because of the importance of preventing cross-transmission before the patient is diagnosed, before the results of laboratory tests, and after the patient is diagnosed in Emergency Installation Emergency House Sick Devotion Hero Enlisted Semarang.

Workload refers to the amount of Work or tasks that a person must do in a certain period, usually measured in the number of tasks to

be completed or the time spent completing the tasks. In conditions that require immediate treatment and high workloads, health workers have the potential to not comply with the implementation of universal precautions (Saptaputra et al., 2023).

Implications are consequences or direct results of the findings of a scientific study. The results of this study will later conclude whether there is a relationship between workload and compliance of health workers in the Emergency Room of Bhakti Wira Tamtama Hospital Semarang in implementing universal precautions. Seeing the importance of universal precautions in efforts to minimize the incidence of HAIs, the results of this study can be used as a reference for health workers in the Emergency Room to improve or maintain compliance in implementing universal precautions both in high and low workload conditions.

The role of health workers in this study is to provide health services. Therefore, health workers need to have good self-management skills to cope with the pressures and demands of working in the hospital. The presence of pressures and demands of WorkWork is expected not to affect the level of compliance of health workers in implementing universal precautions. The purpose of this study is to analyze the connection between the burden of Work power health and compliance implementation of Universal Precautions for health workers in hospitals.

## II. RESEARCH METHODS

This is a study of quantitative correlation, with approach time cross-sectional with the independent variable of workload and the dependent variable of compliance with implementing universal precautions. Respondents in study are health workers in an emergency room at Bhakti Wira Tamtama Hospital Semarang as many as 33 persons. Election samples were done using the technique of total sampling with an amount of as many as 33 people. The instrument in this study used a workload questionnaire consisting of 44 questions composed of

Favourable and Unfavorable questions with answer choices of strongly disagree, disagree, agree, and strongly agree and a value range of 44-176. The validity test of the workload questionnaire was 0.328 - 0.804, and the reliability value was 0.900. The universal precaution compliance observation sheet adapted from the 2014 Muktianigrum study which consisted of hand hygiene observation sheets, use of handsome, and medical waste disposal consisting of 3 assessment points, namely When hand hygiene which consists of 5 assessment items, Hand washing procedures which consists of 5 assessment items and Alternative hand washing procedures which consists of 3 assessment items. The answer choices on the observation sheet consist of done and not done. The conclusion of health worker compliance is based on the observation results expressed in percentages, namely, if the percentage value is more than or equal to 80%, then the Respondent is declared compliant in implementing standard precautions. If the percentage value is less than <80% then the Respondent is declared not compliant in implementing standard precautions. Bivariate analysis using Chi Square to determine the relationship between the workload of health workers and compliance with the implementation of universal precautions.

### III. RESULTS AND DISCUSSION

#### Characteristics of Health Workers

**Table 1.** Frequency distribution characteristics Respondent in Emergency Room RS Devotion Hero Enlisted (n=33)

Characteristics	f	%
<b>Gender</b>		
Man	6	18.2
Woman	27	81.8
<b>Age</b>		
21-30 Year	5	15.2
31-40 Year	21	63.6
41-50 Year	7	21.2
<b>Level Education</b>		
Diploma III Midwifery	3	9.1
Diploma III Nursing	11	33.3
Diploma IV Midwifery	1	3.0
Bachelor of Midwifery	5	15.2
Medical Profession	12	36.4
Bachelor of Nurse	1	3
<b>Work Experiences</b>		
1-5 Year	2	6.1

Characteristics	f	%
6-10 Year	9	27.3
11-15 Year	12	36.4
16-20 Year	7	21.2
21-25 Year	3	9.1
<b>Total</b>	<b>33</b>	<b>100</b>

Source: Data primary processed, 2024

Based on Table 1, it was found that the majority of respondents were female, namely 27 people (81.8%), the age of respondents was in the range of 31-40 years as many as 21 people (63.6%), had a background in medical profession education as many as 12 people (36.4%) and length of WorkWork in the range of 11-15 years as many as 12 people (36.4%).

#### Workload of Health Workers

**Table 2.** Workload frequency distribution health workers at the Emergency Room of Bhakti Wira Hospital Enlisted (n=33)

Burden Work	f	%
Light	8	24.2
Currently	16	48.5
Heavy	9	27.3
<b>Total</b>	<b>33</b>	<b>100</b>

Source: Data primary processed, 2024

Based on Table 2. explains that half of the respondents have a moderate workload, which is as much as 16 Respondents (48.5%).

#### Compliance with the implementation of universal precautions among health workers

**Table 3.** Distribution frequency level compliance implementation universal precautions for health workers in the emergency room of the hospital Devotion Hero Enlisted (n=33)

Compliance Implementation Universal Precaution	f	%
No obedient	18	54.5
Obedient	15	45.5
<b>Total</b>	<b>33</b>	<b>100</b>

Table 3 shows that half of the respondents, 18 respondents (54.5%), were not compliant with implementing universal precautions.

## The relationship between workload and compliance

**Table 4.4.** Relationship between workload and compliance with universal precautions power Health in Installation Emergency Emergency House Sick Devotion Hero Enlisted Semarang

Burden Work		Low		Currently		Tall		Total		Mark p
		f	%	f	%	f	%	f	%	
Level	Obedient	.8	24.2	6	18.2	1	3.0	15	45.5	0,000
Compliance	No	0	0.0	10	30.3	8	24.2	18	54.5	
Total		8	24.2	16	48.5	9	27.3	33	100.0	

\*Fisher's Exact Test

Based on Table 4.4, it is known that there is a significant relationship between Statistics on workload and compliance with universal precautions for health workers at the Emergency Installation of Bhakti Wira Tamtama Hospital Semarang with a value of  $p=0.000$  ( $p<0.05$ ).

## IV. DISCUSSION

### Type Sex

Results of studies show that most health workers of various sexes are women. This is in line with the findings of the study, previously stated that part of extensive power health is various sexes, with as many as 25 people (83.3%) (Budiman et al., 2022). Flower et al., in their research year 2021, also involved power health as Respondent Respondent Also got the same matter where most of the respondents were female gender research as much as 27 people (58.7%). (Flower et al., 2021)

Respondents involved in the study include nurses, midwives, and doctors. Midwives in Indonesia are primarily female. Report from the Provincial Health Office Java Middle on the year 2023 Amount doctors available in all over unit work/facilities service health in Central Java Province as many as 10,038 doctors consist of 3,664 male doctors And 6,374 doctor Woman. Central Java Province Health Office also records the number of nurses available in all unit work/facilities health services in Province Java Middle as 62,579 nurses, Which consists of 19,078 nurses men and 43,501 nurse Women (Central Java Health Office, 2023). Based on the matter, it was concluded that all midwives, prominent doctors, and women of various sexes.

The inequality in the composition of nurses between men and women is related to the stigma that develops in society, where female nurses are considered to have a more remarkable ability to carry out nursing tasks (Rahim & Irwansyah, 2021). Teresa-Morales et al. (2022) stated that the feminization of the nursing profession in the context of professional causes stereotypes, which limit the participation of men in the profession. Public modern stereotypes related to the profession of nursing Where Women considered more suitable to become a nurse because, in a way, natural women are capable of maintaining a family without education (Teresa Morales et al., 2022).

According to the Republic of Indonesia Law Number 4 of 2019 concerning Midwifery, a midwife is a woman who has completed a midwifery education program that is legally recognized by the central government and meets the requirements for practicing Midwifery. Based on the Constitution, it can be concluded that in Indonesia, only women can become midwives. The definition of a doctor and a dentist is defined by Law of the Republic of Indonesia Number 29 of 2004 Concerning Medical Practice. Doctors, specialist doctors, dentists, and dental specialists who have completed medical or dental education either domestically or abroad that is recognized by the government of the Republic of Indonesia in accordance with statutory regulations. The high number of women in Indonesia, according to Manuaba & Yani (2022), because women prefer to get involved as doctor general or doctor specialists, whereas prominent doctors more choose careers in field surgery women (Manuaba & Yani, 2022). Based on the data, it can be concluded



that the amount doctors, generally females, close to hook

### Age

The findings of this study show that some significant respondents have an age range between 31-40 years. Results of the study This is in line with the findings of Hamdiah (2021), which states that the majority of respondents are included in a group aged more than 30 years (Hamdiah, 2021). Syamsu et al., in their research year 2024, Also involved power health as respondents also get matter Which The same Where part big health workers are aged >31 years as much as 53 Respondents (42.74%) (Syamsu et al., 2024)

The findings in this study are also in line with the findings of Service Population And Recording Civil City Semarang Year 2022, where the number of productive-age population (15-64) Year) It was dominated by residents aged 31-40, with a percentage as significant as 31.11% (Service Population And Recording Civil City Semarang, 2022). Based on the data, they can conclude that power Health, including in group age, is productive.

Productive age is a period of consolidation in a career that is related to maturity and the ability to behave (Agritubella et al., 2018). The working age that allows one to produce goods and services is called the productive age. Many people in the age range of 15 to 64 complete formal education, find WorkWork, build careers, build families, are actively involved in community development, and more (Jailani et al., 2024).

### Level Education

Respondents with education in the medical profession are the respondents who most Lacked in the study. Findings study This is different from the results study, previously Stating that nurses with a background behind education S1 Nurse are the most numerous respondents who became subjects of his research, totaling 39

respondents (49.4%) (Sari et al., 2022). Findings similar Also found in other studies report that as many as 87 respondents (80.6%) were nurses with level education S1 Nurse (Hadinata et al., 2019). The differences that happen This is the caused a doctor becoming Respondent in this study who is a doctor who also works at take care stay, Which, in a way, alternates in-rolling duties in the Emergency Installation House Sick Devotion Hero Enlisted Semarang.

They reviewed based on level of education, which was (54.54%). Respondent Was involved in the study. This qualification is a bachelor's degree (S1) education. The number of Respondent Respondents who are educated S1 is closely related to qualification Education determined by the House Sick Devotion Hero Enlisted Semarang where the health workers who are on duty in House Sick Devotion Hero Enlisted Semarang must be at least educated bachelor. For power health with education, DIII pushed For continued education at the undergraduate level profession.

The doctor is a profession obtained through two levels of education, that is, level education bachelor (S-1) And level education profession. After finishing level S-1 with the title of Bachelor Medical (S.Ked.), a graduate is required to continue studies to level profession to obtain the title of Doctor (University et al., 2024). So, all doctors who practice their minimum education in the medical profession of nursing are somebody who has passed education in nursing, both inside and outside overseas, and is recognized by the government in accordance with provision regulation legislation.

Graduates of education in nursing consist of both the nurse vocation and the nursing profession (PMK no 26, 2019). Results show that the nurse vocation is far more Numerous than that of professional nurses. It is related to the motive of hoping for it to be quick to get WorkWork with relatively fast time studies (Utomo, 2021).

The midwife is a woman who has finished the Midwifery Good program in her country and also outside countries. The Central Government legally recognizes her and has

met the requirements for practicing Midwifery. Graduate of education nursing consists of vocational midwife and midwife profession (RI Law) no. 4, 2019) Results study show that midwives with an education profession Far more Lots when compared to educated midwives vocation. Results study Darna et al. (2021) concluded that from the student's point of view, DIII midwifery who are currently studying education S1 profession midwives assume that there is a need To increase graduate of education profession midwife in Indonesia that corner view the to form interest student midwifery For follow education profession midwife (Darna et al., 2021).

### Work Experiences

Results study show that respondents with an extended level of Work 11-15 years are Respondent Respondent Which Most Lots. Findings in the study This is in line with the findings of The Jewels et al. 1. (2021), Where part of extensive power health involves Respondent Respondent has Worked in a period time 11-15 years (67.5%) (Permatasari et al., 2021). Similar findings were also obtained by Augustine & Daughter (2022) in their research, Where the majority of respondents aged 11 years 43 people (71.7%) (Agustin & Putri, 2022). Based on the data, most of the power health own time Work in the range of 11-15 years.

Health workers working in Installation Emergency Emergency House Sick Bhakti Wira Tamtama Semarang consists of an officer Soldier National Indonesia - Force Land and a civil servant in there. Part of the big Respondent, Who was involved in this research, has been devoted to the House Sick Devotion Hero Enlisted Semarang for a range of 11-15 years. Devotion over a period long done by Respondent Respondent closes the relation with loyalty Respondent to institutions.

Loyalty is an attitude of being loyal to an organization by putting the interests of the organization above personal interests, carrying out tasks responsibly, being honest in working, having good working relationships with superiors and co-workers, being disciplined, maintaining the good name

of the organization, and continuing to work for a more extended period. Research by Heaven (2019) shows that loyalty in The Soldier National Indonesia - Force Land environment is very high. The study obtained data on members who feel loyalty to their organization as much as 46 members (92%), and members who lack loyalty to their organization as many as four members (8%) (Jannah, 2019).

### Burden Work

Results show that almost half of the respondents who were involved in the study currently have their burdens. Findings in the study This is in line with the findings of Safitri et al. 1. (2023), Where most of the workload of ER nurses is in the category currently as many as 20 respondents (60.6%) (Safitri et al., 2023). Ahmad And Nopti (2019) Also found a similar in their research, Where Respondents stated burden Work currently as many as 23 respondents (55.0%) (Ahmad & (Nopti, 2019).

Study Dear Sir et al. (2021) explain that nurses can experience workload if their work capacity, Which must do, exceeds their limited ability, allowing nurses to feel the workload, like physical workload, social workload, and burden Work mentally. Burden Work can appear Because There is a factor Which affects it like burden Work physique increases Because of the existence of imbalance between the amount of power Work each shift with a number of patients, social workload felt nurse due to the existence of a problem with colleague Work One the room looks like there is a nurse who unable to attend so that cause exchange shift And happen change timetable service And the mental workload is caused by the presence of overflow task from a doctor in monitor the patient in a way intensive Which have a worrying condition and must be supervised at all times (Wahyuningsih) et al., 2021).

Burden Work is a number of activities or demands in the form of giving care to patients, collaborating with Power Health in the provision of health services, and giving Power Health other forms of actions for specific medical conditions that Power

Health must complete in the Installation of Emergency Emergency House Sick Devotion Wira Tamtama Semarang in the long term specific.

Results show that the workload of health workers in Installation Emergency Hospital Bhakti Wira Tamtama Semarang in term time is specific and currently in the category. This is because of the many types of Work carried out by health workers in the provision of services. In providing service nurse action, nurses are among them in fulfilling basic needs, accepting patients, providing wound care, preparing patient needs before the operation, installing infusions, giving drugs, and inspecting vital signs. All activities that nurses often do are emergency installation, handling the first patient who experiences an emergency or critical condition and needs service in a fast and responsive way. If it is not done well, then the patient's life cannot be helped. Therefore, there is a burden, and they feel that WorkWork is essential because they must be responsible for health and patient safety. There is a mental burden and burden of WorkWork, as well as experienced doctors and midwives.

The doctor in practice will treat patients with anamnesis, provide a physical examination, provide inspection support, provide action medical as well, and provide informed consent. All actions This will become a burden on mental health and workload alone if the patient currently handles an emergency or is critical. Midwife in the practice Emergency Room will give care Midwifery, Which includes reception patient's pregnancy, anamnesis, determining diagnosis and service, preparing labor, making a referral if there is one indication m, and Handling baby and toddler Sick in accordance with guidelines set. This will all be a mental burden. Work Alone in emergencies in case of obstetrics such as preeclampsia/eclampsia, bleeding in pregnancy And labor, And bleeding postpartum.

### **Level Compliance**

The results of the study show that part of the respondents involved in the study is their level of compliance in category No obedient.

Findings This is in line with the findings of Syahrizal et al. (2019), where most nurses, as many as 68 people, or 80%, did not comply with applying Universal precautions (Syahrizal et al., 2019).

Pundar et al. al. (2019) research concluded that a number of factors influence compliance, such as age, gender, sex, level of education, And long Work. According to Pundar et al. (2019), an increased age is accompanied by an improvement in experience and skills. Pundar et al. (2019) found that men are more obedient to washing their hands compared to Women. Education, which is expected from a nurse, will produce an optimal service. Education has a higher level of compliance, Which is taller. The longer someone works, the higher the level of achievement and performance will be. This height is obtained from good behavior (Pundar) et al., 2019).

Compliance of health workers on duty in Installation Emergency Emergency House Sick Devotion Hero Enlisted Semarang in implementing universal precautions for hand hygiene, use of hands, and disposal of medical waste as an effort to prevent infection across. A number of factors cause non-compliance with the implementation of universal precautions, according to Simandalahi et al. 1., among them are the level of knowledge, attitude, training, means, And infrastructure. Simandalahi, in his research, explains that knowledge and experience in WorkWork can make somebody more skilled because actions are often done repetitively and continuously. The more Lots somebody has the knowledge and is often trained repeatedly and Keeps going continuously, the more implementation action is appropriate (Simandalahi et al., 2019).

Knowledge, attitude, belief, trust, and values are predispositions that can influence the behavior of someone with a health problem. If someone has a positive attitude, they will usually act positively toward something, but if they have a negative attitude, they will act negatively toward something (Notoatmodjo, 2014).

To improve the competence of nurses in preventing the transmission of infection, training on the application of universal precautions when providing nursing care to patients aims to improve their abilities. When a facility (including workforce, goods, capital, and budget) is ready to be used at a predetermined time, the term "availability" is used. This indicates that the available facilities must be in good condition, ready to use, and not damaged or expired. Adequate facilities are needed to increase productivity, efficiency, and work effectiveness. In the same way, health workers need adequate means and facilities to implement universal precautions in the workplace (Simandalahi et al., 2019).

#### **Connection burden Work with compliance implementation universal precaution**

Based on the results of the study, it is known that there is a significant connection between statistics burden and compliance implementation of universal precaution power health in the hospital emergency room devotion Hero Enlisted Semarang. Study This is in line with the study English (2020) in research, Where there is a connection between burden Work and the application of universal precautions (  $p$ -value 0.005) (Simanjuntak, 2020)

Khoirudin (2021) also made similar findings in his research, where he found a connection between universal precautions implementation and burden Work ( $p$ -value = 0.028. OR 5.4), which means power health with burden Work low own opportunity 5.4 times more significant for obedience in applying universal precautions.

The results of the data processing of this study indicate that most respondents have a workload in the moderate category and most of the compliance. According to the Researcher, the shortage of nursing staff in the ICU compared to the number of patients treated affects the workload of respondents in the moderate category. The lack of a workforce can cause nurses to feel overworked. In addition, patient rescue actions occur when the patient's condition suddenly worsens, which requires more

nurses to help as much as possible. Because of this situation, nurses cannot implement universal prevention protocols.

Findings Khoirudin (2021) also shows that most of the respondents who were involved in the study were not obedient to the implementation of universal precautions. Research This is done on a unit emergency where a patient is handled and sometimes requires immediate attention because of an emergency condition. In conditions That need Handling quickly And burden Work, Which is tall make nurse potential For No obedience on implementation of universal precautions.

Non-compliance with universal precautions can cause conditions that can be detrimental to patients, too. Among them are UTIs, the use of urinary catheters, local infection operations, Ventilator-Associated Pneumonia in the use of ventilators, and bloodstream infections, which, if not handled properly, will cause disability until the patient's death (Ministry et al. of Indonesia, 2017).

Burden Work nurse is the amount of Work that must be carried out by nurses who exceed their capacity. Study Revelation year 2021 found several factors That influence the burden of Work nurses in providing nursing care, including a mismatch between amount patients and the nurse on duty (Wahyuningsih) et al., 2021). Findings in the study This is in line with the Researcher's findings. There is an inconsistency between the number of nurses and patients, so the workload of nurses increases, Which causes non-compliance with health workers. Pundar et al. (2019), in their research, conclude that a number of things that affect compliance are age, type, sex, level of education, and long Work (Pundar et al., 2019). Pundar's research the non-compliance nurse in research This No

only influenced by burden Work However Also by factors other like age, type sex, level of education and also long WorkWork.

See the importance of universal precautions in an effort to minimize HAI



incidents; the results of this study can be used as a guide for nurses in the Emergency Room To increase And or maintain compliance in applying universal precautions. Good in condition burden Work tall and also No. Role nurse in the study: This is to give health services. Therefore, nurses need to have good self-management skills so that they can overcome the pressure and demands of working in houses. The existence of pressure And demands WorkWork is expected not to affect the level of compliance nurses in applying universal precautions.

The limitations of this study are that it only focuses on one object and has a limited number of research subjects, namely 33 respondents. Thus, the results of this study cannot be generalized to a broader scope. The study also has limitations because it uses a questionnaire with subjective statements that cause the answers given by the sample to be subjective and do not show the real situation. So interviews are needed to obtain more complete information.

## V. CONCLUSION

The results of the study showed that there was a statistically significant relationship between workload and compliance with a mark  $p = 0,000$  ( $p < 0.05$ ).—The Researcher hopes that this study can be used as a basis for providing re-education for nurses who have low knowledge and awareness of universal precautions as an effort to prevent cross-infection and also as input in efforts to arrange work schedules to prevent excessive workload. The results of the study also serve as primary data in developing interventions to improve compliance of health workers in implementing universal precautions through the determination of job descriptions and calculations of appropriate workloads.

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