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Analysis of Anxiety Levels and Compliance with Personal Protective Equipment (PPE) Use with the Occurrence of Clinical Symptoms of Covid-19 in Health Workers

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ABSTRACT

The mental health of medical examiners in the face of Covid-19 desires to be the focal point of interest. Anxiety can release several neurotransmitters and hormones inside the body that lower the immune device so that it will be without problems inflamed with the Covid-19 virus. This observation objective is to decide the connection between the level of anxiety and adherence to the usage of PPE to the prevalence of scientific signs of Covid-19. Cross-sectional examine 102 medical experts at the principal Inpatient health facility of Usada Buana Surabaya with a proportional sampling approach. Statistical checks using the spearman-rho test. The Spearman-Rho check showed that (87.3%) of medical examiners skilled intense anxiety in managing the Covid-19 state of affairs, and more than half (62.7%) of health workers had enough compliance use of PPE when managing Covid-19 sufferers. There may be a sizeable relationship between the extent of anxiety and the occurrence of medical symptoms of Covid-19 in health workers (p-value = 0.037). There may be a substantial relationship between PPE adherence and the event of clinical signs of Covid-19 in medical examiners (p-value = zero.003). The results of this look can be a reference to screen the course of health workers with complete PPE during the Covid-19 and to reveal regular mental repute assessments, to display or investigate the psychological situation of medical experts in going through an endemic condition.

Keywords: anxiety, compliance, covid-19, PPE

INTRODUCTION

Corona virus (Covid-19) symptoms caused by this virus include fever, cough, fatigue, lack of taste and smell, dyspnea, myalgia, vomiting, diarrhea, and innovative diseases. This sickness has spread around the world. This virus is very contagious and affects everything in everyday life which includes education, work, markets, transportation, and health services (Khuluq et al., 2022) (Lauren et al., 2020).

Common signs and symptoms of Covid-19 infection include acute respiratory distress accompanied by fever, cough, and shortness of breath. With an average incubation period of 5-6 days and a maximum of 14 days (Tosepu et al., 2021). The more extreme prognosis of Covid-19 infection is pneumonia, acute respiratory distress, kidney failure, and even death (Coelho et al., 2020).

When handling Covid-19 cases, health workers are required to use PPE, because the use of PPE is something that is very important in interacting with patients when providing health services, especially patients with Covid-19 infection. The PPE used is estimated to be PPE that has met the

standards in preventing the spread of the virus or Covid-19 transmission. In addition to the importance of using PPE, health workers want to pay attention to their mental health because mental health is considered very important in contributing to providing optimal health services, especially during the Covid-19 pandemic. Impaired mental health will also affect health services to patients (Betriana et al., 2020). One of the conditions that is the focus of attention and affects the mental health of health workers is anxiety (B. Murphy, 2020).

The countrywide clinic contamination management and best control Centre gave severe motives for the extensive form of medical examiners inflamed during the pandemic. These reasons encompass the shortage of excellent enough PPE due to a lack of knowledge approximately this kind of virus; this raises cognizance that the use of PPE is still lacking or not robust enough. As of Annunciation 2020, 414,179 showed instances are stated, with 18,440 deaths (CFR 4.4re record sufferers in 192 international locations/areas. among those times, numerous doctors have already been infected (Xiong et al., 2020). As of November 24, 2021, the complete showed cases of Covid-19 globally are 258,164,425 instances, with five,166,192 deaths (CFR 2.0%) in 204 inflamed nations. As of November 24, 2021, the authorities of the Republic of Indonesia have reported four 254,443 citizenries confirmed fantastic for COVID-19, and there are 143,766 deaths (CFR: 3.4%) (Ministry of the health of the Republic of Indonesia, 2020). Based on today's information, as of January 2022, as many as 35 doctors at the Usada Buana Inpatient predominant hospital in Surabaya had been confirmed high-quality for Covid-19. A preliminary exam in February 2022 showed that the 35 medical experts who confirmed Covid-19 said they had been nerve-racking and scared of dealing with the Covid-19 pandemic. Similarly, they also said they must be afraid to bring the Covid-19 virus home and transmit it to their house holds.

Personal Protective Equipment (PPE) allows providing protection to the whole body or part of the human body as an effective protective tool in protecting the body from occupational and environmental hazards to injury and disease. (Gray et al., 2021). A record through the Chinese language facilities for ailment manipulation and prevention suggests that in 2021 the proportion of doctors inflamed with Covid-19 turns into high-quality at three.7% of all Covid-19 instances. Previously, in 2020 inflamed doctors reached 29%, which decreased overages extensively. The decrease in contamination prices shows the measures taken to soundly guard health workers (Schou-Bredal et al., 2022b). Tingkat kecemasan petugas kesehatan yang menangani pasien Covid-19 harus mendapatkan prioritas dalam pemeriksaan kesehatan mental untuk memastikan kondisi psikologisnya dalam keadaan baik. Dibuktikan secara teori bahwa kecemasan dapat menurunkan sistem kekebalan oleh karena ketegangan yang disebabkan pelepasan neurotransmitter dan juga hormon. Akibatnya, tubuh akan mudah tertular Covid-19 (Feinstein et al., 2020b; Lugito et al., 2021a; Saruç & Kızıltaş, 2021). Signs and symptoms that are easily recognized from Covid-19 infection include cough, fever, flu, pharyngitis, headache, muscle aches. Even there are also symptoms that are not as usual.

METHODS

We conducted movement research intervention for a few docs, paramedics, helping doctors, and health administration workers, including docs 22 people, paramedics forty humans, assisting doctors 20 humans, and administrative employees 30 citizenries. The population of all medical examiners in the Usada Buana Inpatient fundamental medical institution Surabaya in 2021 (N = 112). One hundred two respondents obtained a pattern with a proportional random sampling method. The knowledge collection was finished using a questionnaire divided into three elements: the HARS scale anxiety level questionnaire with signs of psychic and bodily components. 2nd, the PPE compliance questionnaire consists of 11 questions. Third, the Covid-19 clinical symptoms questionnaire includes seven general medical signs (uncomplicated illness) of Covid-19 supported by the Ministry of fitness (2020). The Anxiety questionnaire scored one on the chosen solution and 0 on the unselected solution. Therefore, the PPE compliance questionnaire scored on a scale (of 0-3) with a total rating of 0-33. The questionnaire scientific signs and symptoms of the Covid-19 questionnaire are rated on a scale (of 0-2) with a complete score of 0-14.

After categorizing, grouping is achieved by making the full score of every element evaluation for each instrument. Class for score anxiety based totally on scale HARS (0-42), 0-10 (stressful moderate), 11-20 (fairly traumatic), 21-30 (demanding extreme), 31-42 (i panic).

The class for rating compliance use PPE i.e. seventy 6%-100% (accurate), 56%-75% (enough), < 56% (much less). category score incidence off scientific signs, i. e. 0-7 (often occur), eight-13 (hardly ever occur), 14 (by no means ever). Data analyzed univariate using distribution frequency and bivariate using Spearman- Rho test.

RESULTS

The following are the Characteristics of the Respondents

Table 1. General Characteristics of Respondents Based on Quantitative Data (n:102) cited

Characteristics respondents		f	%
Age	21-40 years	50	49
	41-60 years	52	51
Gender	Male	39	38,2
	Women	63	61,8
Status staffing	Permanent employee	14	13,1
	Employee not permanent	88	86,9
Period service	0-2 years	41	40,2
	> 2 years	61	59,8
Total		102	100

Based on table 1 above, the age of the respondents with the maximum quantities is 41-60 years (51%), and most of the respondents (61.8%) are women. Most of the respondents (86.9%) had the status of an employee, not permanent, where they worked. While regarded of the period length, the maximum number of respondents (59.8%) have more than two years.

Table 2. The level of anxiety experienced by health workers in dealing with Covid-19 patients

No	Level anxiety	Frequency	
		f	%
1	anxious light	3	2,9
2	anxious being	8	7,8
3	anxious heavy	89	87,3
4	Panic	2	2
Total		**102**	**100**

Table 2 indicates that a maximum of the health workers in the Usada Buana Inpatient principal health center Surabaya (87.3%) revel in intense anxiety in coping with the Covid-19 situation.

Table 3. The level of anxiety experienced by health workers in dealing with Covid-19 patients

No.	PPE Compliance Rate	Frequency	
		f	%
1	Good level of Compliance	36	35,3
2	Sufficient level of Compliance	64	62,7
3	Less compliance rate	2	2
Total		102	100

Table 3 indicates that more than 1/2 of the medical examiners at the Usada Buana Inpatient foremost sanatorium Surabaya (62.7%) have sufficient compliance in using PPE when handling COVID-19 patients.

Table 4. The level of anxiety experienced by health workers in dealing with COVID-19 patients

No.	Occurrence of Clinical Symptoms of COVID-19	Frequency	
		f	%
	Never happened	3	2,9
	Rare	41	40.2
	Frequent occurrences	58	56,9
Total		102	100

Table 4 suggests that more than 1/2 of the medical experts in the Usada Buana Inpatient most crucial health facility Surabaya (62.7%), regularly experience clinical signs of COVID-19 for the duration of the pandemic.

Table 5. Analysis of the Relationship between Health Worker Anxiety Levels and the Occurrence of Covid-19 Clinical Symptoms

			Symptoms of Covid-19			**Total**
			Often	**Infrequently**	**Never**	
Anxiety Levels	Light	Count	0	1	2	3
		% within Anxiety Levels	0.0%	33.3%	66.7%	100.0 %
	Keep	Count	4	3	1	8
		% within Anxiety Levels	50.0%	37.5%	12.5%	100.0 %
	Heavy	Count	52	37	0	89
		% within Anxiety Levels	58.4%	41.6%	0.0%	100.0 %
	Panic	Count	2	0	0	2
		% within Anxiety Levels	100.0 %	0.0%	0.0%	100.0 %
Total		Count	58	41	3	102
		% within Anxiety Levels	56.9%	40.2%	2.9%	100.0 %
Spearman's rho test results		Sig. (2-tailed)	0.037			
		Correlation	0,725			

Table 5 shows that each one of the panicked medical experts (100%) frequently revels in medical symptoms of Covid-19. in the meantime, more significant than half of all medical experts with moderate anxiety stages (66.7%) have by no means experienced clinical signs and symptoms of Covid-19. Spearman's rho check effects confirmed a significance price (p-value) of 0.037 and a correlation fee of 0.725. It approaches that the extent of anxiety of medical examiners has a vast date with the prevalence of scientific symptoms of covid-19. The correlation stage is 0,725%.

Table 6. Analysis Relationship between Compliance with using of PPE for Health Workers and the Occurrence of Clinical Symptoms of Covid-19

			Symptoms of Covid-19			Total
			Often	Infrequently	Never	
PPE compliance	Good	Count	3	31	2	36
		% within PPE Compliance	8.3%	86.1%	5.6%	100.0%
	Enough	Count	53	10	1	64
		% within PPE Compliance	82.8%	15.6%	1.6%	100.0%
	Less	Count	2	0	0	2
		% within PPE Compliance	100.0%	0.0%	0.0%	100.0%
Total		Count	58	41	3	102
		% within PPE Compliance	56.9%	40.2%	2.9%	100.0%
Spearman's rho test results		Sig. (2-tailed)	0,003			
		Correlation	0,910			

Table 6 indicates that of all health workers who properly comply with PPE, almost all (86.1%) rarely reveal clinical signs of Covid-19. Meanwhile, all health workers who're less compliant with the use of PPE (100%) often enjoy clinical signs of Covid-19. Spearman's rho looked at outcomes and confirmed a significance fee (p-value) of 0.003 and a correlation value of 0.910. It method that the level of adherence to the use of PPE in medical examiners has a massive relationship with the prevalence of clinical symptoms of covid-19; the correlation fee is 91%.

DISCUSSION

The Relationship of Anxiety with the Occurrence of Clinical Symptoms of Covid-19

The results showed that the extent of anxiety among medical experts had a substantial courting with the occurrence of scientific symptoms of covid-19. As a result, the correlation fee changed to 72.5%, with a significance price ($p<0.05$) of 0.037 and a correlation cost of 0.725.

During the Covid-19 pandemic, the strain felt by health workers was in dealing with the conditions of handling Covid-19 patients. Where unexpected events or emotions arise during the handling of Covid-19 patients. Fear of the inability to treat Covid-19 patients and the risk of contracting it which results in health conditions (Manning et al., 2021). Based on previous research, symptoms of anxiety and depression were experienced by most patients, the community, and health workers during the Covid-19 pandemic (Feinstein et al., 2020a; Saruç & Kızıltaş, 2021; Yang, 2022). Most of the health workers dealing with COVID-19 have mental health problems. This is because apart from having a high workload, health workers also have a high risk of being infected with Covid-19. Prolonged fatigue can also increase the risk of infection in nurses (Sahebi et al., 2021).

Healthcare workers, as a part of the healthcare system that handles Covid -19 are prone to experiencing Anxiety (Yang, 2022) (Lai et al., 2020; Walton et al., 2020; Zhang et al., 2020).

In addition, while if the patient receives treatment at the hospital, the no-visit policy is also implemented to minimize the risk of spreading the Covid-19 virus to others. Often patients feel alone during the treatment process so they depend on health workers who treat them. This is what causes nurses to have a higher workload (Pappa et al., 2020; Serafini et al., 2020). Before study methods to guide healthcare specialists can be advanced, it's essential to understand their precise resources of tension and fear. Instead of teaching established methods to pressure discount or resilience, specializing in addressing those worries must be the first attention of guide efforts for the duration of this Covid-19 pandemic (Laili et al., 2022).

The anxiety that takes area in healthcare personnel desires to urge remedy because anxiety can increase the threat of negative sports. A glance showed that anxiety or despair in healthcare people prolonged the chance of destructive activities, an extended side website traffic injuries, work injuries, or medical errors, through as many as 63%. As a thing that plays a task in handling the Covid-19 pandemic, intellectual fitness in healthcare personnel needs interest because it can impact managing this pandemic (Zhang et al., 2020).

Healthcare centers are an area of job whole worrying situations, so resilience is significant to the use of healthcare people, especially during an epidemic like this. Resilience is a character's functionality to upward push and adapts to conditions that inspire misery. Resilient individuals have optimism and self-assurance, an impressive manner to control conditions even in unfavorable situations. Resilience is indicated through numerous developments in individuals, including optimism, adaptability, self-confidence, high-quality self-photography, empathy, and tolerance. Resilience may be a combination of personal and lifestyle reports that ultimately bring about the capacity to comply (Lugito et al., 2021b).

Confronted with this significant situation, frontline healthcare workers are immediately concerned about the analysis, treatment, and remedy of Covid -19 sufferers who are vulnerable to mental stress and different intellectual health symptoms. Furthermore, the increasing number of showed instances, heavy workloads, depleted self-safety system, huge media coverage, loss of certain medicinal drugs, and feelings of being unsupported are elements contributing to the psychological state of health workers (Lai et al., 2020). Therefore, the Covid-19 pandemic state of affairs is often currently being confronted with calls for a focal point of interest, in particular at the mental fitness of medical experts, where the intellectual fitness of doctors has the potential to intrude with and even reduce the fine of fitness offerings that affect our fight towards the Covid-19 virus. Tension is one of the initial psychological symptoms that can triumph over (Coelho et al., 2020; Rudenstine et al., 2022; Zvolensky et al., 2022).

Growing anxiety among doctors worried about dealing with Covid-19 sufferers calls for ordinary commentary or exams of their psychological situation so that monitoring or assessing the mental condition of health workers may be acknowledged. Moreover, based on the principle, it's going to be defined that anxiety will affect the decline of the immune machine due to the fact anxiety can release numerous neurotransmitters and hormones inside the body, which could purpose a decrease within the immune system, so it'll likely be easy to revel in infections because of the Covid-19 virus, or

at the least, the emergence of clinical symptoms of Covid-19 called simple infection (Mahdee et al., 2020; Monterrosa-Castro et al., 2020; Sauer et al., 2022; Xiong et al., 2020).

The principal aspect causing the mild anxiety signs and symptoms skilled by nurses is the talents possessed by nurses in sporting out their duties. However, high tension among nurses can also impact their physical health. In addition, many nurses have psychological state issues, as they not best endure the workload overload but can also be in danger of contamination. For example, prolonged fatigue can cause an accelerated danger of contamination within the nurse. Similarly, excessive anxiety can decrease the body's resistance, so nurses are susceptible to contracting the Covid-19 virus (Taghizadeh-Hesary & Akbari, 2020).

The results of this study show the age of the respondents with the most quantities is 41-60 years (51%). At a mature age, there begin to be bodily and psychological changes, particularly while uncovered to the signs of Covid-19, where the extended risk is often better at an elderly age compared to a younger age. The adulthood or adulthood of the person will have an impact on the coping ability of a person's mechanisms, so those that are extra difficulty experiencing tension because individuals have extra notable adaptability to tension than those who aren't yet mature. From the concept, it's concluded that the more mature a person is in age, the more the mechanism of adaptation to tension. Age correlates with experience; enjoyment correlates with understanding, know-how and views on a disorder or event, an honest way to shape perceptions and attitudes. Therefore, adulthood within the concept process in individuals of person age is more likely to use coping mechanisms than in adolescent or kid's age companies. But, in truth, better tension occurs in adults with little experience handling stress, so their coping mechanisms still want to be appropriately fashioned. The stressor in question is the Covid-19 pandemic (Feinstein et al., 2020a; Schou-Bredal et al., 2022a; C. Wang et al., 2020; X. Wang et al., 2021).

And most of the respondents during this research (61.8%) are ladies. Ladies than men normally enjoy it because women are more sensitive to their feelings, which in flip is likewise touchy to their feelings of hysteria—it said that sex factors should notably affect a person's degree of anxiety. The study also mentioned that the female sex is more prone to experiencing anxiety than the male sex; brain and hormonal differences are the main elements (Hou et al., 2020). Ladies have a high stage of hysteria because of excessive autonomic nerve reactions. Additionally, in women, there are changes within the secretion of hormones, specifically estrogen, which affects anxiety (Flentje et al., 2020). Most of the respondents (86.9%) had the status of an employee, not permanent, where they worked. While regarded of the period length, the maximum number of respondents (59.8%) have more than two years.

Consequently, a person or woman boom in internal potential is wanted by medical examiners due to the fact that health workers have a high threat of the effect of the unfolding of the Covid-19 pandemic. Doctors have a more obligation related to the time in offering services to patients for 24 hours while responsible for the hospital or other healthcare places. Improving the skills of medical experts will grow self-assurance in presenting health services to assist medical experts in managing situations that can be threatened throughout the Covid-19 pandemic. Healthcare workers with an excessive acceptance stage will have shared issues approximately conditions in providing health services to sufferers. It is also necessary to examine or test the mental repute periodically of health workers handling Covid-19 to screen or check the psychological situation of health workers and the level of anxiety for medical examiners.

Relationship of PPE Compliance with the Occurrence of Clinical Symptoms of Covid-19

Spearman's rho looked at outcomes and confirmed a significance fee (p-value) of 0.003 and a correlation value of 0.910. It method that the level of adherence to the use of PPE in medical examiners has a massive relationship with the prevalence of clinical symptoms of covid-19; the correlation fee is 91%.

In handling Covid-19 sufferers, doctors who're immediately concerned have to get important priorities, especially if the patients handled are confirmed top quality for Covid-19. Therefore, it's hoped that the PPE that has been standardized has a noticeably stimulating impact in stopping the spread of the virus or the transmission of Covid-19. However, it became that the utilization of PPE was no longer most excellent for medical experts even though the PPE had been prepared and medical examiners already knew its function. Non-public shielding devices (PPE) or private protecting devices may be a number of the necessary tools or gadgets. It should be used for non-public protection in retaining protection for employees while sporting out paintings with an excessive capacity for hazard or hazard

of the place of business accidents. Diverse kinds of personal shielding equipment can be used in maximum conformity to ability risks and dangers of the paintings achieved, so it's a noticeably stimulating impact on protective workers as users (Ismael et al., 2020; O'Brien et al., 2021; Shehab et al., 2021).

Medical health experts should prioritize compliance in using PPE because it calls for vigilance, according to other extra transmissions, to protect themselves and prevent transmission in healthcare settings. This is often due to the fact covid-19 is transmitted between people to men and women via immediate contact and splashes (droplets). Similarly, the transmission mechanism may also occur for the duration of aerosol-produced methods and guide treatments (e.g., tracheal intubation, noninvasive air flow, tracheotomy, CPR, and manual airflow before intubation, bronchoscopy); therefore, WHO advises the vigilance of transmission mechanism (airborne) (Cahill et al., 2022; WHO, 2020).

A report through the Chinese centers for ailment management and prevention indicates that in 2021 the share of medical experts infected with Covid-19 changed to the best 3.7% of all instances of Covid-19. Previously, in 2020 inflamed doctors reached 29%, which reduced considerably afterward. These lower infection prices possibly reflect the use of PPE measures to securely defend health workers (Septimar & Panjaitan, 2022; Stewart et al., 2020). However, in the result of qualitative research conducted by Cha *et al.* (2022), 7 nurses in South Korea pointed out that there were obstacles to non-public shielding equipment (PPE) compliance behavior resulting from beside-the-point PPE measures due to inconsistent government protocols on PPE layout.

Of nurses compliant with PPE, 86.1% rarely enjoy clinical symptoms of Covid-19. PPE can reduce the danger of transmission but can't eliminate the hazard of disorder transmission. A personal shielding gadget must be used efficiently and appropriately to direct movement to the affected person. Therefore, the supply of personal defensive gadgets and expertise in their use is likewise critical. Health officers should recognize that non-public shielding devices no longer replace basic hygiene, such as hand washing. But, personal shielding gadgets and hand washing are critical to regulating contamination correctly. Most doctors in direct contact with patients will have a high chance of contracting the disorder. This transmission could also be via contact, air, droplets, or punctured with the help of syringes. Consequently, the private defensive device can lessen the danger or effect prompted (McDougall et al., 2021; Ningrum, 2021; Tang et al., 2020).

The google and face shields used on officials who observe their usage will lessen the capacity of contracting Covid-19 through 0.473 instances compared to officials who do not use face shields or google. But, the topic and compliance of medical experts in the use of it entirely and disposal of PPE consistent with the SOP continue to be considered inadequate. Therefore the transmission stage of covid-19 amongst scientific workers can increase. At the same time, using an N95 mask can filter ninety five% of debris of 300 nm (Barycka et al., 2020; Khalil et al., 2020).

CONCLUSION

Most (87.3 %) health workers at the Usada Buana Inpatient fundamental hospital Surabaya revel in excessive anxiety in coping with the Covid-19 situation. Nonetheless, quite half (62.7%) of doctors at the Usada Buana Inpatient fundamental clinic Surabaya have sufficient compliance in using PPE when dealing with Covid-19 sufferers. Furthermore, there could also be a widespread dating among the level of anxiety and the incidence of medical signs of Covid-19 in medical examiners at the Usada Buana Inpatient fundamental health center Surabaya (p-value = 0.037). Furthermore, there is a good-sized relationship between compliance with the usage of PPE and the prevalence of medical signs of covid-19 among medical experts in the Usada Buana Inpatient predominant health facility Surabaya (p-value = 0.003).

Efforts to enhance health workers' compliance in using PPE are via teaching health workers about the importance of using complete PPE during the COVID-19 pandemic and undertaking routine psychological fame tests to screen or examine the psychological of medical examiners in dealing with an endemic situation.

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