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Anxiety and perceived mental healthcare need among non-frontline in coronavirus referral hospital, Surabaya

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ABSTRACT

Introduction: The pandemic of COVID-19 has put healthcare workers under high pressure with possible psychological problems and its most common effects are insomnia, depression, distress, anxiety, and somatization symptoms. Previous studies in several centers have shown different results between frontline and non-frontline healthcare workers. This study aims to evaluate the levels of anxiety and perceived needs for mental healthcare among non-frontline healthcare workers during the COVID-19 pandemic in a referral hospital in Surabaya.

Patients and methods: This cross-sectional study involved forty respondents, but one was discontinued due to technical problems. Questionnaire of The Hospital Anxiety and Depression Scale (HADS) was adopted that has 14 scales with two subscales. The subscales include HADS-A for Anxiety and HADS-D for depression.

Results: The results show that both HADS-A and HADS-D have significant differences between the indirect and direct groups of contact healthcare workers, except in gender and depression, as shown in Table 3, with an average score of 8.000 (SD 5.02169) and 8.7333 (SD 4.71270), respectively.

Conclusion: Anxiety and depression remain a problem for all healthcare workers, whether frontline or non-frontline. Therefore, issues must be used to mitigate both the frontline and non-frontline healthcare workers.

Keywords: COVID-19 Pandemics, psychological burden, HADS, non-frontline HWC.
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INTRODUCTION

The COVID-19 virus infected over two million people around the world, with a mortality rate of 1.3 million. The duration of the COVID-19 pandemic is not known, and several countries, including Indonesia, have experienced second or third waves of COVID-19. Since the discovery of the COVID-19 virus, whose transmissive capacity is overpowering, the situation has deteriorated.[1] The World Health Organization (WHO) has stressed the exceptionally significant burden on healthcare workers who deal with the pandemic and stressed the urgent need to prevent the impact on their health.[2] The pandemic is a phenomenon that affects the physical and mental health of healthcare workers. The pandemic of COVID-19 was associated with health problems experienced by healthcare workers such as anxiety, depression, insomnia, psychological distress, and somatization symptoms.[3]

A previous study in Singapore found that non-medical workers had higher rates of anxiety and stress compared to medical workers. This is due to

limited access to pandemic medical information, psychological support, and personal protective equipment (PPE) manual training and infection control.[4]

Anxiety is defined as a mental health condition in which individuals experience worried thoughts and uneasiness. Furthermore, the health anxiety model of COVID-19 states that individuals who are affected are more likely to suppress those feelings by avoiding the situation. Anxiety can disturb their ability to function in a social setting.[5]

A study in Paris[6] implement a psychological support system for non-frontline (Health Care Workers) HCWs after it was observed that their mental health was also affected. A study in Singapore reported that non-frontline HCWs were more likely to have anxiety than front-line HWCs, while A few studies reported that frontline HCWs were more likely to have anxiety than non-frontline.[7] Furthermore, a study in Malaysia shows that non-frontline HCWs had higher anxiety mean scores than frontline. This indicates that they also require psychological support

during the COVID-19 pandemic.[8] Mental health issues are another major concern, which is estimated to increase daily during the pandemic. Considering the relevance of the factors mentioned above, this study aims to evaluate the levels of anxiety and perceived mental healthcare needs among non-frontline healthcare workers during the COVID-19 pandemic in Surabaya.

This study aims to identify the level of anxiety among non-frontline healthcare workers in COVID-19 referral hospitals in Surabaya, the level of perceived mental healthcare needs among non-frontline healthcare workers in COVID-19 referral hospitals in Surabaya, and to investigate the difference between direct and indirect contact on anxiety and perceived mental healthcare needs among non-frontline healthcare workers in COVID-19 referral hospitals in Surabaya.

MATERIAL AND METHODS

This is a cross-sectional study conducted among non-frontline healthcare workers in hospitals in Surabaya. Forty non-frontline HCWs were invited to participate in the research, and sampling was adopted to select eligible participants. The exclusion criteria include participants having any psychiatric illnesses, while the inclusion criteria include consent for participation, non-frontline Health Care Workers, a legitimate employee in Husada Utama Hospital during the pandemic of Covid-19 and literate internet communication (google form).

Backoffice healthcare workers, further defined as non-front liners, also have brief, non-physical contact with patients. In the category of indirect contact were administrations, finance, secretaries, cooks, and engineers. Those with direct contact include security, parking, housekeepers, and food deliverers.

The socio-demographic data included age, education level, race, number of children, household income, marital status, and occupational data, which included the duration of employment, type of work, and shift. The Hospital Anxiety and Depression Scale (HADS) questionnaire was adopted that has 14 scales with 2 subscales. The subscales include the Hamilton Anxiety Depression Scale-Anxiety (HADS-A) and the Hamilton Anxiety Depression Scale-

Depression (HADS-D). The instrument consists of 14 questions. The odd and even items measure anxiety and depression levels, respectively. The 4 response choices are never (0), mild (1), moderate (2), and severe (3), with the possible scores ranging from 0 to 21. The cut-off point is 8, which implies that anxiety is indicated when the scores for the items are 8 or above. Furthermore, a questionnaire developed by Deblina Roy et al., 2020 was used to measure Perceived mental healthcare needs. The questionnaire has 5 items, for example: Do you think it would be nice to talk to someone about your COVID-19 worries? These questions were structured on a 5-point Likert scale from 1 "Strong disagree" to 5 "strongly disagree". Please refer questionnaire in the appendix. Regarding the Statistical Analysis, we use IBM SPSS, using version 25. The resulting data is homogenous, independent sample tests were used.

RESULTS

This study involved thirty-nine respondents, which include back-office, non-medical staff, and employees, with the indirect and direct groups of healthcare workers (n = 24 and 16, respectively). The response rates attained from the groups above were 100% and 93.75%, respectively, ranging from the driver, security, food beverage staff, front office admission, transporter, cleaning service, engineering, medical records, computer technicians as well as administration staff, such as marketing, secretaries, human resources department, and accountings.

They were further categorized in positive contact with covid patients based on the nature of their job descriptions, such as driver, security, food beverage, front office admission, transporter, and cleaning service. Those with strictly no contact include administration staff, engineering, medical records, and computer technicians. The demographic of both groups is shown in Table 1.

From the table below, 58.97% of respondents were male, in contrast with frontline employees in the same hospital, accounting for 23.77%, because the majority of nurses were female. Although, in doctors, the ratio is slightly higher, accounting for 52.3% of males. The

respondents were dominated by married individuals at 84.61%, compared with 87.23% in the frontline section. Age was predominantly in the forties (41.03%). In the age range of the twenties, 20% of respondents have abnormal depression results and none in anxiety. Meanwhile, in the age range of the thirties, one respondent each showed an abnormal category on the depression scale and anxiety score, accounting for 9.09%. In the range of forties, only one respondent showed results abnormal scale in depression and anxiety, accounting for 7.69%.

In the marriage category, 4 (11.4%) respondents showed results of borderline or above in depression and 3 in anxiety, accounting for 8.57%. Meanwhile, in the unmarried group, only one respondent showed borderline results in depression score, accounting for 20%, and none in anxiety.

In the category of contact with COVID-19 patients, 3 (20%) respondents showed borderline results in depression and 1 in anxiety. However, in groups of non-frontline healthcare workers with no contact, 3 respondents showed an abnormal result in depression, accounting for 12.5%, and none in anxiety

In Table 2, there was a significant difference between direct and indirect contact. The HADS-A and HADS-D show no significant difference between the indirect and direct groups of healthcare workers, as shown in Table 3, with an average score of 8.000 (SD 5.02169) and 8.7333 (SD 4.71270), respectively showing minimal case according to the scoring result. In contrast to the typical preponderance of female healthcare workers in hospitals, the gender distribution continues to indicate a greater proportion of men. Furthermore, the majority of respondents are married, with an average age in direct and indirect contact groups of 37.3 and 40.8 years, respectively.

As shown in Table 4, no significant differences were also found in regards to either depression and anxiety with contact, marriage, and gender.

DISCUSSION

Anxiety is defined as an emotion characterized by uneasiness feeling,

excessive worry, and physical changes like increased heart rate. Individuals may experience some symptoms such as restlessness, poor concentration, muscle tension, difficulty sleeping, and irritability.[9,10] On the other hand, depression is a mental condition manifested by loss of interest, excessive guilt, disturbed sleep, loss of appetite, and poor concentration.[11]

In general, COVID-19 has caused stress, anxiety, and depression to a large population. A systemic review and meta-analysis of stress and anxiety in the general population from the beginning of Covid-19 to May 2020 by Salari et al. found a stress prevalence of 29.6%, with a 95% confidence limit of 24.3–35.4 in 9,074 samples of 5 studies. The prevalence of anxiety was 31.9%, with a 95% confidence interval of 27.5–36.7 in 63,439 samples of 17 studies. Furthermore, depression was 33.7%, from 44,531 samples of 14 studies, with a 95% confidence interval of 27.5–40.6.[12] For comparison, Geoffroy in Paris found 71.5% of 1,257 distressed healthcare workers, 44.6% anxiety, 50.4% with symptoms of depression, and 34% insomnia.[6] Repeated exposure in the media of crisis in the community led to increased stress and its responses, a higher degree of anxiety, and a deterioration in the public's general health, overburdening the health resources and facilities with misplaced presumptions.[13]

Meanwhile, anxiety is caused by a combination of physical conditions, stress, environmental factors, and genetics due to the disruption of modulation in the central nervous system. This causes low activity in the serotonin and noradrenergic pathway. Anxiety is associated with elevated leukocyte levels and a negative connection with erythrocytes and RDW, showing its role in the immune system, particularly during the Covid-19 pandemic.[9] Depression is higher in developing countries due to other possible infectious diseases and relatively limited healthcare resources. Women have also been observed to be more susceptible to depression compared to men,[12] but this study showed no significant difference between gender.

Several studies have intensively examined healthcare workers in stress, anxiety, and depression.[6,14–16] However, they were mostly limited to frontline workers, defined as those with continuous contact with patients, such as doctors, nurses, pharmacists, radiographers, laboratory staff, and physiotherapists.[3,7,8,17–19] These studies provided appropriate recommendations for mitigating the psychological effects

Table 1. Demography of respondents.

Variable	N = 40
Gender	
Male	23 (58.97%)
Female	16 (41.03%)
Marital Status	
Married	33 (84.61%)
Single	6 (15.39%)
Patient Contact	
Direct Contact	15 (38.46%)
Indirect Contact	24 (61.54%)
Age	
21-30 years old	11 (28.20%)
31-40 years old	10 (25.64%)
41-50 years old	16 (41.03%)
>= 51 years old	2 (0.05%)

Table 2. Characteristics of healthcare workers in association with direct/ indirect contacts.

Variables	Direct contact		Indirect Contact	
	N = 15	(%)	N = 24	(%)
Age means (years)	37.3 years		40.8 years	
Marital Status				
Married	13	86.7	22	91.7
Single	2	13.3	2	8.3
Gender				
Male	11	73.3	15	62.5
Female	4	26.7	9	37.5

Table 3. Characteristics of healthcare workers in association with direct/indirect contacts.

Groups	n	Desc. Mean	(SD)	Mean Diff (95% CI)	F Stat (df)
Indirect contact	24	8.0000	5.02169	-0.73333	0.067
Direct contact	15	8.7333	4.71270	(-4.00586; -3.97691)	

Table 4. Characteristics of healthcare workers in association with direct/indirect contacts.

No	Item	Sig	t[a]	Sig[b]
1	Anxiety and contact	0.939	-0.89	0.929
2	Depression and contact	0.979	-0.117	
3	Anxiety and Marriage	0.403	-0.334	
4	Depression and Marriage	0.518	0.18	
5	Anxiety and Gender	0.062	0.218	
6	Depression and Gender	0.494	2.893	

of COVID-19 on frontline healthcare workers. Only a few have highlighted the effect on non-frontline healthcare workers,[7,8] hence, more investigation should be implemented.

A study in Kelantan, Malaysia, as well as Tan et al. in Singapore, found a similar level of psychological burden between frontline and non-frontline healthcare workers. However, Geoffroy et al. in Paris, despite the significant difference in the number of frontline healthcare workers, found the opposite.[6,8] The difference is that Kelantan used the HADS and Medical Outcome Study. Singaporean study adopted the validated Depression, Anxiety, and Stress Scales (DASS-21) and the Impact of Events Scale-Revised (IES-R) instrument, while France used quantitative data from a healthcare hotline in Paris, France.[4,6,8] The results both showed similar stress, anxiety, and depression level between the three groups.

The result of a study showed that anxiety harms leukocyte level, erythrocyte count, and Red Cell Distribution Width,[9] innate immune response increase, with a high number of neutrophil, eosinophil, and basophilic granulocyte cells due to increased pro-inflammatory cytokines level in IL-1, IL-6, and TNF-α produced by innate immune system cells.[20] Stress is known to increase the likelihood of illness among healthcare workers[21], besides its negative effect on work quality and environment.[19]

Psychological effects on non-frontline healthcare workers can be due to the reduced availability to provide psychological support, as well as medical information on the COVID-19 pandemic and its manifestations. Another factor is the necessary infection control measures and intensive training on personal protective equipment.[4]

This study found that anxiety and depression are associated with marriage and patient contact, a similar study has found similar results.[22] Furthermore, anxiety is significant in terms of gender, while depression is not, with males exhibiting the highest level. Although the Non-frontline Health Care Workers due to their job description have a shorter duration of contact with Covid-19

patients, inevitably they have similar anxiety and depression as their fellow frontline health care worker counterparts, being older and having more clinical experience aggravates both anxiety and depression.[22,23] The male respondents showed a higher level of anxiety, this could be due to the responsibility on culture and environment in our society which still predominantly placed the male gender as the family bread winner, the main family provider.[22]

The interventions for non-medical healthcare workers should involve education for the fulfillment of understanding and usage of measures in infection control and mitigations. This includes support in psychological, such as counseling services and support system development.[23–26] Education for appropriate personal protective equipment, proper placement of COVID-19 patients as well as infection control measures, such as standard hand hygiene and washing, have all proven successful in a referral hospital.

More studies are required to determine the possible relationship between anxiety, depression, gender, marriage, and contact with COVID-19 patients. Furthermore, despite the anonymity of the questionnaire, this study has some limitations, such as lack of socioeconomic status, and it was conducted in a single center.

CONCLUSION

Anxiety is one of the most common mental distress caused by the COVID-19 pandemic. This study found a significant difference in HADS scoring in non-frontline healthcare workers between those with indirect and direct contact. Therefore, it is prudent that their psychological health should be protected by providing and improving mental health support, as well as care services globally. Ultimately, it is hoped that this study will provide policymakers with actionable insights to formulate a method to deal with higher anxiety levels among non-frontline healthcare workers in hospitals.

DISCLOSURE STATEMENT

The authors declare nothing to disclose.

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