ORIGINAL RESEARCH

A quasi-experimental study of psychotherapy in reducing anxiety among nurses working in COVID-19 wards

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Abstract
Frontline nurses working with the coronavirus disease-2019 (COVID-19) pandemic face various mental health problems ranging from excessive stress and severe anxiety. If left untreated, this will reduce productivity and nursing care. However, a study addressing this issue among nurses in Indonesia is limited. Therefore, this study investigates psychotherapy to reduce anxiety in a group of nurses. The study used an experimental design with one group pre-posttest design. A total of 54 clinical nurses were involved after signing informed consent. Hamilton anxiety rating scale was engaged for the data collection process. Paired sample t-test was used for data analysis. The finding shows that psychotherapy helps to reduce anxiety due to the pandemic ($p < 0.05$). Further study is needed to evaluate the effectiveness of using groups of nurses working in Hospitals.

Keywords: anxiety; psychotherapy; COVID -19; nursing practice; mental health care

Introduction

Anxiety is a fear of something and a signal that helps individuals to survive threats (Ströhle, Gensichen, & Domschke, 2018). During the COVID-19 era, healthcare professionals are more likely to have an infection from COVID-19. This is due to the clinical nurses are dominant in a hospital leading to an increase in the infection of the patient (Sabetian et al., 2021). The condition makes nurses experience anxiety and fear of the transmission and spread of the virus to their family, friends, or colleagues (He et al., 2021). There are immediate concerns about the risk of infection that may reduce work productivity, and increase medical errors and mental health problems (Park, Lee, Kim, & Jung, 2021). Nurses working with patients with COVID-19 become a group with a very high risk of exposure. Research has presented the possibility of medical personnel being infected with COVID-19 at 3.8%, mainly due to unprotected initial contact with infected patients (Lai et al., 2020). COVID-19 infection has a higher transmission rate than Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS) (Mahase, 2020).

A study documented that 1.257 healthcare working in the COVID-19 ward experienced anxiety, insomnia, and psychological distress (Fadli, Safruddin, Ahmad, Sumbawa, & Baharuddin, 2020). In Indonesia, according to a 2020 study of 535 nurses working in hospitals during the Covid-19 pandemic from 24 provinces in Indonesia, 23.7% (127 nurses) had moderate anxiety, 6.5% (35 nurses) experienced moderate stress, and 8.8% (47 nurses) had moderate depression (Diinah & Rahman, 2020). In addition, a study confirmed that the prevalence of anxiety, depression, and insomnia among health workers in Pontianak, Indonesia was 57.6%, 52.1%, and 47.9% (Hanggoro et al., 2020). Healthcare workers tend to experience more anxiety, depression, and insomnia compared with those working in non-COVID wards (Muliantino et al., 2021). Anxiety affects the attention, understanding, decision-making, and ability of health workers (Pouralizadeh et al., 2020)

There are several methods to overcome anxiety including psychoeducation, support groups, a buddy system, providing fun activities, sports, and spirituality. However, none of the studies described the use of psychoeducation to reduce anxiety. Furthermore, intervention addressing anxiety is very important as nurses experiencing anxiety will

be prone to lower the quality of care. Psychological assistance carried out at one of the hospitals in Magelang City is in the form of group psychotherapy for nurses experiencing anxiety that aims to improve psychological well-being and or prevent and deal with mental health conditions following the needs of nurses in the COVID-19 ward. Measurement of the effectiveness of psychological assistance in the form of group psychotherapy in reducing nurse anxiety in the COVID-19 ward must be evaluated. For this reason, the purpose of the study is to evaluate the effects of psychotherapy to reduce anxiety among nurses working in COVID-19 wards. It is hoped that the finding of the study may help nurses to cope with anxiety which may improve nursing care and prevent further psychological complications.

Method
The study used a quasi-experimental design to reveal the possibility of causation between variables without the manipulation of a variable. Also, one group pre-posttest design involved taking measurements before and after treatment. The population in this study is nurses working in the COVID-19 ward of a hospital in Indonesia. The criteria are nurses with mild, and moderate anxiety and willing to join the study. Meanwhile, the exclusion criteria were nurses not having anxiety. A total of 54 nurses were assessed, however, only 5 nurses experienced anxiety. The sampling method used was non-random sampling. Hamilton anxiety rating scale was used for collecting the data. This instrument was validated and also test for its reliability. The psychotherapy was conducted two times a week from August - November 2021. Data analysis using the Paired Sample T-Test statistical test with a level of $\alpha = 0.05$. The data normality test uses Kolmogorov Smirnov. This research has passed the ethical test with the number: 392 / EA / KEPK-FKM / 2021.

Results
Many respondents will certainly have different characteristics, so researchers will describe the results of the study of each of these characteristics **(Table 1)**. Most of the ages are 36-46 years old as many as 27 people (48%). The sex in the group was 23 men (43%) and women 31 (57%). Most respondents had a working period of fewer than 12 months as many as 23 people (43%).

Table 1. Respondents' characteristics

Demographic characteristics	Frequency	Percentage (%)
Gender		
- Male	23	43
- Female	31	57
Marital status		
- Married	53	98
- Not married	1	2
Age		
- < 25 year	1	2
- 26-35 year	22	43
- 36-46 year	27	48
- > 46 year	4	7
Working time		
- < 12 months	22	43
- 13-24 months	5	9
- 25-36 months	1	2
- > 37 months	26	47

The initial condition indicated 5 people felt mild anxiety levels. This table presented that most of the respondents have no anxiety due to the pandemic situation **(Table 2)**. Anxiety is still a health concern among clinical nurses which needs further intervention.

Table 2. Anxiety assessment

Anxiety	Frequency	Percentage (%)
Not experiencing anxiety	49	90
Mild anxiety	5	10

The results of the analysis between the variables of anxiety (post 1) and anxiety (post 2) obtained that there were statistical differences after receiving psychotherapy **(Table 3).** It can be concluded that psychotherapy has a significant effect to reduce anxiety.

Table 3. Psychotherapy result

	t	df	Sig. (2-tailed)	Information
post 1 – post 2	3.162	4	0.034	Significant

Discussion

Nurses as the vanguard in handling patients during the COVID-19 Pandemic became a group with a very high risk of exposure. Clinical nurses are also prone to psychological problems due to the pandemic. The finding of the study revealed that anxiety become a concern among nurses. This follows a study that the health crisis of the pandemic leads to psychological changes such as fear, anxiety, depression, or insecurity (Maideen et al., 2022; Turale & Nantsupawat, 2021). The fear of exposure or infection leads to excessive anxiety, and helplessness, so it can develop into psychological problems including depression, insomnia, somatic symptoms, stress, and even suicide (Muliantino et al., 2021). The number of anxieties among nurses is only 5 nurses (10%). Most of the respondents have no anxiety due to their knowledge and adaptation ability related to COVID-19 infection. The finding supported by a study that adaptation is important when dealing with a challenging situation including a pandemic (Candan, Doğan, Güler, & Carroll, 2022; Kim & Kim, 2021). The study documented that nurses who do not experience anxiety successfully responded to environmental in June - July 2021. While as many as 5 nurses who experienced mild anxiety (10%) had a range of HARS anxiety scores of 15-19 with most stating they experienced a little anxiety experienced in the last 2 weeks, which was characterized by feelings of worry, difficulty sleeping, palpitations and gastrointestinal problems. In addition, 3 of 5 nurses were confirmed COVID-19 infection and underwent self-isolation at home. The experience of being confirmed and having to separate from other family members is less unpleasant. A study supported that social rejection was felt by an inverse relationship between closeness, the sense of social rejection, a high level of loneliness, and also depression (Benbenishty et al., 2021; Callis, 2020).

The anxiety level of nurses after psychological intervention decreased in anxiety level scores after the first and second meetings. The average value of anxiety after getting a stage 1 group psychotherapy intervention was 4.8, while the average value of anxiety after the second intervention was 3.8. During this psychological assistance, all respondents followed it well and underwent group psychotherapy following the directions given by the therapist. Research conducted that psychotherapy including group psychotherapy can overcome such unpleasant anxiety in a constructive way (Melisa & Pohan, 2018; Zace et al., 2021). Positive anxiety occurs when channeled healthily through coping mechanisms by doing activities such as learning to face exams or preparing by practicing seriously in the face of matches and so on. In group psychotherapy, each participant can communicate and express their feelings and thoughts through activities designed by the therapist, and participants in the group also observe others in the group and receive feedback from other group members.

Nurses who experience anxiety also get the opportunity to simulate supportive therapy activities in the group. Group psychotherapy is preferred as an intervention to optimize the ability to provide support from and between group members rather than individual therapy (Popoola, Popoola, & Nelson, 2022). Each member in group psychotherapy gets the opportunity to get immediate feedback from group members, and an opportunity for group participants from therapists to observe an individual's psychological, emotional, and behavioral responses toward other group members. Although there is no standard of therapy yet, psychotherapy could be able to reduce anxiety, depression, and insomnia as well (Shatri et al., 2021).

This research has limitations that can be used as a consideration for the next researcher to get better research results. These limitations include: The scope used in the study only covers one hospital whose scope is not too large

and wide, so the results of the study cannot be generalized to the wider population. The study used only one independent variable, namely psychological assistance "group psychotherapy" which affects the anxiety-bound variables. The research time was conducted after the case of peak of the 2nd wave. So the level of anxiety of nurses tends to decrease and not as much as at the peak time of cases. While the strength of this study is the research on the influence of psychotherapy in reducing anxiety in nurses. So that this research can be used as a basis for conducting other research on the same topic, but with different methods. Nurses in the COVID-19 ward are at risk from the biological hazard of COVID-19, so they must get attention from hospital management for their health and safety, including psychological conditions by conducting mental health screening and periodic psychological assistance (Serdà, Aymerich, Patiño-Masó, & Cunill, 2021; Dharra & Kumar, 2021; Puradollah & Ghasempour, 2020). Every health worker who provides COVID-19 services, including nurses, has the right to be safe, prosperous, and protected from COVID-19. It is hoped that further researchers will be able to develop different research designs and conduct further studies related to other therapeutic methods. which is more effective in reducing nurse anxiety in providing services for COVID-19 patients.

Conclusion
The study found that psychotherapy reduces anxiety among nurses working in the COVID-19 ward. This treatment can be optimized by using collaboration with psychiatry and medication. The role of nurses can be very significant to reduce anxiety during a pandemic. Even though this study used a very small sample size, future research can be a promising way to develop a psychiatric intervention in hospitals. Further studies are needed to evaluate the long-term outcomes using a different population of nurses.

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