

Resilience of Nurse' in South Sulawesi during the COVID-19 Pandemic

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Abstract:

Background: Objective: To explore the resilience and stress of occupational Nurses who occupational in hospitals in South Sulawesi during the COVID-19 pandemic.

Materials and Methods: A cross-sectional survey was conducted from June to August 2021 at 4 COVID-19 referral hospitals in the South Sulawesi region. To measure resilience and occupational stress among nurses. This study used SPSS software version 22.00 SPSS, (IBM Corp, Chicago, IL, USA). Data analysis used Pearson correlation tests to explore nurse resilience levels and nurse occupational stress.

Results: Data from 160 nurses were included in the final analysis. The results showed that individual and occupational characteristics can cause differences in nurse resilience, occupational stress levels. Nurses' work stress is meaningfully correlated by resilience factors ($r = 0.45$, $p < 0.001$).

Conclusion: Urgent need to improve nurses' individual resilience through the development of nurse resilience models based on cognitive transformation, physical growth and development, education and environmental support to manage occupational stress among nurses of COVID-19 referral hospitals in the South Sulawesi.

Key Word: COVID-19; Resilience; occupational stress; Nurses; Pandemic

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I. Introduction

The COVID-19 pandemic is a living reality that we have experienced for the last 2 years starting in early 2020 until the end of 2021. Along with this, the trend of increasing covid-19 cases, which resembles flu cases, is currently also happening. The COVID-19 pandemic is an unexpected situation that causes concern and anxiety from health occupationalers as the frontline of health services, especially nurses (1).

They nurses as the frontline of nursing and health services are always dealing with infectious diseases and are very forced to be willing to bear the risk of experiencing social isolation where they live (1). Nurses in South Sulawesi in providing COVID-19 services struggled with the risk of contracting the virus, limited personal protective equipment (PPE), anxiety and distress approaching at any time where they were overwhelmed with fear of infecting other family members (2).

A study on health occupationalers in New York United States (3), in an HCW research association, they found that there was a 74% potential transmission of COVID-19 to family, 71% experienced anxiety in family members and friends, lack of control (70%), about (68%) lack of testing and 68% experienced a shortage of personal protective equipment (PPE) in providing health services (4).

Limited resources, especially nursing staff in hospitals, have a great potential to suffer from acute stress compared to medical personnel (doctors). Acute stress that occurs as a result of fatigue and exposure to the COVID-19 pandemic Various problems experienced by nurses, both physical and psychological problems, must immediately find solutions to be treated. One solution to this problem is to present resilience nurses so that they are able to mitigate, adapt and fight health problems that attack them at any time (5). In order to maintain and increase the resilience of nurses, one of the strategies taken is cell-care. In addition, sleep patterns and physical activity must be maintained properly is important. With regular physical activity allows us to maintain a healthy body (5,6).

Stress management through meditation therapy, yoga and group discussions (group dynamics) is the focus of attention and current thinking to increase the resilience (5), of nurses occupationaling at home in South Sulawesi. Currently, nurses occupationaling to deal with COVID-19 are advised to reduce watching news that is not produced, by arranging and planning certain elective programs to create calm and flexibility in occupationaling in hospitals (6). In addition, it also creates a sense of humor and optimism every time you start an activity. No less important things are to maintain a balanced nutrition and diet, drink plenty of water, get enough rest and sleep, take advantage of leisure time with productive activities (6).

To help reduce distress and maintain and build resilience health occupationalers need full social support. HCW New York United States, together with nurses, synergizes and collaborates professionally to help raise the spirit of happiness in occupationaling to reduce the risk of nurse fatigue (5). Maintain the quality of the relationship of compassion with those closest to the nurse both through virtual while occupationaling in the hospital and offline while at home (5). This condition can help unravel social isolation during the COVID-19 pandemic. HCW New York United States reported 61% of nurse resilience in the country has increased significantly (5).

The HCW Organization Manager also takes an important role and strategic step towards providing optimal protection to Nurses by providing information (news hotline) and providing adequate personal protective equipment (PPE) (4). In addition periodically they carry out monitoring of the situation and the well-being of the Nurse. Through a supportive and educational and professional leadership approach. Providing training on the use of personal protective equipment (PPE). Careful preparation and training will reduce the level of saturation and stress Nurses who occupational to care for COVID-19 patients (5).

The focus of this study was directed at the resilience of nurses in overcoming physical and psychological problems while treating COVID-19 patients. The concept offered by through the development of nurse resilience models based on cognitive transformation, physical growth and development, education and environmental support. The nurse resilience development model does not occupational well in the event of prolonged nurse stress. At the end of this study, it can be described that the resilience of nurses can reduce the physical and psychological impact (occupational stress) of them (7).

In the context of resilience, it is described that physical and psychic recovery (occupational stress) through dynamic and natural processes(7), and is related to the isolation factor and the condition of the occupationaler(8,9). In addition, resilience plays an important role in overcoming difficulties and building the identity of professional nurses through the adaptation process. Several important variables, such as nurse performance, individu identity (10), nursing professionalism , occupational stress (11) and fatigue (9) can increase resilience (10,12). In short, the competence of a nurse to utilize the resources she has is the main key to managing physical and psychological (occupational stress).

Based on the exposure to the data and facts mentioned above, we assume that the nurse's resilience will affect the physical and psychological condition (occupational stress). Thus we are trying to explore the Resilience of Nurses in COVID-19 referral hospitals in South Sulawesi during the COVID-19 pandemic.

II. Material And Methods

This study is a descriptive survey with a cross-sectional approach conducted on nurses working in COVID-19 referral hospitals in South Sulawesi, namely. RSUP Dr. Wahidin Sudirohusodo Makassar, RS TK. II Pelamonia Makassar, RSKD South Sulawesi and RSUD LabuangBaji Makassar. from June 2021 to August 2021. A total of 160 adult subjects (both male and female) aged ≥ 37 years were involved in the study.

Study Design:Our study used a cross-sectional descriptive design to explore the level of resilience and occupational stress of nurses working in 4 COVID-19 referral hospitals in the South Sulawesi region. Participants in our study were nurses who worked in 4 COVID-19 referral hospitals for approximately 3 months.

Study Location: We collected data from 4 covid-19 referral hospitals in the South Sulawesi Region.

Study Duration:June 2021 to August 2021. The length of time the study is based on previous research that recommends that the period that is difficult for nurses to perform their duties independently and be able to adapt to the workplace is to have worked for more than 3 months (11).

Sample size:The recruitment process of participants was taken from 4 COVID-19 referral hospitals with an average bed capacity of 150 in the south Sulawesi region. The total sample taken was 160 people. Significance level 0.05, confidence interval 0.95. The Chi Square test was conducted to explore the level of resilience and stress of the Nurse's work.

Sample size calculation: We do proportional sampling. The confidence level is 95% and the Alpha level is 5%. The sample size in this study was 160 participants with the following details of RSUP Dr. Wahidin Sudirohusodo Makassar (40); RS. TK. II Pelamonia Makassar (40), RSKD Provinsi Sulawesi Selatan (40) and RSUD LabuangBaji Makassar (40).

Subjects & selection method: We collaborate with the medical and nursing committees and provide detailed explanations related to the context of The self-report questionnaire survey. Furthermore, we conducted random data collection to nurse participants who were interested in this study, after previously filling out and signing a letter of approval to participate in research activities voluntarily and sincerely. We also circulate questionnaire forms online in the form of google forms that are the same context as those distributed offline. Through the forum organization, the nursing committee in South Sulawesi also helped and participated in distributing the research questionnaire and its explanation to 4 COVID-19 referral hospitals that were chosen as research locations. After all the research instruments were distributed, a survey was then carried out on hospital nurses who treated COVID-19 sincerely and voluntarily. The first stage carried out is the researcher conveying the

purpose and purpose of the research. The next step was that the research subjects were informed that your participation in this activity would not be detrimental to your career as a professional nurse and they were also told that there was no coercion in participating in the research activities. If you do not agree you have the right to withdraw from the research. Furthermore, it was also stated that any results of the study will not be used for other purposes other than purely for research. Overall the total time we used to fill out the questionnaire ranged from 20 – 30 minutes.

Inclusion criteria:

1. The nurses caring for COVID-19 patients in South Sulawesi;
2. The nurses working in the intensive care unit or in the Intermediate Ward (IW);
3. The nurses who have obtained a certificate of professional qualification of nurses; and
4. The nurses who volunteered to participate in the study
5. Obtained a recommendation letter from the Task Force team for the Acceleration of Handling COVID-19 in South Sulawesi

Exclusion criteria:The nurses who worked part-time

Procedure methodology

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Statistical analysis

Basic descriptive statistics and frequencies are carried out to identify unrealistic values using SPSS version 22 software. To measure the characteristics of respondents and special variable studies, means values, frequencies and standard deviations are used. Furthermore, to conduct an exploratory analysis of resilience levels using pearson correlation test for normally distributed data. Against data that is not normally distributed we used the non-parametricmann Whitney Test. The Cronbach's α was measured to ensure instrument reliability. We use SPSS statistical software Version 22.00 (SPSS, IBM Corp,Chicago, IL, USA). in analyzing data. The degree of significance is set with a value of $p < 0.05$

III. Result

General characteristics of the subject of study

At the selection stage of respondents, there were 197 people who were successfully recruited according to the inclusion criteria, in the subsequent research process there were 37 people who did not complete and declared resignation. So that finally the participants who managed to reach the finish were 160 people and then analyzed

Data collected Most of the participants were women (82%) with an average age of 37 years. Furthermore, Most of the participants (78%) were married. Then the level of formal education of the participants was more than half (63.5%) who had completed the education of NersGeneralis. More than half of the participants worked in the intensive care units (56.2%) room, the rest in the intermediate ward (IW) room. the factor of availability of personal protective equipment in working in the room is almost entirely available (81.9%). Work experience in the clinic from a span of 3 - 9 years, the distillation is almost evenly distributed, except in the range of ≥ 6 to < 9 years (6.3%) (Table 1).

Table 1. General characteristics of the subject of study (N = 160)

Variable	n	% or M ±SD
Gender		
Female	131	82%
Male	29	18%
Age (years)	160	37.0(±10.5)
Maritas Status		
Single	125	78%
Married	35	22%
Education level		
Diploma of Nursing	55	34.4%
NersGeneralis	102	63.5%
Ners Specialist	3	2.1%
Working units		
Intermediate Ward (IW)	70	43.8%
Intensive care units	90	56.2%
Total clinical experience (years)		
<3	45	28.1%
≥3 to <6	60	37.5%
≥6 to <9	10	6.3%
≥9	45	28.1%
Provided PPE or mask from workplace		
Yes	131	81.9%
No	29	18.1%

Descriptive Statistics of the Study Variables

The average total score on the resilience and occupational stress variables is as follows: Resilience (65.5 ±11.1), and occupational stress (117.5 ± 18.5) as summarized in (table 2)

Table 2 Resilienceand Occupational stress of participants (n = 160)

Variables	Number of Items	Total Mean ± SD	Total Range	Item Mean ± SD	Item Range
Resilience	25	65.5 ±11.1	25 - 100	2.50 ± 0.41	1 - 4
Occupational stress	32	117.5 ± 18.5	32 - 175	3.60 ± 0.55	1 - 5

Correlation between the Study Variables

The correlation between resilience levels and Occupational stress is summarized in (table 3). The results showed that the level of resilience was positively correlated with Occupational stress (r = 0.45, p < 0.001); conversely Occupational stress is negatively correlated with resilience levels (r = -0.018, p = 0.003)

Table 3. Correlation between the study variables (n = 160)

Variables	Resilience	Occupational stress
r (p)		
Resilience	0.45 (0.001)	1
Occupational stress	-0.018(0.025)	-0.34 (0.002)

IV. Discussion

Our research highlights the resilience and stress of nurses caring for patients in COVID-19 referral hospitals in south Sulawesi during the pandemic. The task force task force for the acceleration of handling covid-19 in the south Sulawesi region has recommended 4 COVID-19 referral hospitals which are considered capable of handling 24 regions in south Sulawesi. In general, COVID-19 patients who are referred to hospitals have a comorbid history, thus worsening the diagnosis and cure of patients (13). However, in reality, the referral hospital has not been fully equipped with intensive care facilities according to the provisions required by WHO(14).

In addition, the limited resources of health workers (nurses) so that it extends the process of exchanging nurse shifts in the room accompanied by additional responsibilities. So that the nurses who work are not fully prepared to accept the condition. As a result, nurses complain of stress in working with an overloaded workload, the impact of which arises various health problems both physical and psychic nurses (15,16).

However, nurses do their best to survive the condition, some of the methods and strategies they do in overcoming their stress include physical and psychological adaptation, active learning and interpersonal communication (16). The concrete form of physical and psychological adaptation they carry out is to apply resilience strategies as a reliable intrinsic resource (7).

The concept of resilience development model has been well designed by Grafton et al (7), this resilience design is one of the reliable strategies that can be adopted by special health workers (nurses) who are vulnerable to exposure to infectious diseases, for example corona virus detachment (COVID-19). The transformation process of positive adaptation to work stress conditions is expected to recover faster and rise stronger to maintain the physiological function of health both physical and psychical nurses. Only with a high level of resilience becomes a reliable instrument to manage stress into eustress as part of the process of positive transformation of nursing professionalism, especially in their workplace (17). The positive transformation of nursing professionalism must be supported by the management of the hospital organization, the code of ethics of professional nursing, and the personal character of the nurse (7). The resilience instrument is more reliable, meaning that it can be applied in different environmental conditions and situations both in the workplace, in the community and in nursing professional organizations (18). Because this level of resilience can be better developed through continuous education and training for nurses, it is necessary to further explore active interventions, support psychological resources and build positive and conducive hospitalization (9,12).

In addition, the development of nursing professionalism is the main requirement that a nurse must have in pursuing her professional career, as the main capital in improving the clinical performance of nurses and minimizing stress that occurs in carrying out their duties in hospitals(11).

Research on nurse resilience has provided a description of nursing professionalism as one of the benchmarks that affect nurses' performance in the clinical setting (19). In other words, the professionalism of nursing (20), has contributed positively from various dimensions of the motivational force to recover faster and rise stronger in the response to the health crisis of the COVID-19 pandemic (21).

Meanwhile, the COVID-19 pandemic that has hit Indonesia has changed the scheme of overcoming health problems by health workers (nurses), who are faced with various health multi-problems including obstacles to carrying out normal nursing practices, daily life changes drastically that cannot be predicted, extraordinary psychic burdens and a fairly high risk of contracting it (22).

Nurses as the frontline of COVID-19 services faced with mental health conditions have been slumped during the pandemic, in the form of tension, fear, anxiety reaching a quartinal point (23). These findings have confirmed previous research related to the need for good and appropriate hospital organizational management support during the COVID-19 pandemic (24).

Our study explores the work stress experienced by nurses working in COVID-19 referral hospitals and their correlation with the level of resilience of individual nurses. Research is very important because of the recent results found evidence that psychological factors and work conditions of nurses in COVID-19 referral hospitals are significant and have a positive impact related to daily life and health transformation policies in Indonesia. To the best of our knowledge, the study was conducted for the first time at a COVID-19 referral hospital in south Sulawesi that focused on resilience and work stress factors. Nevertheless we remain aware of some limitations in the study.

First, our study only limited sampling to four COVID-19 referral hospitals in south Sulawesi as advanced health care centers. We use the convenience sampling method so that we have difficulty in reaching samples by survey because there are restrictions on activities by the South Sulawesi government during the COVID-19 pandemic. Second, the design of this study uses a cross-sectional study approach, so that there are limitations in comprehensively explaining the relationship of strong significance between the variables we studied. Third, because the instruments we used in this study used self-report questionnaires, the possibility of participant subjectivity in answering was inevitable. In addition, when the study was conducted in mid-2021, the number of COVID-19 cases in south Sulawesi significantly increased which had an impact on the additional psychological burden on nurses in the IW room and Intensive care Unit. Observing the existence of several limitations in this study, it is necessary to explore the results of this study by considering the local conditions experienced by nurses.

This research has shown that it is necessary to consider several research methods that can be applied according to research problems found in the field. The further implications of this study are through the implementation of a nurse resilience program with comprehensive health transformation during the COVID-19 pandemic.

V. Conclusion

During the pandemic that hit the south Sulawesi region, the level of work stress of nurses working in COVID-19 referral hospitals in South Sulawesi increased significantly.

The nurse's reliable resilience strategy is an effective approach method in minimizing nurses' work stress. Managing resilience properly and appropriately certainly requires the involvement of all elements of health workers without exception nurses.

References

- [1]. C. H. Vinkers *et al.*, "Stress resilience during the coronavirus pandemic," *Eur. Neuropsychopharmacol.*, vol. 35, pp. 12–16, 2020.
- [2]. B. Pfefferbaum and C. S. North, "Mental health and the Covid-19 pandemic," *N. Engl. J. Med.*, vol. 383, no. 6, pp. 510–512, 2020.
- [3]. A. Shechter *et al.*, "Psychological distress, coping behaviors, and preferences for support among New York healthcare workers during the COVID-19 pandemic," *Gen. Hosp. Psychiatry*, vol. 66, pp. 1–8, 2020.
- [4]. E. Preti *et al.*, "The psychological impact of epidemic and pandemic outbreaks on healthcare workers: rapid review of the evidence," *Curr. Psychiatry Rep.*, vol. 22, no. 8, pp. 1–22, 2020.
- [5]. C. Heath, A. Sommerfield, and B. S. von Ungern-Sternberg, "Resilience strategies to manage psychological distress among healthcare workers during the COVID-19 pandemic: a narrative review," *Anaesthesia*, vol. 75, no. 10, pp. 1364–1371, 2020.
- [6]. S. E. Lupe, L. Keefer, and E. Szigethy, "Gaining resilience and reducing stress in the age of COVID-19," *Curr. Opin. Gastroenterol.*, vol. 36, no. 4, pp. 295–303, 2020.
- [7]. E. Grafton, B. Gillespie, and S. Henderson, "Resilience: the power within.," in *Oncology nursing forum*, 2010, vol. 37, no. 6.
- [8]. F. Yu, D. Raphael, L. Mackay, M. Smith, and A. King, "Personal and work-related factors associated with nurse resilience: A systematic review," *Int. J. Nurs. Stud.*, vol. 93, pp. 129–140, 2019.
- [9]. S. Kutluturkan, E. Sozeri, N. Uysal, and F. Bay, "Resilience and burnout status among nurses working in oncology," *Ann. Gen. Psychiatry*, vol. 15, no. 1, pp. 1–9, 2016.
- [10]. E. J. Lim and Y. M. Lee, "Influence of the job stress, resilience, and professional identity on burnout in operation room nurses," *J. Korean Crit. care Nurs.*, vol. 10, no. 1, pp. 31–40, 2017.
- [11]. S.-Y. Jung and H.-D. Lee, "Mediating effect of nursing professionalism on the relationship between nurses' character and organizational commitment of the nurse," *J. Korean Acad. Nurs. Adm.*, pp. 239–247, 2019.
- [12]. E. Ko, H. Y. Kim, G. S. Kim, R. S. Kim, and H. S. So, "Burnout amongst nurses in cancer wards: Impact of nursing professionalism, perfectionism, and resilience," *Asian Oncol. Nurs.*, vol. 18, no. 4, pp. 214–223, 2018.
- [13]. F. Zhou *et al.*, "Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study," *Lancet*, vol. 395, no. 10229, pp. 1054–1062, 2020.
- [14]. T. M. McMichael *et al.*, "COVID-19 in a long-term care facility—King County, Washington, February 27–March 9, 2020," *Morb. Mortal. Wkly. Rep.*, vol. 69, no. 12, p. 339, 2020.
- [15]. C. Sarabia-Cobo *et al.*, "Experiences of geriatric nurses in nursing home settings across four countries in the face of the COVID-19 pandemic," *J. Adv. Nurs.*, vol. 77, no. 2, pp. 869–878, 2021.
- [16]. H. J. Kim and H. Y. Kim, "Experience of job stress among nurses working in long-term care hospital: A phenomenological approach," *Korean J. Adult Nurs.*, vol. 28, no. 5, pp. 572–584, 2016.
- [17]. A. L. Cooper, J. A. Brown, C. S. Rees, and G. D. Leslie, "Nurse resilience: A concept analysis," *Int. J. Ment. Health Nurs.*, vol. 29, no. 4, pp. 553–575, 2020.
- [18]. K. Ryu and J. K. Kim, "Effect of emotional coaching program for clinical nurses on resilience, emotional labor, and self-efficacy," *J. Korean Acad. Nurs.*, vol. 50, no. 3, pp. 419–430, 2020.
- [19]. H. Zandian, M. Alipouri Sakha, E. Nasiri, and T. Zahirian Moghadam, "Nursing work intention, stress, and professionalism in response to the COVID-19 outbreak in Iran: A cross-sectional study," *Work*, vol. 68, no. 4, pp. 969–979, 2021.
- [20]. Z. Li *et al.*, "Coronavirus disease 2019 pandemic promotes the sense of professional identity among nurses," *Nurs. Outlook*, vol. 69, no. 3, pp. 389–398, 2021.
- [21]. K. S. Resnick and J. J. Fins, "Professionalism and resilience after COVID-19," *Acad. Psychiatry*, vol. 45, no. 5, pp. 552–556, 2021.
- [22]. S.-F. Tsay, C.-C. Kao, H.-H. Wang, and C.-C. Lin, "Nursing's response to COVID-19: lessons learned from SARS in Taiwan," *Int. J. Nurs. Stud.*, vol. 108, p. 103587, 2020.
- [23]. M. Y. Choi, H. S. So, and E. Ko, "Influences of occupational stress, ethical dilemma, and burnout on turnover intention in hospital nurses," *J. Korean Acad. Fundam. Nurs.*, vol. 26, no. 1, pp. 42–51, 2019.
- [24]. L. J. Labrague and J. A. A. De Los Santos, "COVID-19 anxiety among front-line nurses: Predictive role of organisational support, personal resilience and social support," *J. Nurs. Manag.*, vol. 28, no. 7, pp. 1653–1661, Oct. 2020, doi: 10.1111/jonm.13121.

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