

The Relationship Of Nurse Caring Behavior With Anxiety Level In Covid 19 Patients In The Tulip And Orchid Isolation Room Upt Rsud Deli Serdang

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ABSTRACT

Coronavirus 19 (COVID-19) has been declared a world pandemic by WHO (WHO, 2020). Anxiety in patients with a confirmed COVID-19 suspicion requires close medical observation and isolation during treatment. Nurses are one of the health professionals who still have to work and continue to serve in the current Covid-19 pandemic situation. Based on this, the researchers were interested in obtaining information about "The relationship between nurse caring behavior and the anxiety level of Covid 19 patients in the Tulip and Anggrek isolation room at the UPT RSUD Deli Serdang." This research uses analytical method, cross sectional. The sample in this study amounted to 59 patients with a diagnosis of Covid 19, which was obtained based on a population average of 146 people every month. The results of the study concluded that there was a significant relationship between nurse caring behavior and anxiety levels in Covid 19 patients in the Tulip and Anggrek isolation room at the UPT Deli Serdang Hospital. Nurses should improve caring behavior, especially in Covid 19 patients who need psychological support such as strengthening health education, and actively directing patients to be open in counseling.

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1. Introduction

Coronaviruses are a large family of viruses that cause disease in humans and animals. In humans, it usually causes respiratory tract infections, ranging from the common cold to serious illnesses such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). A new type of coronavirus found in humans since an extraordinary event appeared in Wuhan, China, in December 2019, was later named Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-COV2), and caused Coronavirus Disease-2019 (COVID-19).

Coronavirus 19 (COVID-19) has been declared a world pandemic by WHO (WHO, 2020). Coronavirus is a zoonotic or virus that is transmitted between animals and humans. This virus and disease is known to have originated in the city of Wuhan, China since December 2019. As of March 21, 2020, the number of cases of this disease reached 275,469 people spread across 166 countries, including Indonesia. (BNPB, 2020). Since appearing in December 2019, a total of 266,073 positive cases of corona have resulted in 11,184 deaths. This virus has also spread to 179 countries. The largest death rate occurred in Italy, where up to 4,825 lives were lost, 1/3 of the total deaths in the world (Second, 2020). The number of Covid-19 cases in many countries is still increasing. The virus that caused this global pandemic has infected at least 95,479,062 people worldwide. In Indonesia, data from the Indonesian Ministry of Health reported, positive cases of Covid-19 in Indonesia

increased by 11,788 on January 24, 2021. These additional cases were collected as of January 23, 2021 until the 24th. January 2021. Thus, the total confirmed cases of Covid-19 in Indonesia reached 989,262 people. Meanwhile, the number of patients who died from Covid-19 increased by 171 people. Thus, the total death toll from Covid-19 is 27,835 people. Meanwhile, the number of recovered patients increased by 7,751. The total becomes 798,810 people have recovered from Covid 19. Apart from mining Corona cases, the government is still monitoring 80,114 suspected patients.

In North Sumatra Province, based on data from the BNPB of North Sumatra, data obtained on January 18, 2021, it is known that an increase in cases of corona virus infection also occurred in Indonesia. Last data up to 17 January 2021, Covid-19 cases in Indonesia totaled more than 900,000 cases. The addition of the most cases came from the city of Medan with 42 people and Deli Serdang 20 people. Furthermore, seven people from Batu Bara seven, five people from Toba, three from Langkat, Simalungun and Padang Lawas, one person from Pematang Siantar, Binjai, Asahan, South Tapanuli, Dairi, Pakpak Bharat and Serdang Bedagai (Antara.com, 2021).

For Deli Serdang Regency itself, based on Real Time Version data on February 23, 2021, from 22 sub-districts in Deli Serdang it is known that Percut Sei Tuan District is the sub-district with the highest number of confirmed Covid-19 patients, which is 750 people, and the lowest is sub-district. Mount Meriah, as many as 4 confirmed Covid-19 patients.

At the Deli Serdang Regional Hospital, especially the Tulip and Orchid Isolation Room, UPT Deli Serdang Hospital, it was known that Covid 19 patients based on the Tulip and Orchid Room annual report data, it was known that the number of Covid 19 patients who were confirmed positive in September 2020 to January 2021 was.... people, with details in September as many as 138 people, October 144 people, November 116 people, December 140 people. Based on the Tulip and Orchid Room monthly report, the number of confirmed COVID-19 patients in January was 193 people. This means that the average number of confirmed COVID-19 patients is 146 people every month.

Anxiety is a condition of helplessness, feeling insecure or immature and unable to deal with environmental demands (Epstein D, 2020). Mental health means emotional and psychological health in which a person can use one's thinking and abilities, function in society, and fulfill daily needs. Mental disorders are caused by several traumatic events, such as excessive anxiety and fear, conflicts that disturb and complicate the individual's psyche (Freud S, 2006). This can be caused by both biological and psychological factors (Dehkordi, AM, 2020). Neurotic sufferers are always overshadowed by feelings of horror and fear as an emotional response. Anxiety can make individuals uncomfortable and afraid of the surrounding environment. A person's physical condition can indicate the level of anxiety he feels. Changes in respiratory rate, increased pulse rate and changes in blood pressure (Malara, 2019).

The outbreak of the Covid-19 coronavirus that has spread throughout the world has not only impacted the general public, but also health workers who are on the front line against this deadly virus. Health workers cannot protect themselves at home like the general public. They have to risk their lives dealing with Covid-19 coronavirus patients with a very large risk of transmission, and have to live apart from their families and loved ones for weeks to avoid wider transmission of the virus. One of the health workers who interact the most with Covid-19 patients for 24 hours is the nurse.

Nurses are one of the professionals in the health sector who still have to work and continue to serve in the Covid-19 pandemic situation.19 at the moment. Nurses, especially those who work in Government Hospitals (RS) who are the referrals for treating Covid-19 patients who are on duty directly in the room

The important role of nurses in health services, especially in the current Covid-19 outbreak conditions, is as a caregiver which is the main role where nurses will be actively involved for 24 hours in providing nursing care in clinical service settings such as in hospitals. In addition, nurses also have a role as educators, which act as a team of educators who provide education to patients, families and communities. Nurses play a role in strengthening public understanding regarding what and how Covid-19 is, prevention and transmission, and how to increase public knowledge about signs and symptoms. This is done in order to increase the sense of crisis, so that people become alert and apply preventive behavior and live a healthy life, and do not panic. In addition to the above roles, nurses also play a role as advocates where nurses will help reduce stigma for patients and families who are indicated to be positive for COVID. In general, nurses have a very important role both in terms of promotive, preventive, and nursing care services in this pandemic condition (Nova Y, et al, 2021).

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Caring behavior must also be applied to patients with Covid-19, where the patient's condition requires special treatment. Treatment at the hospital will be selectively carried out on patients who are truly indicated by the disease and it is not possible to carry out self-isolation. Positive patients who are unable to carry out self-isolation are the elderly, people with congenital diseases, such as diabetes, hypertension, heart disorders, and lung problems, because they need maximum care services (Nova Y, et al 2020).

The concept of Caring for patients diagnosed with Covid 19 should not be different from other patients. Even though nurses in the current pandemic are required to wear official uniforms that are not as usual, namely using level 3 Personal Protective Equipment which sometimes limits the work of nurses. However, this should not reduce Caring's attitude towards Covid 19 patients ((PJNHK, 2020).

According to the results of interviews that the author conducted with 10 patients who were hospitalized in the Tulip and Orchid isolation room at Deli Serdang General Hospital, it was known that 5 (50%) patients said they were very anxious, 3 people (30%) said they were quite anxious, and 2 (20%). %) patients said it was normal. One of the causes of the anxiety they experienced in addition to being anxious about their illness, they said they felt anxious about the behavior of nurses when carrying out actions or examinations. This condition must receive serious attention from all parties concerned. While the results of the initial interviews with 6 patients said they were very anxious about the condition of the COVID-19 disease they were facing, making it difficult to sleep and feeling angry about the current situation.

Based on initial observations in the Tulip and Orchid Isolation room of several nurses who served there, it was found that so far the care carried out by nurses was dominated by the treatment of physical ailments. This is reinforced by the lack of caring behavior, namely the lack of intensity of the presence of nurses to make contact with patients and there is still a less positive relationship between patients and nurses in the nursing process. This has an impact related to the patient's condition, so that in carrying out observations, researchers still find many patients who experience anxiety problems.

2. Method

This type of research is analytical, cross sectional by approaching, observing or collecting data at once (point time approach) meaning that each research subject is only observed once (Notoatmodjo, 2010). This design is intended to analyze the relationship between nurse caring behavior and the anxiety level of Covid 19 patients in the Tulip and Orchid Isolation Room of UPT RSUD Deli Serdang. Tables and Figures are presented center, as shown in Table 1 and Figure 1, and cited in the manuscript before appeared.

2.1 Research Location and Time

1. Research Location

This research was conducted in the Tulip and Orchid Isolation Room UPT Deli Serdang Hospital, Lubuk Pakam.

2. Research Time

The implementation of research activities will be carried out in April 2021.

2.2 Population and Sample

1. Research Population

The population in this study were patients with a diagnosis of covid 19 who were treated in the Tulip and Orchid Isolation Room, totaling 731 people in Indonesia. September to January 2021 with an average of 146 people per month.

2. Research Sample

a. Sampling Technique

The sample is part of the population to be studied or part of the number of characteristics possessed by the population (Hidayat, 2012). In this study using accidental sampling technique. Accidental sampling is an accidental sampling by taking respondents who happen to be in a place that matches the research location (Notoatmodjo, 2010). So, in this accidental sampling technique, researchers took patient respondents who were being treated in the Tulip and Orchid isolation room.

b. Large sample

The sample size in this study was 59 people obtained by the formula:

$$n = \frac{N}{1 + N(d)^2}$$

$$n = \frac{146}{1 + 146(0,1)^2}$$

$$n = 59,3$$

$$= 59 \text{ Person}$$

Keterangan :

N = Besar Populasi

n = Besar Sampel

d = Tingkat kepercayaan/ketepatan yang diinginkan (tingkat kepercayaan 90%).

2.3 Sample Criteria

1. Inclusion criteria

- Patients treated in the Tulip and Orchid Isolation Room with Covid-19 confirmed positive.
- The patient is in a compos mentis condition, able to communicate well.
- Willing to be a respondent.

2. Exclusion criteria

- Patients who were not treated in the Tulip and Orchid isolation room.
- Patients who are not willing to be respondents.
- Patients with COVID-19 confirmed positive with a decreased state of consciousness and unable to communicate well.

3. Results And Discussions

Based on research conducted in April 2021 in the Tulip and Orchid room of UPT RSUD Deli Serdang with a total of 59 patient respondents. Furthermore, data collection was carried out by observing the caring behavior of nurses and the level of anxiety of COVID-19 patients to determine the relationship between nurses' caring behavior and anxiety levels in COVID-19 patients in the Tulip and Orchid room of UPT RSUD Deli Serdang.

3.1 Univariate Analysis

- Frequency distribution based on the characteristics of the respondents.

Table 1.

Frequency distribution of respondents based on age characteristics of COVID-19 patients in the Tulip and Orchid Room UPT RSUD Deli Serdang (n = 59).

Age	Frekuensi	Persentase (%)
21 - 30 years old	4	6.8
31 - 40 years old	8	13.6
41 - 50 years old	25	42.4
51 - 60 years old	15	25.4
>60 years old	7	11.9
Total	59	100.0
Gender	Frekuensi	Persentase (%)
Man	29	49.2
Woman	30	50.8
Total	59	100.0
Education	Frekuensi	Persentase (%)
Primary school	2	3.4
Junior high school	15	25.4
Senior high school	26	44.1
College	16	27.1
Total	59	100.0
Marital Status	Frekuensi	Persentase (%)
Marry	47	79.7

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Not married	12	20.3
Total	59	100.0

Based on the table above, based on the characteristics of respondents based on age, the most are 41-50 years old, namely 25 people (42.4%) and the least are 21-30 years old, namely 4 people (6.4%). Based on gender, the majority are women, namely 30 people (50.8%) and the least are men, namely 29 people (49.2%). Based on the level of education, the highest number is SMA, i.e

26 people (44.1%) and at least 2 people (3.4%). Based on marital status, the majority were married, namely 47 people (79.7%) and at least 12 people were not married (20.3%).

2. Frequency distribution based on nurse caring behavior.

Table 2

Frequency distribution of respondents based on the caring behavior of nurses in the Tulip and Orchid Room UPT Deli Serdang Hospital (n = 59).

Nurse Caring Behavior	Frekuensi	Persentase (%)
Well	47	79.7
Bad	12	20.3
Amount	59	100.0

Based on the table above based on the caring behavior of nurses, the most caring behavior was good nurses, namely 47 people (79.7%) and the least was bad nurse caring behavior, namely 12 people (20.3%).

3. Distribution of respondents based on the level of anxiety of COVID-19 patients in the Tulip and Orchid Room UPT RSUD Deli Serdang.

Table 3

Distribution of the anxiety level of COVID-19 patients in the Tulips and Orchids UPT RSUD Deli Serdang (n=59).

No	Tingkat kecemasan pasien covid 19	Frekuensi	Persentase (%)
1	Light	19	32.2
2	weight	13	45.8
3	Medium	37	22.0
	Amount	59	100

Based on the table above, based on the anxiety level of COVID-19 patients, the most moderate anxiety level is 27 people (45.8%) and the least is severe anxiety level, which is 13 people (22%).

3.2 Bivariate Analysis

a. Distribution of the relationship between nurses' caring behavior and the anxiety level of covid 19 patients in the Tulip and Orchid Room UPT RSUD Deli Serdang.

Table 4

Frequency distribution of the cross tabulation of the relationship between nurse caring behavior and the anxiety level of COVID-19 patients in the Tulip room and the UPT Orchid of RSUD Deli Serdang (n=59).

Nurse Behavior	Covid-19 patient anxiety level						P value
	Light		Medium		Heavy		
	Frek	%	Frek	%	Frek	%	
Well	19	32.0	22	37.3	6	10.2	0,001
Bad	0	0	5	8.5	7	11.8	
Amount	19	32.0	27	45.8	13	22.0	

Based on the table above, it is known that from 59 respondents with good caring behavior 19 people with mild anxiety levels (32.2%), 22 people with moderate anxiety levels (37.3%) and 6 people

with severe anxiety levels (10.2%). Meanwhile, for respondents with poor nurse caring behavior, it is known that there are no respondents with mild anxiety levels, as many as 5 respondents with moderate anxiety levels (8.5%) and 7 respondents with severe anxiety levels (11.8%).

The Chi Square test obtained a significant value ($p = \text{probability}$) $0.01 < 0.05$, which means that there is a significant relationship between the caring behavior of nurses and the level of anxiety in Covid 19 patients in the Tulip and Orchid isolation room at RSUD Deli Serdang.

3.3 Discussion

1. Characteristics of respondents of COVID-19 patients in the Tulip and Orchid room of UPT RSUD Deli Serdang.

Based on table 4.1, based on the characteristics of respondents by age, the most were 41-50 years old, namely 25 people (42.4%) and the least were 21-30 years old, namely 4 people (6.4%). Based on gender, the majority are women, namely 30 people (50.8%) and the least are men, namely 29 people (49.2%). Based on the level of education, the highest number is SMA, i.e 26 people (44.1%) and at least 2 people (3.4%). Based on marital status, the majority were married, namely 47 people (79.7%) and at least 12 people were not married (20.3%).

2. Caring behavior of nurses in the Tulip and Orchid Room UPT RSUD Deli Serdang.

Based on table 4.2, it is known that based on nurse caring behavior, the most caring behavior of good nurses is 47 people (79.7%) and the least is bad nurse caring behavior of 12 people (20.3%). Based on the results of the study, the authors assume that the majority of nurses in the Tulip and Orchid rooms are good caring behavior with the majority percentage of 47 people (79.7%) having good caring behavior and a minority of 12 people (20.3%) having bad caring behavior.

3. The anxiety level of Covid-19 patients in the Tulip and Orchid Room UPT Deli Serdang Hospital.

Based on table 4.3, based on the anxiety level of COVID-19 patients, the most moderate anxiety level is 27 people (45.8%) and the least is severe anxiety level, which is 13 people (22%). The findings in the field are based on several research results that have been reported by the authors, the fear of patients who have been diagnosed has a level of fear and worry and disrupts the patient's sleep pattern. Of course, this triggers a series of physiological events that cause a decrease in the body's immune level. Due to clinical disturbances in the form of several symptoms of COVID-19, the patient must then undergo treatment separately and be monitored regularly by medical officers.

During the isolation period, the patient faces a strictly guarded situation. This allows for a lack of face-to-face communication, which leads to depression and anxiety. To deal with the response from psychological fatigue, relaxation tips and observations are needed by experts, both medical and psychologists. As medical personnel who deal directly with patients, it is necessary to prioritize dealing with the psychological state of patients, such as strengthening health education, and actively directing patients to be open in counseling. It should be noted, patients not only need medical care but also need psychological support. Psychological support can be applied, one of which is by using appropriate body language during the treatment period for COVID-19 patients. The movements and body language of medical personnel also have an effect on patients who are experiencing anxiety. In addition, it is also hoped that psychological support can come from the patient's family, which will affect the decrease in anxiety or depression of the patient during the isolation period. By looking at the results of the study above, it can be concluded that the anxiety level of COVID-19 patients in the Tulip and Orchid rooms is the majority of moderate anxiety levels.

4. The relationship between the caring behavior of nurses and the anxiety level of COVID-19 patients in the Tulip and Orchid Room UPT RSUD Deli Serdang.

Based on table 4.4, it is known that from 59 respondents with good caring behavior 19 people with mild anxiety levels (32.2%), 22 people with moderate anxiety levels (37.3%) and 6 people with severe anxiety levels (10.2%). Meanwhile, for respondents with poor nurse caring behavior, it is known that there are no respondents with mild anxiety levels, as many as 5 respondents with moderate anxiety levels (8.5%) and 7 respondents with severe anxiety levels (11.8%). By looking at the results of the research above, the authors assume that there is a significant relationship between the caring behavior of nurses and the level of anxiety in Covid 19 patients in the Tulip and Orchid isolation room of UPT RSUD Deli Serdang with a result value of $p = 0.001 < 0.05$.

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4. Conclusion

The results of this study indicate the caring behavior of nurses, the most caring behavior of nurses is good, namely 47 people (79.7%) and the least is caring behavior of bad nurses, namely 12 people (20.3%), then the anxiety level of covid 19 patients then the most are moderate anxiety levels, namely 27 people (45.8%) and the least are severe anxiety levels, namely 13 people (22%). and the Chi Square test obtained a significant value ($p = \text{probability}$) $0.01 < 0.05$, which means that there is a significant relationship between the caring behavior of nurses and the level of anxiety in COVID-19 patients in the Tulip and Orchid Room UPT RSUD Deli Serdang.

References

- Al-ghraiybah, T., Sim, J., & Lago, L. (2021). The relationship between the nursing practice environment and five nursing-sensitive patient outcomes in acute care hospitals: A systematic review. *Nursing Open*, *8*(5), 2262–2271. <https://doi.org/10.1002/nop2.828>
- Alanazi, F. K., Sim, J., & Lapkin, S. (2022). Systematic review: Nurses' safety attitudes and their impact on patient outcomes in acute-care hospitals. *Nursing Open*, *9*(1), 30–43. <https://doi.org/10.1002/nop2.1063>
- ALFadhlah, T., Al Mudaf, B., Alghanim, H. A., Al Salem, G., Ali, D., Abdelwahab, H. M., & Elamir, H. (2021). Correction to: Baseline assessment of patient safety culture in primary care centres in Kuwait: a national cross-sectional study (BMC Health Services Research, (2021), 21, 1, (1172), 10.1186/s12913-021-07199-1). *BMC Health Services Research*, *21*(1). <https://doi.org/10.1186/s12913-021-07280-9>
- Anunciada, S., Benito, P., Gaspar, F., & Lucas, P. (2022). Validation of Psychometric Properties of the Nursing Work Index—Revised Scale in Portugal. *International Journal of Environmental Research and Public Health*, *19*(9). <https://doi.org/10.3390/ijerph19094933>
- Araujo, G. L., Amorim, F. F., Miranda, R. C. P. S. de, Amorim, F. F. P., Santana, L. A., & Gottems, L. B. D. (2022). Patient safety culture in primary health care : Medical office survey on patient safety culture in a Brazilian family health strategy setting. *PLoS Neglected Tropical Diseases*, *17*(7), 1–17. <https://doi.org/10.1371/journal.pone.0271158>
- Brešan, M., Erčulj, V., Lajovic, J., Ravljen, M., Sermeus, W., & Grosek, Š. (2021). The relationship between the nurses' work environment and the quality and safe nursing care: Slovenian study using the RN4CAST questionnaire. *PLoS ONE*, *16*(12 December), 1–16. <https://doi.org/10.1371/journal.pone.0261466>
- Brubakk, K., Svendsen, M. V., Deilkås, E. T., Hofoss, D., Barach, P., & Tjomsland, O. (2021). Hospital work environments affect the patient safety climate: A longitudinal follow-up using a logistic regression analysis model. *PLoS ONE*, *16*(10 October), 1–14. <https://doi.org/10.1371/journal.pone.0258471>
- Cristina, M., Rodrigues, S., & Cimiotti, J. P. (2018). Nursing practice environment in intensive care units tice environment in ICUs based on the Practice This study is justified by the relevancy of. *ACTA Paulista de Enfermagem*, *31*(2), 217–224.
- Elmi, S., Hassankhani, H., Abdollahzadeh, F., Jafar Abadi, M., Scott, J., & Nahamin, M. (2017). Validity and reliability of the Persian practice environment scale of nursing work index. *Iranian Journal of Nursing and Midwifery Research*, *22*(2), 106–111. <https://doi.org/10.4103/1735-9066.205953>
- Fernando, A., & Amaral, S. (2012). Validation of the Practice Environment Scale of the Nursing Work Index (PES-NWI) for the Portuguese nurse population. *International Journal of Caring Sciences*, *5*(3), 280–288.
- Jarrar, M., Al-Bsheish, M., Aldhmadi, B. K., Albaker, W., Meri, A., Dauwed, M., & Minai, M. S. (2021). Effect of practice environment on nurse reported quality and patient safety: The mediation role of person-centeredness. *Healthcare (Switzerland)*, *9*(11), 1–18. <https://doi.org/10.3390/healthcare9111578>
- Kakemam, E., Gharaee, H., Rajabi, M. R., Nadernejad, M., Khakdel, Z., Raeissi, P., & Kalhor, R. (2021). Nurses' perception of patient safety culture and its relationship with adverse events: a national questionnaire survey in Iran. *BMC Nursing*, *20*(1), 1–11. <https://doi.org/10.1186/s12912-021-00571-w>
- Lucas, P., Jesus, E., Almeida, S., & Araújo, B. (2021). Validation of the psychometric properties of the

- practice environment scale of nursing work index in primary health care in Portugal. *International Journal of Environmental Research and Public Health*, 18(12).
<https://doi.org/10.3390/ijerph18126422>
- Malinowska-Lipień, I., Micek, A., Gabryś, T., Kózka, M., Gajda, K., Gniadek, A., ... Squires, A. (2021). Impact of the work environment on patients' safety as perceived by nurses in Poland—a cross-sectional study. *International Journal of Environmental Research and Public Health*, 18(22).
<https://doi.org/10.3390/ijerph182212057>
- Moisoglou, I., Lamia, G. H., Yfantis, A. D., & Galanis, P. (2020). Nurses Work Environment and Patients' Quality of Care Nurses Work Environment and Patients' Quality of Care Panagiotis Prezerakos, MSc, PhD. *International Journal of Caring Sciences*, 13(April), 108.
- Ogata, Y., Sasaki, M., Yumoto, Y., Yonekura, Y., Nagano, M., & Kanda, K. (2018). Reliability and validity of the practice environment scale of the nursing work index for Japanese hospital nurses. *Nursing Open*, 5(3), 362–369. <https://doi.org/10.1002/nop2.148>
- Schlak, A. E., Aiken, L. H., Chittams, J., Poghosyan, L., & McHugh, M. (2021). Leveraging the work environment to minimize the negative impact of nurse burnout on patient outcomes. *International Journal of Environmental Research and Public Health*, 18(2), 1–15.
<https://doi.org/10.3390/ijerph18020610>
- Swiger, P. A., Patrician, P. A., Miltner, R. S. (Susie., Raju, D., Breckenridge-Sproat, S., & Loan, L. A. (2017). The Practice Environment Scale of the Nursing Work Index: An updated review and recommendations for use. *International Journal of Nursing Studies*, 74(June), 76–84.
<https://doi.org/10.1016/j.ijnurstu.2017.06.003>