



Fatigue Among Nursing Students During COVID-19 Pandemic in Medan

Hotria Veronika Tinambunan¹, Roxsana Devi Tumanggor^{2}*

¹Nursing Student, Faculty of Nursing, Universitas Sumatera Utara, Medan, Indonesia

²Psychiatric and Community Nursing Department, Faculty of Nursing, Universitas Sumatera Utara, Medan, Indonesia

Abstract. The COVID-19 pandemic requires students to implement an online learning system. However, the online learning method will be effective if it is supported by a systematically stable network. Online learning stimulates several problems related to physical and psychological issues. This study aims to describe nursing students' fatigue during online learning at the Faculty of Nursing, University of Sumatera Utara. This study is a descriptive study with a sample of 87 respondents, which were taken using the proportionate stratified random sampling technique. The research instrument used in this study consisted of two parts, namely demographic data and Chalder fatigue instruments. Data collection is conducted through online with google forms link via WhatsApp group. The prospective samples were fill the agreement to participate in the survey and research link was send directly. Data analysis was conducted to determine the frequency distribution of the variables studied. The results showed that the majority of the samples were female (89.7%), aged 20-22 years (69.4%). For the fatigue level, the data showed that most students were in the range of moderate levels of fatigue (52.2%). And, there are 2 students (2.3%) who are in severe fatigue range. Based on the results of this study, it is hoped that it can become basic data for further research that can provide a more in-depth analysis of the fatigue contributed factors among students during online learning with pandemic COVID-19 affect.

Keyword: fatigue level; nursing student; covid-19; online learning; survey

Received 11th May 2022 | Revised 24th July 2022 | Accepted 31th July 2022

*Corresponding author at: Psychiatric and Community Nursing Department, Faculty of Nursing, Universitas Sumatera Utara, Jl. Prof. Maas no. 3 Kampus USU, Medan

E-mail address: roxsana.tumanggor@usu.ac.id

Copyright © 2022

Published by Talenta Publisher

e-ISSN: 2685-7162

Journal Homepage: <https://talenta.usu.ac.id/IJNS>

1. Introduction

All countries in the world experienced a health crisis known as COVID-19 pandemic in 2020 (Didin et al., 2020). The spread of this virus is very contagious and lethal. Most governments warned and applied health protocols for public safety, such as travel restrictions, quarantines, curfew restrictions, and public facilities workplace controls. In the level of education, The face-to-face learning was temporarily suspended to follow the government health protocols with online learning method (Gunawan, Ni Made Yeni Suranti, 2020) ; (Didin et al., 2020). Online learning methods require students to study independently for quantitative and qualitative courses. As many as 64% of the types of courses held are qualitative or analytical. The duration of online lectures is the same as the duration in class teaching, which is around 1-3 hours for one course. Students must continue to use devices such as smart phones or computers or laptops for the duration of the lecture. The light emitted from these electronic devices can cause fatigue both physically and mentally (Jamaluddin et al., 2020). Normally, Fatigue leads to a weakened condition of a person's energy to carry out an activity. In case of online learning, students showed pain experience during studying since the sit-down position in a long duration. The effectiveness of work after study is affected and stimulate fatigue physically (Maramis, James Richard, 2021). According to a research conducted by (Franza et al., 2020) some people experience fatigue in the beginning of COVID-19 pandemic. It stated that people suffer from physical and psychological issue. For instance, people tend to have a sleep problem and physically exhausted during quarantine (Bartoszek et al., 2020). In addition, the pandemic contributed to the development of mental health issues, such as depression, stress, anxiety. Even in case of health care services, the majority of health care professionals suffered from burn-out related to over shift work and induce fatigue in some ways (Çelik et al., 2017). Therefore, it is important to conduct research related to the level of student fatigue during online learning due to the COVID-19 pandemic in Indonesia.

2. Research Methods

This is a cross sectional study aim to describe fatigue level among nursing students who participate in online learning during COVID-19 pandemic. The population in this study were all nursing students at the University of Sumatera Utara 665 students in total. Samples were recruited with proportional stratified random sampling technique and 87 students agreed to participated voluntarily with ethical forms signature. The instrument used in this study was a questionnaire to measure Chalder's level of fatigue which consisted of 14 questions with a Likert scale. Data collection was carried out after explaining the research procedure to respondents in the form of a statement described on the google form link, then respondents were asked to sign an informed consent form to become respondents after the online class finished. All samples in this research were studying from home since the data collection was conducted in in the middle of 2021. The data collection was taken one week distribution. Furthermore, the researchers collected data and

analyzed the data to determine the frequency distribution of the sample characteristics. In addition, this study received ethical approval from the Ethics Commission of the University of Sumatera Utara.

3. Research Results

Based on the results of the study, it was found that the majority of the samples were aged 20-22 years (69.4%), female (89.7%), and most of them lived with their parents during the pandemic (73.5%). Research also shows that as many as 8% of the sample actually have comorbidities and consume prescribed drugs routinely for the diseases (8%). In addition, most students are in the range of moderate levels of fatigue (52.2%). For more detail information, it can be shown from the table 1 below.

Table 1 Sample's Characteristics

Characteristics	Frequency	%
Age		
17-19	23	26,4
20-22	60	69,4
23-25	4	4,6
Gender		
Laki Laki	9	10,3
Perempuan	78	89,7
Religion		
Islam	32	36,8
Christian (Protestant)	47	54,0
Christian (Catholic)	8	9,2
Comorbid		
Yes	7	8,0
No	80	92,0
Drugs Consumption		
Yes	7	8,0
No	80	92,0
Residence Status		
Parents' House	64	73,5
Boarding house	1	1,1
Rent a House	22	25,3
Fatigue Level		
Mild	23	26,4
Moderate	44	52,2
Severe	14	14,1
Very severe	2	2,3
Total	87	100%

4. Research Discussion

According to the result, the majority of the students' age was in 20-22 years. Based on the research conducted by (Stern, 2017), it is found that there is no correlation of age and fatigue since all samples were students. Most of the bachelor students found no age gap and it showed from the research those older students still motivate to learn during online learning compared to the younger

students. However, the research related to the different variables, such as sleep quality and anxiety (Tumanggor & Siregar, 2021) showed a significant relationship compared to sample's characteristics. In addition, research also showed that age associated with some psychological symptoms such as fear (Tumanggor, Imaroh, et al., 2021), and stress (Tumanggor, Kasfi, et al., 2021). So, age is affecting some factors compared to specific cases. This research also showed that 7 students had comorbid and this is similar with the research conducted by (Argaheni, 2020) found that students with comorbid illness experienced fatigue 2-3 times compared to those who have no comorbid illness. It is because these students feel pain such as fever, and stomach ache during online learning. Pain is also affect the students daily functional living and social adjustment (Pustikasari & Fitriyanti, 2021). During online learning, the illness stimulate more severe with the activity and might lead to physical disorders (Yudhistira & Murdiani, 2020).

It is found in this study that 78 students were female. It is supported by (Alimah et al., 2016) stated that there is no difference between men and women in terms of fatigue among students. However, women are the most affected gender related to COVID-19 impact with social and financial issue (Gausman & Langer, 2020). In terms of psychological effect of COVID-19, female also dominate the result of many studies, such as fear (Tumanggor, Imaroh, et al., 2021), stress (Tumanggor, Kasfi, et al., 2021), caregiving burden (Nuraini et al., 2020) and many more. It is shown that female in some cases affect more research variables compared to men. It depends on many factors, such as the research variables, populations, social and cultural norms, etc.

According to this research result, it is also found that most students lived in the parents' house during pandemic to do online learning. The results of research conducted by (Firman, 2020) stated that when the study from home policy implemented, many students chose to return home. They admitted that they were tired when they participated in online learning because they did not only participate in online learning but also did some chores. These double responsibilities affect students' physically and lead to mental health conditions. Fatigue have a negative impact for personal and institutions. The impact depends on the level of fatigue experienced by the individual. According to (Yudhistira & Murdiani, 2020) fatigue classified into four stages. The first stage is idealism and high expectations, the second stage is pessimism and job dissatisfaction, the third stage is retreat and self-isolation, the fourth stage is irreversible and loses interest. Based on the results of research conducted by (Saputri, 2017) revealed that students who suffered from fatigue also showed signs of depression, decreased life satisfaction, and reduced sleep quality (Tumanggor & Siregar, 2021). In some cases, it leads to academic process in which the students experience low achievement in academic level and experienced burnt out (Ramadhani, 2021).

Burn out is psychological condition and mental exhaustion caused by long-term involvement in emotionally demanding situations, such as online learning (Alimah et al., 2016). It appeared that this condition stimulates by a long-term fatigue condition. Fatigue appears accompanied by feelings of exhausted, frustration, helplessness, and cynicism. This triggers them to often express depression, anxiety, aggression, or anger (Susanto & Azwar, 2020). The level of fatigue is a in a person who does not manage to cope with work stress, causing prolonged stress and resulting in symptoms such as psychological fatigue, physical exhaustion, mental fatigue, and low self-esteem (Liliweri, 2019). The results of this study indicate that the majority of students have online learning with sufficient categories as many as 44 (52.2%) students. The results of this study are the same as those obtained by (Alimah et al., 2016) regarding the description of burnout in nursing students in Purwokerto.

According to a study conducted by (Sagherian et al., 2020), it is found that the majority of the nurses in the hospital suffered from fatigue in the early of 2020. It is also supported by research of (LoGiudice & Bartos, 2021) revealed that one themes of the qualitative content was fatigue among nurses who worked in the hospital during the pandemic. Both studies showed some factors related to fatigue such as the workload burden, inadequate supplies for COVID-19 protective equipment, and fear to get infected to other family members. In case of nursing students, fatigue related to restricted social isolation and online learning system (Labrague & Ballad, 2021). The majority of students who experienced fatigue related to the low coping system (Nurhidayati et al., 2021) with a disturbance in cognitive, physical and psychological symptoms of fatigue condition (Kupcewicz et al., 2022). Therefore, it is concluded that fatigue occurred among students during COVID-19 pandemic. It is not because of the online learning methods, but some factors found precipitate the situations, compared to age, psychological conditions, comorbid illness and many more.

5. Conclusion and Future Research

This study shows that nursing students experience fatigue with online learning. This level of fatigue varies in each age range and several other influential factors. Although the results of this study only show an overview of the level of fatigue, it is hoped that further research can provide an in- depth analysis related to the factors that affect students using the online method during the COVID-19 pandemic. It is hoped that this research can be information and reference for online nursing students to train students to study independently by utilizing various existing technologies to gain knowledge. Feeling bored, tired because of online learning which results in not being able to do practicum, lab skills can be circumvented by watching various videos, various applications regarding nursing actions in hospitals and attending online seminars on nursing science.

Acknowledgments

Authors would like to gratitude all the students who participate in this study. Thank you for valuable data and the intention to get involve in this study.

References

- [1] Alimah, S., Swasti, K. G., & Wahyu Ekowati. (2016). Gambaran Burnout Pada Mahasiswa Keperawatan Di Purwokerto. *Keperawatan Soedirman*, 11(2).
- [2] Argaheni, N. B. (2020). Sistemik Review: Dampak Perkuliahan Daring Saat Pandemi COVID-19 Terhadap Mahasiswa Indonesia. *PLACENTUM: Jurnal Ilmiah Kesehatan Dan Aplikasinya*, 8(2), 99. <https://doi.org/10.20961/placentum.v8i2.43008>
- [3] Bartoszek, A., Walkowiak, D., Bartoszek, A., & Kardas, G. (2020). Mental well-being (Depression, loneliness, insomnia, daily life fatigue) during COVID-19 related home-confinement—A study from Poland. *International Journal of Environmental Research and Public Health*, 17(20), 1–12. <https://doi.org/10.3390/ijerph17207417>
- [4] Çelik, S., Taşdemir, N., Kurt, A., İlgezdi, E., & Kubalas, Ö. (2017). Fatigue in intensive care nurses and related factors. *International Journal of Occupational and Environmental Medicine*, 8(4), 199–206. <https://doi.org/10.15171/ijoem.2017.1137>
- [5] Didin, F. S., Mardiono, I., & Yanuarso, H. D. (2020). Analisis Beban Kerja Mental Mahasiswa saat Perkuliahan Online Synchronous dan Asynchronous Menggunakan Metode Rating Scale Mental Effort. *Opsi*, 13(1), 49. <https://doi.org/10.31315/opsi.v13i1.3501>
- [6] Firman. (2020). Dampak Covid-19 terhadap Pembelajaran di Perguruan Tinggi. *Bioma*, 2(1), 14–20.
- [7] Franza, F., Basta, R., Pellegrino, F., Solomita, B., & Fasano, V. (2020). The role of fatigue of compassion, burnout and hopelessness in healthcare: Experience in the time of Covid-19 Outbreak. *Psychiatria Danubina*, 32(September), S10–S14.
- [8] Gausman, J., & Langer, A. (2020). Sex and Gender Disparities in the COVID-19 Pandemic. *Journal of Women's Health*, 29(4), 465–466. <https://doi.org/10.1089/jwh.2020.8472>
- [9] Gunawan, Ni Made Yeni Suranti, F. (2020). Variations of Models and Learning Platforms for Prospective Teachers During the COVID-19 Pandemic Period Gunawan. *Indonesian Journal of Teacher Education*, 1(2), 75–94.
- [10] Jamaluddin, D., Ratnasih, T., Gunawan, H., & Paujiah, E. (2020). Pembelajaran Daring Masa Pandemi Covid-19 Pada Calon Guru : Hambatan, Solusi dan Proyeksi. *Karya Tulis Ilmiah UIN Sunan Gunung Djati Bandung*, 1–10.
- [11] Kupcewicz, E., Mikla, M., Kadučáková, H., Grochans, E., Wieder-Huszla, S., & Jurczak, A. (2022). Self-efficacy and fatigue perceived by nursing students in Poland, Spain and Slovakia during the COVID-19 pandemic. *European Review for Medical and Pharmacological Sciences*, 26(10), 3771–3786. https://doi.org/10.26355/eurrev_202205_28874.
- [12] Kurnia Wulan Ramadhani. (2021). Faktor Yang Berhubungan Dengan Tingkat Kecemasan Di Masa Pandemi Covid-19 Pada Mahasiswa Universitas Halu Oleo. *Endemis Journal*, 1(4), 9–19. <https://doi.org/10.37887/ej.v1i4.16606>.
- [13] Labrague, L. J., & Ballad, C. A. (2021). Lockdown fatigue among college students during the COVID-19 pandemic: Predictive role of personal resilience, coping behaviors, and health. *Perspectives in Psychiatric Care*, 57(4), 1905–1912. <https://doi.org/10.1111/ppc.12765>.

- [14] Liliweri. (2019). *Hubungan Burnout Dan Keluhan Nyeri Muskuloskeletal Pada Mahasiswa Profesi Ners Di Universitas Klabat Relationship Between Burnout and Musculoskeletal Pain on Ners Student At Universitas Klabat*. 5(2), 155–164.
- [15] LoGiudice, J. A., & Bartos, S. (2021). Experiences of Nurses during the COVID-19 Pandemic: A Mixed-Methods Study. *AACN Advanced Critical Care*, 32(1), 14–25. <https://doi.org/10.4037/AACNACC2021816>
- [16] Maramis, James Richard, E. Y. T. (2021). Hubungan Pembelajaran Daring Dengan Burnout Pada Mahasiswa Profesi Ners Universitas Klabat Di Era Pandemi Covid 19. *Klabat Journal Of Nursing*, 3(1), 68–76.
- [17] Nuraini, T., Tumanggor, R. D., Hungerford, C., Lees, D., & Cleary, M. (2020). Caregiver Burden for People with Schizophrenia in Medan, Indonesia. *Issues in Mental Health Nursing*, 0(0), 1–4. <https://doi.org/10.1080/01612840.2020.1847223>
- [18] Nurhidayati, T., Rahayu, D. A., & Alfiyanti, D. (2021). Nursing students' coping for burnout and fatigue online learning during coronavirus disease 2019 pandemic. *Open Access Macedonian Journal of Medical Sciences*, 9(T4), 92–96. <https://doi.org/10.3889/oamjms.2021.5857>
- [19] Pustikasari, A., & Fitriyanti, L. (2021). Stress dan Zoom Fatigue pada Mahasiswa Selama Pembelajaran Daring di Masa Pandemi Covid-19. *Jurnal Ilmiah Kesehatan*, 13(1), 25–37. <https://doi.org/10.37012/jik.v13i1.467>
- [20] Sagherian, K., Steege, L. M., Cobb, S. J., & Cho, H. (2020). Insomnia, fatigue and psychosocial well-being during COVID-19 pandemic: A cross-sectional survey of hospital nursing staff in the United States. *Journal of Clinical Nursing*, September, 1–14. <https://doi.org/10.1111/jocn.15566>
- [21] Saputri, W. W. P. (2017). *Gambaran Kejadian Burnout Berdasarkan Faktor Determinannya pada Pekerja Gudang dan Lapangan PT. Multi Terminal Indonesia Tahun 2017*. 1–173.
- [22] Stern. (2017). Psychological Capital and Academic Burnout in Students of Clinical Majors in Iran. *Acta Facultatis Medicae Naissensis*, 34(4), 311–319. <https://doi.org/10.1515/afmnai-2017-0035>
- [23] Susanto, S., & Azwar, A. G. (2020). ANALISIS TINGKAT KELELAHAN PEMBELAJARAN DARING DALAM MASA COVID-19 DARI ASPEK BEBAN KERJA MENTAL (Studi Kasus Pada Mahasiswa Universitas Sangga Buana). *Jurnal Techno-Socio Ekonomika*, 13(2), 102–112.
- [24] Tumanggor, R. D., Imaroh, I., & Cashin, A. (2021). Fear of Covid-19 Related Factors among Females in Indonesia : An Online Survey. *Jurnal Keperawatan Padjajaran*, 9(3), 216–223. <https://doi.org/https://doi.org/10.24198/jkp.v9i3.1875>
- [25] Tumanggor, R. D., Kasfi, A., & Lestari, D. (2021). Correlation between Fatigue and Stress among Female in Caring for the Elderly at Hospitals. *Jurnal Keperawatan Padjajaran*, 9(3), 199–205. <https://doi.org/https://doi.org/10.24198/jkp.v9i3.1669>
- [26] Tumanggor, R. D., & Siregar, Y. S. (2021). Hubungan Tingkat Kecemasan dengan Pola Tidur Mahasiswa selama Pandemi COVID-19. *Jurnal Endurance: Kajian Ilmiah Problema Kesehatan*, 6(2), 402–409.
- [27] Yudhistira, S., & Murdiani, D. (2020). Pembelajaran Jarak Jauh: Kendala dalam Belajar dan Kelelahan Akademik. *MAARIF Institute*, 373–393.