

How does the COVID-19 pandemic influence educational and psychological health of nursing students in Turkey: What can be done to minimize adverse effects of the pandemic?

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Abstract. We evaluate the effects of the COVID-19 pandemic on the educational processes, and psychological health of nursing students and provide an overview of the measures that should be taken against minimizing the adverse effects of the pandemic. We find that nursing students experience anxiety and stress during the pandemic due to online education and social isolation. Social media-based health education planning (provided by nursing trainers) and the inclusion of online simulation applications in the curriculum can be effective ways to prevent the negative effects of the pandemic on the education of nursing students and to protect students' health and ensure that they gain necessary nursing skills as in formal education.

Keywords. COVID-19, psychological and spiritual health, mental health, nursing students, health

1. Introduction

1.1. COVID-19 pandemic and nursing students

Coronavirus disease 2019 (COVID-19), firstly reported in Wuhan, China, in December 2019, was declared an internationally important public health emergency by the World Health Organization (WHO) in January 2020 and was described as a pandemic in March 2020. For the pandemic, WHO declared the rules need to be followed to stop the transmission of the virus, to accelerate the development of diagnosis, treatment, and vaccines, and to minimize the social and economic effects of the COVID-19. Nurses, a group that plays a crucial role in health services, are not only responsible for complying with these WHO rules but also providing holistic care for all kinds of patients, guiding society and creating innovative solutions for the safety of the community. Therefore, nursing education is crucial for the maintenance of humans' health in many dimensions (Jackson et al., 2020; Al Thobaity A et al.). In addition to theoretical knowledge in nursing education, nursing students absolutely need to improve clinical skills under the supervision of their responsible instructors. Practical courses that support cognitive, emotional and psychomotor skills contribute to professionalism and competence, communication, teamwork, critical decision-making, critical thinking (Korhan et al., 2018; Şendir et al., 2018). However, nursing education, especially clinical applications of students, was negatively affected by the pandemic and students' clinical internship practices were interrupted due to the COVID-19 pandemic, and so remote/digital learning had to be started.

With the decision of the Higher Education Institution in Turkey on September 24, 2020, it was decided to provide education through distance education in undergraduate-level schools, including nursing departments (YOK, 2020). This decision enabled remote/online learning tools to be used more widely and has led to a lack of clinical training in nursing education. The distance education method applied in Turkey during the pandemic has caused anxiety among nursing students about technological means (Kürtüncü & Kurt, 2020; Terkeş & Uçan Yamaç, 2021). In fact, this situation is not only specific

to Turkey but many other countries have also experienced the same. Internet access limitations due to lack of infrastructure and economic shortfall prevent students from receiving an adequate education (Wazir et al., 2008). In addition, these shortages have led to the question of how to continue education of nursing students (Dewart et al., 2020; Morin, 2020). Online courses, compulsory in nursing education, have positive sides as well as their negative sides. At one side, online education may contribute to the ability of students to gain self-management skills and to be active, produce creative ideas and do research in home environment about the health crisis, to produce digital content and improve the ability to communicate with both friends and instructors online (Çatiker A et al., 2020). On the other hand, online education does not have the in-person components that nursing student needs. It is crucial to develop strategic recommendations, integrate new knowledge and ways into education to train students, maintain and strengthen their education and existing in-person components so that they can provide quality and professional care in the future.

1.2. The effects of the COVID-19 pandemic on the psychological and mental health of nursing students
Mental health problems are one of the biggest obstacles to academic success. Pandemics can negatively affect motivation and social interactions of university students, who constitute a population considered particularly vulnerable to mental and psychological health problems (Son et al., 2020). Many negative factors such as fear and anxiety of individuals for themselves and their loved ones, restrictions on physical movement and social activities and sudden lifestyle changes due to quarantine can adversely affect the psychological and mental health of students (Brooks et al., 2020). In a study, a big portion of nursing students (44%) stated that they experienced depressive feelings and had suicidal thoughts associated with the COVID-19 pandemic (Son et al., 2020). In another study, it has been found that nursing students experienced anxiety during the COVID-19 outbreak (Huang et al., 2020; Birimoglu Okuyan C et al., 2020). In addition, students stated that various factors such as loneliness, weakness, financial and academic uncertainty negatively affected their mental state and that they could not share these situations due to social stigma (Son et al., 2020). For this reason, most of the nursing students (66.6%) needed psychological support during the current pandemic (Birimoglu Okuyan C et al., 2020). Concern and anxiety experienced in the current pandemic can cause negative/undesired thoughts in students and they can move away those students from the profession (Birimoglu Okuyan C et al., 2020). For this reason, determining students' coping behaviours, planning and implementing support systems for them are especially important during the pandemic. Digital technologies widely used in the pandemic can also be used in telehealth applications and telepsychiatry counselling to provide self-management of students' mental health problems (Torous et al., 2020; Zhou et al., 2020a; Zhou et al., 2020b; Shore et al., 2020). It is also essential to determine the stress levels of students and assess their psychosocial levels to support students with psychological problems (Zhou et al., 2020a; Zhou et al., 2020b; Shore et al., 2020; Telemed. JE). Most of the current literature on the psychological effects of COVID-19 has focused on healthcare workers, patients, children and the general population (Lai et al., 2020; Xie et al., 2020). There are only a few studies investigating the psychological or mental health effects of a pandemic on university students, who are known to be a vulnerable population. Therefore, there is an urgent need to evaluate the effects of the current pandemic on this population of university students (Bruffaerts et al., 2018; Zhai and Du, 2020a; Zhai and Du, 2020b; Araujo et al., 2020; Holmes et al., 2020).

1.3. The effect of COVID-19 pandemic on nursing students' research

The COVID-19 pandemic has negatively affected the studies conducted with nursing students and restricted research activities. Generally, only cross-sectional type of studies were conducted with nursing students during the COVID-19 outbreak (Akman et al., 2020; Albaqawi et al., 2020; Aslan and Pekince, 2020; Guven Ozdemir and Sonmez, 2020; Hussien et al., 2020; Kochuvilayil et al., 2021; Savitsky et al., 2020; Sheroun et al., 2020; Ulenaers et al., 2021). Considering the adverse effects of the pandemic as well as the WHO rules, it has been almost impossible to meet with students during the pandemic. Therefore, instead of experimental / quasi-experimental studies involving practice/training,



researchers had to turn to online survey studies using technologies such as telephone, e-mail, and electronic health record portals (Kochuvilayil et al., 2021).

1.4. Studies examining the effects of COVID-19 on the mental health of nursing students

The current COVID-19 pandemic situation affects the mental health of university students in their academic lives (Eleftheriades et al., 2020) and this increases the risk of students experiencing psychological health problems (Reverte-Villarroya et al., 2021).

Researchers frequently examine stress and anxiety variables in the studies conducted in this field. Nursing students usually begin their clinical practice in the first years of their education and have to combine them with a heavy academic workload. Various factors such as academic needs, social conditions, and clinical practices directly affect students' mental health, making them susceptible to stress (Rios-Risquez et al., 2018).

It has been reported that nursing students' thoughts of being contaminated with the virus and being positive for COVID-19 increase their stress levels. Also, it was found that students who did not take protective measures such as wearing personal protective equipment had higher perceived stress levels. As the level of knowledge about COVID-19 increases, levels of trait anxiety increase and the risk of transmission to family members increases the level of state anxiety (Aslan and Pekince, 2020; Ulenaers et al., 2021; Akman et al., 2020; Ersin and Kartal, 2020; Fitzgerald and Konrad, 2021). The studies mentioned above suggest that students need to gain coping skills to protect their mental health during the pandemic.

In an experimental study evaluating the attitudes of nursing students towards the prevention of COVID-19 and protection from the disease in Saudi Arabia with the Health Belief Model, it was found that the Health Belief Model increased the awareness and self-efficacy of the students against COVID-19 disease (Elgzar et al., 2020). It is crucial to make similar initiatives in the current pandemic for students to get rid of negative feelings and attitudes.

During the COVID-19 outbreak, one of the changes that negatively affect the psychological health of nursing students is the sleeping habits (Kochuvilayil et al., 2021; Romero-Blanco et al., 2020). Students with changing sleep patterns experience sleep difficulties. On the basis of sleep disorder, there may be many variables such as COVID-19 contamination stress, the adverse effect of looking at the screen for a long time as a result of watching online lessons, and constant thoughts about uncertainty in students' education and daily lives. Sleep, one of the basic components necessary for the maintenance of vital functions, is also important for psychological well-being. Insufficient sleep causes less release of cortisol secretion, thus more stress (Haack et al., 2020). Therefore, having regular bedtime hours as in the formal education process, avoiding the use of technology in bedrooms as much as possible, avoiding negative thoughts before going to sleep and practicing relaxing practices (e.g., reading a book, taking a shower) are important steps in eliminating and preventing sleep problems. The strong relationship between mental health problems and the pandemic situation also reveals the need to include the pandemic process and nursing issues in the curriculum (Reverte-Villarroya et al., 2021). Educating and preparing students for pandemic situations can have a huge impact on the quality of public care that will be treated in the future and students' mental health. However, more detailed studies are needed regarding the effects of the pandemic on nursing students.

1.5. Studies on new teaching methods

Online education in the pandemic has raised the need for researchers to focus on the contribution of online education to nursing knowledge and skills and new teaching strategies (Hussien et al., 2020; Alqahtani et al., 2021; García-González et al., 2021). Online education can be considered as a new training method for nursing discipline. Moreover, both educators and students may have difficulty adapting to online education, become stressed, or experience burnout (Alqahtani et al., 2021; García-González et al., 2021; Suliman et al., 2021). These conditions may adversely affect nursing education. In a web-based research, it was determined that most of the students (90%) had difficulty concentrating and performing their academic duties (Fitzgerald and Konrad, 2021). These results indicate that some changes should be made in academic methods to protect students' mental health. The interruption of

schools and clinical practices in the COVID-19 pandemic has revealed the need for new methods to gain nursing students' professional skills. Studies measuring the effect of simulation video use in the COVID-19 pandemic have also started to take place in the literature (Jiménez-Rodríguez et al., 2020a; Jiménez-Rodríguez et al., 2020b). In a simulation video study on violence against gender, it was observed that watching the simulation video increased the knowledge of nursing students about the process management of the victims of violence (Jiménez-Rodríguez et al., 2020a).

Recent studies have suggested that social media is the most common source of information that nursing students refer to about COVID-19 (Kochuvilayil et al., 2021; Albaqawi et al., 2020). Information pollution acquired from social media may cause an increase in anxiety and stress in students about COVID-19 and they may have difficulty in transferring their knowledge to clinical skills. This suggests that the use of social media can be an effective attempt for nursing researchers and educators to enable students to access accurate information. However, for this, students must have the sufficient knowledge level and health literacy to access and differentiate accurate information on social media. Studies generally show that fourth-grade students are better at accessing accurate information about COVID-19 and converting information into behaviour than other grade students (Albaqawi et al., 2020). This suggests the conclusion that first-year students who have encountered such a pandemic at the beginning of their education life and who have obtained the first information about the profession online and who have not yet been able to participate in clinical practice should be specially informed and supported during the pandemic. During the COVID-19 pandemic, a quasi-experimental study was conducted with 103 first-year nursing students to strengthen critical thinking. In the experimental intervention involving the physical conditions and nursing activities of babies, pregnant and elderly people, it has been determined that the initiative has a significant effect on students' self-reflection and critical thinking skills (Cheng et al., 2020).

In the literature, we see that qualitative studies are also conducted on how nursing students perceive the changing educational style during the pandemic (Suliman et al., 2021; Ramos-Morcillo et al., 2020). In a study conducted in Jordan, it was observed that nursing students have experienced fear and anxiety due to the uncertainty of the epidemic and educational processes. Students also stated that online education would decrease their school success compared to formal education and some challenges such as the necessity of Internet access at home and the need to fulfill other family roles (especially among female students) are highlighted (Suliman et al., 2021). In another study, it was observed that students shared their concerns about the effects of the pandemic on their education life on Twitter (De Gagne et al.). These results suggest that a combined education planning consisting of clinical experiences supported by social media and above-mentioned simulation practice should be applied promptly in nursing education.

1.6. Studies examining nursing students' working experiences during the pandemic

In addition to an increase in deaths and the number of patients in the general population, the COVID-19 pandemic has had adverse effects on the workload of the nursing profession (Swift et al., 2020; Hernández-Martínez et al., 2021; Liu et al., 2021). These conditions have raised the need to examine how experiences of nursing students affect them. In order to reveal effects of these experiences in detail, in-depth interviews should be made with nursing students and their ideas and thoughts should be listened carefully (Casafont et al., 2021; Lovrić et al., 2020; Gómez-Ibáñez et al., 2020; Collado-Boira et al., 2020). In studies conducted in Spain, it has been determined that nursing students who work as helpers are proud to be able to support the crisis during the pandemic. Also, it has been observed that those students have experienced feelings of uncertainty, tension and fear (Casafont et al., 2021; Collado-Boira et al., 2020). In another study conducted in China, it was determined that nursing students who are male and attending the 2nd, 3rd and 4th (senior nursing students) grades were more tired and experienced depression and anxiety symptoms compared to other nursing students (Liu et al., 2021). In the current COVID-19 outbreak, students' participation in practice directly in hospitals and primary health care institutions without prior preparation (courses, orientation trainings) may cause them to experience prejudice / negative feelings against the nursing profession. However, with such a practical experience,



students may have gained a positive effect on professional attitude with the sense of professional satisfaction caused by taking part in primary patient care and providing effective care to a person whose health condition is impaired.

1.7. Recommendations on the psychological and mental health of nursing students during the pandemic

1.7.1. For students

- Regular physical activity is beneficial in managing students' insomnia problems and preventing obesity (Eda et al.; Demirer and Erol, 2020). Students should do regular physical activity to maintain their psychological well-being and prevent potential problems. They should avoid having an inactive life style as much as possible by preparing environments for physical activity at home (DEMİR and ÇİFÇİ, 2020; Demirer and Erol, 2020).
- It is seen that young nurses use humour as a means of coping with the difficulties of life and stress. Nursing students should also make use of humour more widespread in their daily lives as a coping process during the pandemic process (Savitsky et al., 2020).
- Students who have high meaning in life have better mental health than those with low life expectancy during the COVID-19 pandemic (Arslan et al., 2020). Nursing students acquire hobbies that will increase their life expectancy during the pandemic are another useful initiative to protect their mental health.
- Activities and entertainment with family members and sharing their feelings reduce the stress and anxiety levels and the depression risk of students. Students should spend time with their family members as much as possible in their spare time and attend common activities such as playing games, watching movies/movies, gardening and working together (Li et al., 2020; Kim et al., 2021).

1.7.2. For educators and trainers

- With increase in the level of knowledge of the students, possible concerns about getting COVID-19 infection and the treatment process may decrease. Students' knowledge level should be increased by informing nursing students about COVID-19 disease in nursing courses and various scientific events such as seminars and conferences (Akman et al., 2020).
- Students should be encouraged to talk about their feelings and thoughts about COVID-19 and necessary counselling should be provided on this issue (Akman et al., 2020; Savitsky et al., 2020).
- In clinical practice, it should be checked beforehand whether there is sufficient personal protective equipment for students, and students should be supported with in-clinic supervisors during the practices, their concerns should be weekly listened and existing problems should be tried to be solved (Ulenaers et al., 2021).
- Nursing trainers should help students to identify and develop coping strategies (Kim et al., 2021). Programs and elective courses that include muscle relaxation exercise, personal care, communication and problem solving skills should be added to the curriculum to improve students' coping skills (Kim et al., 2021).
- It is observed that students' use of the Internet increased during the pandemic (Oducado et al., 2021). Nursing educators should prepare high-quality distance learning techniques and content, creating a stable educational framework (Savitsky et al., 2020). To prevent negative situations (e.g., addiction, cyberbullying, eye problems) that may arise from excessive use of Internet, online lessons should be practiced as efficiently as possible. Social media should be included in health education to increase the knowledge level of students about COVID-19 and ensure that they reach the right information, and also simulation videos should be included in the course curriculum.
- Practices involving experimental interventions should be given more place for students to gain nursing knowledge and skills.
- To reduce the stress that students experience regarding Internet connection and online education tools, students who are difficult to access these resources should be provided sufficient means to access these. Instructors should inform higher education administrators and institution administrators when necessary about these needs of students (Olum et al., 2020).



2. Conclusion

The COVID-19 pandemic in general and the alteration of education style during this pandemic (transition from face-to-face education to online education) have caused stress and anxiety in nursing students studying in Turkey. Research on nursing students and COVID-19 have been generally executed remotely (online) and done in cross-sectional fashion. While some of these studies have sought to understand nursing students' experiences during the pandemic, other studies have focused on new strategies to strengthen remote (online) education. In this paper, we emphasize measures that both students and educators should take to minimize the negative effects of the pandemic on nursing students.

2.1. Implications for psychiatric nursing practice

Protecting the psychological well-being of nursing students during the pandemic is a crucial step to training nurses who can provide high-quality care. Nursing trainers should help students to identify and develop coping strategies. This study offers various solutions to both nursing students and nurse educators to evaluate the pandemic process in the best way. To reduce the stress that students experience regarding Internet connection and online education tools, students who are difficult to access these resources should be provided sufficient means to access these. Instructors should inform higher education administrators and institution administrators when necessary about these needs of students. This study emphasizes that the use of social media and online simulation applications in the online education process will be beneficial to protect the well-being of nursing students during the pandemic process.

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