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Research article

Student nurse experiences in public healthcare clinical practice during the COVID-19 pandemic: A qualitative study

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ABSTRACT

Background: The social crises induced by the coronavirus disease (COVID-19) pandemic have had adverse effects on the global healthcare system. Public healthcare centers have restructured their services to address clinical needs at the forefront of the pandemic. This led to nursing students immersing themselves in clinical experience while practicing at public healthcare centers during the COVID-19 pandemic.

Objectives: The aim of this study was to explore and understand the experiences of nursing students practicing in public healthcare centers in response to the COVID-19 pandemic.

Design: A qualitative study.

Setting: A public healthcare center in Korea.

Participants: Twenty third-year nursing students from a university in Korea.

Methods: A qualitative study design was used where students provided reflections on their experience in clinical practice at public healthcare centers. Data were collected between November 5 and December 17, 2021. Data were analyzed using the phenomenological approach proposed by Colaizzi.

Results: Three categories emerged. Students immersed themselves in a practicum experience in public healthcare in response to COVID-19. Students recognized the challenges associated with providing healthcare services during the pandemic. The students expanded their field of interest to community nursing.

Conclusion: In the context of COVID-19, supplementing academic education and training for nursing students with experience in clinical practice at public healthcare centers enhanced the capabilities of future nurses. It increased confidence in their work and responsibilities.

1. Introduction

In March 2020, the World Health Organization declared the coronavirus disease (COVID-19) pandemic an international emergency (Cascella et al., 2020). On January 19, 2020, South Korea confirmed the first case of COVID-19. The virus spread rapidly, severely affecting the entire country. Social, economic, and educational disruption prevailed throughout November 2021, coinciding with the data collection period of this study. The spread of COVID-19 persisted despite implementing active quarantine measures, such as social distancing and vaccinations (Watson et al., 2020). Accordingly, universities in each country complied with the restrictions enforced by governments to prevent the spread of COVID-19. Therefore, nursing students encountered several challenges attending face-to-face classes and changes to the practicum environment (Emory et al., 2021).

Nurse education can be divided into theory and practice. Practical clinical education has direct and indirect impacts on the experiences of individuals entering the nursing field (Aktaş and Karabulut, 2016). Community nursing is a type of nursing focused in public healthcare centers. This service is offered as a place to promote wellbeing and manage the lifelong health of local residents. Thus, the public healthcare center serves as an essential clinical practice site to teach community nursing.

The staff of public health institutions lead various healthcare services and administrative tasks. Additionally, they provide a healthcare service system that manages the daily health of residents. Currently, there are 256 public healthcare centers in Korea (Statistics Korea, 2020). As COVID-19 spread across the country, public healthcare centers have required significant human resources and time to respond to the pandemic. They have reduced or suspended most healthcare services to
focus their efforts on responding to COVID-19. Furthermore, a remarkable increase in tasks, such as the management of residents and local health institutions, telephone counseling, contact tracking, inducing close contact testing, self-quarantine management, installation of screening clinics, and COVID-19 screening tests can be observed. Korea has played a leading role in mitigating the spread of COVID-19 by conducting screening tests, self-quarantine, and the management of confirmed cases in public healthcare centers. In the current context of COVID-19, the practical experience of nursing students at public healthcare centers differs when compared with the pre-pandemic era. National efforts have become essential due to an increased demand for public healthcare centers to curb the spread of COVID-19 in the community (Lee and Jang, 2019). Therefore, it is important to study the public healthcare center experience of nursing students who were practicing during the COVID-19 pandemic for educational planning. Additionally, this will help with the development and implementation of nursing education.

Existing studies on nursing student practice have underscored hospital clinical practice (Balasa et al., 2021; Sim et al., 2021) and basic nursing practice in the classroom (Zwakhalen et al., 2018). Previous research has focused on the practical experience of nursing students after the COVID-19 outbreak, highlighting the effect of online practice (Porter et al., 2020; Shorry and Chua, 2022). Extensive studies focus on the experience of practicing nursing at public healthcare centers pre-COVID-19 in relation to community nursing practice (Choi, 2019; Aktas and Karabulut, 2016). However, the practical experience of public healthcare centers during COVID-19 has not yet been examined. Therefore, this study applied qualitative research techniques to explore the experiences of nursing students practicing at public healthcare centers during the COVID-19 pandemic. It sought to inform practical education methods that are used to develop the nursing profession.

2. Purpose

This study aimed to analyze the different student experiences that have occurred while practicing at healthcare centers during the COVID-19 pandemic. The research question addressed in this study was, “What were the experiences of nursing students who were practicing in public healthcare centers in a pandemic situation?”

3. Methods

3.1. Research design

A qualitative research design was used. Data were collected using self-reflection journals from nursing students underscoring their clinical practice experiences during the COVID-19 pandemic.

3.2. Participants and data collection

Participants were 20 nursing students who volunteered to participate following being informed about the purpose and method of the study. The participants were recruited from 61 third-year nursing students at a university involved in teaching community clinical practice in a public healthcare center in Y city. This constituted the nurses’ first practical experience following their completion of two out of five credits of a community nursing theory course. The course duration was one week and required one practice credit. Participants were enrolled in the study after they had completed their clinical practice at a public healthcare center. All participants were women, aged between 22 and 24 years. Data were collected from November 5, 2021 to December 17, 2021. The main question asked in this study was, “What kind of experience did you have at the public healthcare center during the COVID-19 pandemic?” The participants answered using self-reflection journals. This journal sought to facilitate the understanding of their experiences and thoughts during the course for future nursing students. The participants used this report to express any challenging aspects of their experiences in a way that could not be communicated directly to the nurse educator.

3.3. Data analysis

Data analysis was performed using the phenomenological method proposed by Colaizzi (1978). This method helps locate the precise meanings expressed in participant descriptions and accurately grasp the nature of the phenomenon. The data from the self-reflection journal was read intensively several times; any meaningful data addressing experiences at the public healthcare center were read repeatedly. Meaningful phrases and sentences related to the purpose of this study were underlined, from which redundancies are excluded and restated in an abstract and general constructive sense. Data were categorized based on similar derived meanings into relevant themes and then analyzed based on their association to core topics that were relevant to the actual experiences of nursing students in public healthcare center practice during the COVID-19 pandemic. Finally, data were validated and verified for consistency.

3.4. Ensuring rigor in qualitative data analysis

This study applied the criteria of credibility, transferability, dependability, and credibility to ensure rigor during qualitative data analysis, as proposed by Lincoln and Guba (1985). Credibility is the criterion that determines whether the experience was described in a reliable manner. Furthermore, the reliability of the contents to reflect the participants’ experiences was determined by showing the final research results to three students who did not participate in the self-reflection exercise but did complete the same practical training. Transferability determines whether the research results are sympathetic between the researcher and the participants or whether they can be applied in a similar context to other participants. Revealing the research results to three nursing students who did not participate in the study helped to confirm whether the results were meaningful in the context of their own experiences. Dependability judges whether a consistent result has been obtained through the research process by considering that the research results can be revised during the analysis process. In this study, data were analyzed in accordance with the proposed research procedure. Furthermore, discussions and reviews were conducted several times to ensure consistency between researchers. Credibility is a criterion for determining whether research neutrality has been secured in the overall research process and results. The research process and analysis of results were reviewed by two professors with extensive qualitative research experience. In addition, interview data were continuously compared and reviewed by researchers. Moreover, the literature review and analyses were divided among the researchers to mitigate any assumptions or prejudices.

3.5. Ethical considerations

This study was conducted following ethical approval from the Institutional Bioethics Committee. The research method, rationale of the study, use of the self-reflection journal, and data anonymization were explained to the participants before they provided written informed consent. In addition, participants were informed that they could withdraw from the research process at any time and there were no benefits or disadvantages to participation. Data were stored on a separate removable disk that was used for no other purpose than research. The possibility of publishing research results was also explained to the participants. Upon providing their written informed consent, participants were asked to retain the study description and a copy of the consent form. Participants were free to ask questions and receive answers from the researcher at any time.
4. Results

This study derived 112 meanings from the data analysis. Consequently, the grouping and classification of similar meanings among the derived meanings yielded 10 themes and 3 categories (Table 1).

4.1. Immersing in a practicum experience in public healthcare in response to COVID-19

Participants were unaware of the role of public healthcare centers in COVID-19 before their practical experiences. However, the nursing students had an opportunity to learn through this practice. In addition, participants felt regret that they could not experience healthcare services other than COVID-19 at the healthcare centers as most of these services were either reduced or suspended.

4.1.1. Adjusted practicum focused on COVID-19 healthcare services

Participants were disappointed that they could not experience home-visit nursing and had limited opportunities to communicate with the residents. Participant responses included:

- Owing to the COVID-19 situation, the healthcare center business was partially suspended, so it was a pity that I could not see the healthcare business in person.
- There was no opportunity to communicate with residents through home-visit nursing because of the COVID-19 pandemic.

4.1.2. Opportunity to learn about public healthcare management related to COVID-19

Participants expressed excitement and anticipation that they would gain experiences that were different from the existing hospital practice while at the public healthcare center during the COVID-19 pandemic. Furthermore, participants embraced the opportunity to learn about the importance of public healthcare centers in the context of COVID-19.

- I found out that public healthcare centers do a lot of work other than PCR [Polymerase Chain Reaction] testing in response to COVID-19.
- I learned that public healthcare centers are tasked with conducting epidemiological investigations of COVID-19 cases, monitoring their health, and reporting to higher authorities.

Table 1

Themes and categories of the public healthcare center practice experiences of nursing students during the COVID-19 pandemic.

| Themes                                                                 | Categories                                                                 |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------|
| Participating in the adjusted practicum focused on COVID-19 healthcare services | Immersing in a practicum experience in public healthcare in response to COVID-19 |
| Embracing the opportunity to learn about public healthcare management related to COVID-19 |                                                                                                                                 |
| Understanding the importance of the role of nurses in public healthcare centers |                                                                                                                                 |
| Overloading COVID-19 work and responsibilities | Recognizing the difficulties associated with providing healthcare services during the COVID-19 pandemic |
| Recognizing the importance of observing quarantine rules |                                                                                                           |
| Recognizing problems in the public healthcare center system |                                                                                                           |
| Feeling pride in their ability to contribute significantly and moderately to the quarantine | Expanding the field of interest in the role of community nurses |
| Admiring the strong work ethic of healthcare center staff |                                                                                                           |
| Receiving friendly supervision from the staff nurses |                                                                                                           |
| A desire to work as a nurse in public healthcare centers |                                                                                                           |

4.1.3. Understanding the importance of the role of nurses in public healthcare centers

The participants felt that the public healthcare center implemented a cooperative and effective COVID-19 response system through proactive experience. Furthermore, they realized the important role of public healthcare centers.

- During the practice, I observed that the vaccination was well planned and meticulous.
- I thought it was amazing to see that even when many people came to the public healthcare center for PCR tests at the same time, the health center staff responded appropriately and quickly with good teamwork.

4.2. Recognizing the difficulties associated with healthcare during the COVID-19 pandemic

Participants thought that the response to the COVID-19 pandemic could be improved by recognizing the efforts of the public healthcare center in observing the quarantine rules. Participants felt that public healthcare center staff were overworked due to COVID-19.

4.2.1. Excess COVID-19 work

Participants experienced the COVID-19 pandemic directly through proactive training. Participants expressed that their work during this time was overwhelming and heavy. The clinical practice experience highlighted the difficulty associated with performing administrative and logistical tasks within the set workforce and time, despite only comprising a minimal part of the COVID-19 work.

- That day, six patients suddenly appeared, and about 200 contact people came to the screening clinic as if it was an emergency. To cut the documents with names and addresses used in screening clinics in half, a vast amount of paper had to be cut instantly; we did this so quickly that my wrists hurt later.
- When I was in the position of receiving COVID-19 tests before practice, I did not think about the cumbersome task of moving samples like this, checking them one by one, and moving them again.
- Seeing the public healthcare center staff working late into the night after work, I thought that there was too much work.

4.2.2. Recognizing the importance of observing quarantine rules

Participants learned that many people, in addition to the public healthcare center staff, struggled to prevent COVID-19. Thus, participants realized the importance of complying with the quarantine rules and viewed this as an opportunity to commit to and abide by the quarantine rules.

- It touched me that so many employees are working hard, even invisible, to respond to COVID-19, and it allowed me to reconsider the seriousness of COVID-19.
- Many individuals from hospitals and nursing homes visit the public healthcare center every two weeks with a sample after testing for COVID-19. It would not be easy to get a COVID-19 test every two weeks, but as I tried so hard to prevent any cases like this, I learned that everyone is working hard on preventative management.

4.2.3. Recognition of problems in the public healthcare center system

Based on the observed overloading at the public healthcare center, participants felt that the healthcare center system had several problems.
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- I felt that multiple countermeasures were needed first to meet the reality that there is a lot of demand for the healthcare workforce but a shortage of supply.
- Seeing the nurses at the public healthcare center busy working not only with their own work but also with other necessary tasks, I felt that their job would be very difficult.
- It was confusing because there were few full-time staff who knew the job well as they mainly hired contract workers to solve the manpower shortage at public healthcare centers.

4.3. Expanding the field of interest into the role of community nurses

The participants learned from the nurses at the public healthcare center during their practice. These nurses demonstrated a positive attitude toward their work and a strong work ethic. Furthermore, several participants wanted to work as nurses at public healthcare centers after graduation.

4.3.1. Proud to be able to contribute to quarantine

Participants were proud and satisfied that they could make a small contribution to the work of the busy public healthcare center during the COVID-19 pandemic.
- It is not a big deal, but I was fortunate to ease the burden on the healthcare center staff a little.
- Even if it was an auxiliary job, I felt proud because I was contributing to the COVID-19 situation, and I felt a sense of accomplishment by completing the assigned task.

4.3.2. Strong work ethic among healthcare center staff

Participants were able to experience the occupational perspective of the healthcare center staff while participating in healthcare center work. Public healthcare center staff were thorough to ensure that the lives of the residents would not be compromised.
- As we were surprised and bewildered when COVID-19 first occurred, people in public healthcare centers must have been as embarrassed as we were. However, we stopped the existing healthcare center work and switched to work on COVID-19 for the safety and health of community residents. I think it is cool to see the healthcare center staff adapt to COVID-19 work again and work naturally now.
- I learned what kind of mindset I should have as a nurse by seeing the public healthcare center nurses who are kind and sincere in everything.

4.3.3. Receiving friendly supervision from the staff nurses

Participants felt that the public healthcare center staff attempted to create a friendly and comfortable atmosphere when guiding students, despite the complex situation with COVID-19.
- When I practiced at the public healthcare center, the staff created a friendly and comfortable atmosphere, so I was able to practice with a more active and comfortable mind.
- I felt grateful to the nurses for kindly teaching and guiding students about the work of nurses even though they were busy.

4.3.4. A desire to work as a nurse in public healthcare centers

Participants were provided with the opportunity to explore their career paths while practicing at the public healthcare center. Participants were able to explore whether their vocational aptitudes were suitable for health center work. Some participants applied to the public healthcare center with the desire to work as nurses who are essential to the local community.
- This time, by directly working on COVID-19-related tasks, I was able to feel once again that public healthcare centers have a significant impact on public healthcare. This made me want to work in the community as a healthcare worker in the era of COVID-19.
- I have been interested in becoming a public healthcare official for a long time, but this time, I came to the public healthcare center and practiced it. I think it was an opportunity to firmly establish my desire to study harder and apply for this side in the future.

5. Discussion

Many clinical practicums were converted to online simulations during COVID-19. This study showed that clinical training at the public healthcare center provided an opportunity for nursing students to experience practical COVID-19 care and recognize the value of the necessary field practices. The aim of the study was to comprehensively explore the experience of student nurses performing their clinical practice at public healthcare centers during the COVID-19 pandemic. The public healthcare center experience in clinical practice was derived from three categories in this study.

The nursing students were able to learn about the diverse, general, and central role of public healthcare centers in responding to COVID-19. Before their clinical practice experience, nursing students reported only knowing that the health center was a place to conduct screening tests for COVID-19.

During the COVID-19 pandemic, nursing college practice shifted from on-the-job training to online education. This has led to a decrease in educational satisfaction (Jeon et al., 2021) and career exploration opportunities for nursing students (Kim and Lee, 2022). Thus, this study found that field experience in the context of COVID-19 is meaningful.

Furthermore, nursing students felt the importance of teamwork through working at public healthcare centers while gaining practical COVID-19 work experience. It is possible to learn and prepare for future work efficiently through on-the-job training (Casafont et al., 2021). This study showed that nursing students can learn efficiently and prepare for future work through on-the-job training at public health centers. This is expected to help these students improve their adaptability and transition into future roles as nurses (Barisone et al., 2022).

Healthcare services that did not respond to COVID-19 were suspended at public healthcare centers during this pandemic (Park and Yang, 2021). Thus, the experiences of nursing students on different healthcare services were limited (Ulenaers et al., 2021). Nursing students had little opportunity to directly communicate with the international audience who are residents as all services at the public health center were closed. They reported feeling regretful that they could not experience various healthcare services during their practical work experience. Therefore, it is necessary to explore alternative types of practical education to mitigate this limitation. Integrative strategies should be applied to achieve the learning goals. In addition, close cooperation with working-level institutions and universities is required to ensure that nursing students are fully equipped to become qualified nurses despite the limiting circumstances imposed by the COVID-19 pandemic.

Nursing students learned that public healthcare center staff were overworked and understaffed due to COVID-19. They reported that the systems and staffing at the public healthcare center were not adequate to cope with the workload. Additionally, they felt that overtime compensation was not appropriate. A previous study has reported that public healthcare center staff experience excessive overtime with a limited workforce due to the COVID-19 pandemic (Son et al., 2021). Furthermore, the government predicted that the COVID-19 crisis would be resolved quickly and hired contract workers instead of regular workers. The government provided temporary support for employees of other departments, resulting in a decrease in work efficiency (Son et al., 2021).

This study showed that nursing students felt a sense of responsibility and pride in their supporting role in the National Health System response to the COVID-19 pandemic (Casafont et al., 2021). Barisone
et al. (2022) have shown that nursing students wore the same uniform as nurses during the COVID-19 practice period. This meant that they were perceived as nurses by patients, which enhanced their sense of responsibility. Moreover, the nursing students gained confidence in their nursing job (Barisone et al., 2022).

The nursing students in this study adopted a positive outlook on the profession through working with nurses at public healthcare centers. Additionally, they expanded their awareness of the role of community nurses. Prior to their clinical practice at public healthcare centers, nursing students had no opportunities to listen to lectures underscoring the role of community nurses or confirm their actual duties. This is consistent with previous studies that found that nursing students were only able to familiarize themselves with different nursing roles through practice at public healthcare centers (Choi, 2019; Kang and Yang, 2021). These results indicated that clinical practice at public healthcare centers in the context of the COVID-19 pandemic enhanced their understanding of the actual work undertaken in response to COVID-19. Moreover, participants gained a greater insight into the role of community nurses.

6. Conclusion

This study sought to provide guidelines that identify educational needs and inform effective clinical practice in nursing education. It applied a qualitative phenomenological analysis to explore the experience of nursing students in clinical practice during the COVID-19 pandemic. The research question for student nurse participants was “What kind of experience did you have at the public healthcare center during the COVID-19 pandemic?” The results were categorized into: ‘Immersing in a practicum experience in public healthcare in response to COVID-19,’ ‘Recognizing the difficulties associated with providing healthcare services during the COVID-19 pandemic,’ and ‘Expanding the field of interest into the role of community nurses.’

This study indicated that the COVID-19 pandemic could provide nursing students with learning opportunities in a proactive environment. However, nursing students experienced inappropriate systems, such as heavy workloads and a limited workforce, at public healthcare centers in the context of COVID-19. Clinical practice for nursing students at public healthcare centers played a pivotal role in the community’s response to the COVID-19 pandemic. This provided a meaningful experience for nursing students. It is necessary to develop an effective strategy for delivering practical education and appropriate content for nursing students who have not experienced different healthcare services due to the pandemic. This study is significant because it can guide the future development of practical education through a comprehensive understanding of the clinical practice experience of nursing students.

We have several recommendations. The grounded theory method should be applied to explore the extent to which nursing students can adapt to clinical practice during the COVID-19 pandemic. Further research should be conducted to confirm the diverse needs and barriers that are present in healthcare. The experiences of students who underwent clinical practice should be compared with students who experienced different types of courses during the COVID-19 pandemic.

This study was limited because it focused on understanding the clinical experiences of nursing students at a local university in public healthcare centers alone. Therefore, future research should investigate the impact of onsite and online practice contexts on community practice among nursing students in urban and regional universities.

Contribution

Yun-Jung Choi: Conceptualization, Writing - review & editing, Funding acquisition, Project administration, Supervision. Youn-Joo Um: Conceptualization, Methodology, Validation, Formal analysis, Investigation, Resources, Data curation, Writing - original draft, Writing - review & editing, Visualization.

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Yun-Jung Choi: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. Youn-Joo Um: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Visualization, Writing – original draft, Writing – review & editing.

Declaration of competing interest

None.

References

Aksâ, Y.Y., Karabalut, N., 2016. A survey on turkish nursing students’ perception of clinical learning environment and its association with academic motivation and clinical decision making. Nurse Educ. Today, 36, 124–128.

Balasa, R., Chattrand, J., Moreau, K., Tousignan, K., Eady, K., 2021. Patients’ and parents’ perspectives of and experiences with assessing nursing students’ pediatric clinical practice. J. Clin. Nurs. 20, 217–228.

Barisone, M., Ghirotto, L., Busca, E., Diaz Crescittelli, M.E.D.C., Canilino, M., Chilino, G., Milani, S., Savino, P., Savelli, B., Polleni, A., Dal Molin, A., 2022. Nursing students’ clinical placement experiences during the Covid-19 pandemic: a phenomenological study. Nurse Educ. Pract. 59, 103297. https://doi.org/10.1016/j.nepr.2022.103297.

Casafont, C., Fabrellas, N., Rivera, P., Oliver-Ferrer, M.C., Querol, E., Venturina, M., Prats, J., Cano, C., Frías, C.E., Pérez-Ortega, S., Zahalegui, A., 2021. Experiences of nursing students as healthcare aid during the COVID-19 pandemic in Spain: a phenomenological research study. Nurse Educ. Today 97, 104711. https://doi.org/10.1016/j.nedt.2020.104711.

Casella, M., Rajnik, M., Canova, A., Dulebsahn, S.C., DiNapoli, R., 2020. Features, evaluation and treatment coronavirus (COVID-19). Updated. In StatPears [Internet]. 2020. StatPears Publishing, Treasure Island, Florida. http://n3www.ncbi.nlm.nih.gov.proxy.czau.ac.kr/books/NBK554779/.

Choi, H., 2019. A study on experiences of nursing students in clinical practice at the public health center through analytic approach of self-reflection(phenomenology study). J. Korean Soc. Integr. Med. 7, 171–180. https://doi.org/10.15268/jkisim.2019.7.4.171.

Colarizzi, P., 1978. Psychological research as phenomenologist views it. In: Valle, R.S., King, M. (Eds.), Existential Phenomenological Alternatives for Psychology. Oxford University Press Inc, New York, pp. 48-71.

Emory, J., Kippenbrock, T., Baron, B., 2021. A national survey of the impact of COVID-19 on personal, academic, and work environments of nursing students. Nurs. Outlook 69, 1116–1125.

Jeon, E., Kippenbrock, T., Baron, B., 2021. A national survey of the impact of COVID-19 on personal, academic, and work environments of nursing students. Nurs. Outlook 69, 1116–1125.

Kim, H.Y., Lee, E.-H., 2022. Clinical practice experience of nursing student in the context of the COVID-19 pandemic. J. Korean Acad. Fundam. Nurs. 29, 45–56. https://doi.org/10.7739/jkafn.2022.29.1.45.

Lee, M.R., Jiang, K.S., 2019. Reflection-related research in korean nursing : A literature review. J. Korean Acad. Nurs. Adm. 25 (2), 83–96. https://doi.org/10.11111/jkan.2019.25.2.83.

Lincoln, Y.S., Guba, E.G., 1985. Naturalistic Inquiry. Sage Publications, Beverly Hills.

Park, H., Yang, Y.S., 2021. Transitional analysis on the healthcare services of public health centers during the COVID-19 pandemic. Korean Public Health Res. 47, 33–44. https://doi.org/10.22900/kphr.2021.47.3.004.

Porter, J.E., Barbagallo, M.S., Peck, B., Allen, L., Tanti, E., Churchill, A., 2020. The academic experiences of transitioning to blended online and digital nursing curriculum. Nurse Educ. Today 87, 104361.

Shorey, S., Chua, J.Y.X., 2022. Nursing students’ insights of learning evidence-based practice skills using interactive online technology: scoping review. Nurs. Health Sci. 24, 83–92.

Sim, I.O., Bae, O.Y., Kim, T.H., 2021. South Korean nursing students’ experiences of clinical practice in the newborn nursery and neonatal intensive care unit: a phenomenological study. Child Health Nurs. Res. 27, 5–12.

Son, H.M., Yang, H.-R., Park, B., 2021. Experiences of public officials for the COVID-19 responses in the community health center. J. Korean Acad. Community Health Nurs. 32, 578–592. https://doi.org/10.12799/jkachn.2021.32.4.578.

Statistics Korea, 2020. http://kostat.go.kr/portal/korea/index.action,
Ulenaers, D., Grosemans, J., Schrooten, W., Berghs, J., 2021. Clinical placement experience of nursing students during the COVID-19 pandemic: a cross-sectional study. Nurse Educ. Today 99, 104746. https://doi.org/10.1016/j.nedt.2021.104746.

Watson, C., Chima, C., Murray, B., Plunkett, S., Rohan, N., 2020. COVID-19: changing experiences of teaching and learning in postgraduate nursing education. All Ireland J. Teach. Learn. Higher Educ. 12, 1–11.

Zwakhalen, S.M.G., Hamers, J.P.H., Metzelthin, S.F., Ettema, R., Heinen, M., de Man-Van Ginkel, J.M., Vermeulen, H., Huisman-de Waal, G., Schuurmans, M.J., Huisman-de Waal, G., Schuurmans, M.J., 2018. Basic nursing care: the most provided, the least evidence based-A discussion paper. J. Clin. Nurs. 27, 2496–2505.