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Midwifery Students' Experiences about Self-made Application Videos during the COVID-19 Pandemic

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ABSTRACT

Objective: The aim of this study was to determine the opinions and experiences of midwifery students regarding the videos which they recorded while performing subcutaneous injection application. Method: This qualitative study was performed with fourteen first-year midwifery students at a state university. Structured question "forms" were applied to each participant via online platforms in order to collect data. The collected data was analyzed using content analysis. In the present study, a qualitative descriptive approach was used. The reporting of this study followed the Consolidated Criteria for Qualitative Research Reporting (COREQ) guidelines. Results: After the analysis, four main themes and eight sub-themes emerged, describing the students' opinions and experiences regarding the videos they recorded while they performed the subcutaneous (SC) injection application during the pandemic. The main themes were coded as: (1) The experience of recording videos of oneself, (2) Feelings, (3) Awareness and (4) Views on applied courses in distance education. Conclusion: The results revealed the students' opinions and experiences of adopting the method of video recording with regards to the subcutaneous injection application and of using this method to meet their individual training needs during the pandemic. The teaching method through video shooting of oneself is a new method that enables the student to learn independently, while improving the artistic quality of their teaching and contributing to their professionalization in terms of their clinical midwifery skills.

Key words: COVID-19, Midwifery Students, Subcutaneous Injection, Videos, Video Shooting.

COVID-19 Pandemi Döneminde Ebelik Öğrencilerinin Kendi Çektikleri Uygulama Videolarına Yönelik Deneyimleri

ÖZ

Amaç: Bu çalışmada, ebelik öğrencilerinin kendi çektikleri subkutan enjeksiyon (SC) uygulama videolarına yönelik düşünce ve deneyimlerinin belirlenmesi amaçlanmıştır. Yöntem: Bu nitel çalışma, bir devlet üniversitesinde ebelik birinci sınıf öğrencisi olan on dört öğrenciyle gerçekleştirilmiştir. Yapılandırılmış soru "formları" çevrimiçi platformlar, katılımcılarla bireysel olarak yürütülmüş ve içerik analizi kullanılarak analiz edilen veriler toplanmıştır. Bu çalışmada, nitel betimsel bir yaklaşım kullanılmıştır. Bu çalışmanın raporlanması, Niteliksel Araştırma Raporlanması için Birleştirilmiş Kriterler (COREQ) yönergesine uygun olarak yapılmıştır. Bulgular: Analiz sonrasında, öğrencilerin pandemi döneminde deri altı (SC) enjeksiyon uygulaması yaparken çektikleri videolara ilişkin görüş ve deneyimlerini anlatan dört ana tema ve sekiz alt tema ortaya çıktı. Bu ana temalar şunlardır: (1) Kendi videosunu çekme deneyimi, (2) Duygular, (3) Farkındalık ve (4) Uzaktan eğitimde uygulamalı derslere ilişkin görüşler. Sonuç: Sonuçlar, öğrencilerin pandemi sürecinde, SC enjeksiyon uygulamasına ilişkin kendi kendine video çekimi uygulama öğretim yöntemini benimseme ve kendi bireysel eğitim ihtiyaçlarını karşılamak için bu yöntemi kullanma konusundaki düşünce ve deneyimlerini ortaya koymaktadır. Kendi kendine video öğretim yöntemi, öğrencinin bağımsız öğrenmesini sağlayan yeni bir yöntemdir, bu da öğrencilerin öğretimde sanatsal kalitesini geliştirir ve onların klinik ebelik becerilerinde profesyonelleşmesine katkıda bulunur.

Anahtar kelimeler: COVID-19, Ebelik Öğrencileri, Subkutan Enjeksiyon, Videolar, Video Çekme.

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INTRODUCTION

Due to the Corona Virus Disease 2019 (COVID-19) measures implemented both in Turkey and in the rest of the world, one of the fields of education that has been greatly affected is midwifery (Luyben et al., 2020). Education in universities has been given not through face-to-face education but through distance education utilizing digital opportunities, and this teaching method has become mandatory in many countries (Zheng et al., 2020). In line with this decision, in departments such as midwifery, not only the theoretical courses but also applied courses that require skills were also taught through distance education (Luyben et al., 2020).

Due to the pandemic, students were neither able to witness clinical cases through face-to-face teaching sufficiently nor able to take laboratory practice courses. Therefore, many midwifery and nursing educators videotaped the applied courses in the laboratory environment, sent them to the students, and made the students watch the application videos as well as the theoretical information (Öz, et al., 2021). In the assessment and evaluation exams, students were asked to do research homework, to develop a project, to answer multiple-choice questions over the internet, and to practice some basic skills that they performed at home with their own means and recorded on video (Akdeniz University, 2021; Furuta, 2020; Hacettepe University, 2020). In this process, various web-based assessment and evaluation methods have been determined and put into practice in universities in Turkey. In one of these methods, students perform the basic subjects related to skills application at home with their own means, record them on video and send the videos to the responsible instructors by e-mail or youtube (Akdeniz University, 2021; Hacettepe University, 2020; Keskin and Özer Kaya, 2020; Mucuk et al., 2021). Of the application subjects measured and evaluated by using this method, the one performed most erroneously is the subcutaneous (SC) injection. SC injection, one of the parenteral drug administration routes, is the delivery of the drug to the subcutaneous connective tissue and it is a preferred method for the administration of drugs that should be absorbed slowly (Kaya and Palloş, 2012; Turan et al., 2019; Uzelli Yılmaz et al., 2016).

Given the benefits of the videos, this qualitative study, conducted to determine the opinions and experiences of first-year midwifery students regarding the exam videos they took while performing SC injection practices during the COVID-19 pandemic, is expected to contribute to the literature. In addition, it is clear that determining the opinions and experiences of first-year midwifery students, who are at the beginning of the vocational education process, will contribute to both the improvement of the quality of midwifery education and enhancement of professionalism in the future.

MATERIAL AND METHOD

Design

In the present study, a qualitative descriptive approach was used to determine the first year midwifery students' opinions and experiences of the exam videos they took regarding SC injection practices. Through qualitative research, the opinions, experiences, social processes and working styles of the participants can be explored in detail (Guetterman et al., 2015; Yıldırım and Şimşek, 2016). As for the phenomenological research design, it focuses on the beliefs, perceptions, feelings and experiences of individuals about a phenomenon rather than assessment of the facts. It enables the researcher to determine "what" and "how" individuals experience the phenomenon (Guetterman et al., 2015). The reporting of this study followed the Consolidated Criteria for Qualitative Research Reporting (COREQ) guidelines (Tong et al., 2007).

Population and Sample of the Study

The study population consisted of 70 first-year students studying at the Midwifery Department of a state university in the spring semester of the 2019-2020 academic year. In the present study, the purposive sampling method was used. While determining the sample size in qualitative studies, an approach that requires researchers to continue collecting data until the saturation point is reached is used, that is until the data are repeated (Guetterman et al., 2015; Yıldırım and Şimşek, 2016). In the present study, the interviews were stopped once data saturation had been achieved and no new

data or codes emerged. Accordingly, the data saturation was established in the 12th participant. However, two additional participants were included to substantiate that data saturation had been achieved (n=14).

The inclusion criteria for the midwifery students were as follows: volunteering to participate in the study; having no communication problems; having no physical or mental health problems; having the exam video they took; being ≥18 years old.

Instruments

The data were collected by the researchers from the students who wished to participate in the study. Data were collected using the Personal Information Form and Structured Individual Written Form. These forms were sent students via e mail or whatsapp without Skype interviews because they were bored with the online meetings during the pandemic period. In accordance with the nature of qualitative research, it was aimed to make the participants feel more comfortable to give more sincere answers and to convey their experiences without feeling pressure on them. The Personal Information Form included the following eight questions: age; the high school you graduated from; your undergraduate grade average; your practical exam grade average; where do you live; have you received distance education before; did you find the distance education process with digital opportunities useful during the epidemic period and were you satisfied with the practice exams conducted remotely via digital means. The Structured Individual Written Form developed by the researchers in line with the current literature has five questions (Zheng et al., 2020; Terkeş and Yamaç, 2021; Turan et al., 2019; Uzelli Yılmaz et al., 2016).

After the three experts in qualitative studies in the faculty (one of them working in the field of social services, another two experts working in the field nursing) evaluated the questions and the form was pilot tested, it took its final form.

The semi-structured individual interview form included the following questions:

1. What do you think about applied courses taken through distance education during the COVID-19 pandemic?

2. Could you tell us about your experience of shooting practice videos at home and under home conditions? What kind of situations did you encounter during the video shooting of SC injection?

3. How did video shooting affect your learning about SC injection practice?

4. What were the points you paid most attention to in SC injection application?

5. What kind of methods would you recommend to make the learning of applied courses easier in the distance education process?

Procedures

Before the study was conducted, the ethical approval from the Mersin University Social and Human Sciences Ethics Committee (date: July 03, 2020, decision number: 35) and the permission from the administration of the institution where the study was to be conducted (27868579-605.01) were obtained. Before the study, the participants were informed about the scope of the study, and that the data would be kept confidential in detail. Finally, their written and signed consent was obtained.

All of the participants were answered the questions on the question forms and send them via email or whatsapp. Before the study were started, the researchers told the students that they could freely express their views and that each opinion was valuable.

To ensure consistency, the same forms were used in all the students. All the students were conducted by the same researcher. In order to ensure reliability, students' opinions were presented with explanatory notes in the conclusion section. The students participating in the study were coded as "Case (C)" and their names were kept confidential.

Data analysis

Data were analyzed by two researchers. Sociodemographic data were analyzed using numbers. Interviews were transcribed verbatim using Microsoft Word and then these data were combined with the observation notes to obtain

raw data. Then, content analysis was used to analyze the data. First, each interview text was read several times to understand the text. Next, words or short sentences with a meaning related to the event were given a code and code lists were created for each interview. Considering the event examined, the similarities and differences between the codes were taken into consideration and the associated codes were combined with categorizing them. Each category was named by its content. Then, by focusing on these categories, themes were formed based on the common relationship among these categories. Analyses were performed independently by the first and the fourth author, and researchers reached a consensus on the themes that best described the findings (Elo & Kyngäs, 2008). After the analysis, four main themes emerged: the experience of shooting videos of oneself; feelings; awareness; views on applied.

RESULTS

All of the midwifery students participating in the study were women and their mean age was 19.78±0.67 years. The general academic grade point average of the students was 77.66±4.74, and their practical exam average score was 83.78±6.93. Nine of the students are public high schools, graduates and eight of them lived in the city center. Thirteen of the participants in the study had not received distance education previously. While 12 of the students stated that they considered the distance education process with digital opportunities useful during the pandemic, nine of them were dissatisfied with having the distance application exams made with digital opportunities during the pandemic. After the content analysis of the data, 4 main themes and 8 sub-themes were obtained (see Fig. 1). Themes related to the midwifery students' opinions and experiences about self-made subcutaneous injection application videos in Fig. 1.

Theme 1. Experience of shooting videos of oneself

Shortcomings and difficulties in applications. While one participating student stated that she had no difficulty in finding materials, more than half of the midwifery students (n=8) who participated in the study stated that they experienced material deficiencies such as not being able to find a model / injector in distance education, and not being able to access the internet and course resources. *"I shot an application video using sponge for SC injection and I don't think this improved my skill because the structure of the human body and the sponge are very different. I could not get injectors from the pharmacy because of the pandemic and because I have a chronic illness. A neighbor of mine helped me get an injector." (C14).*

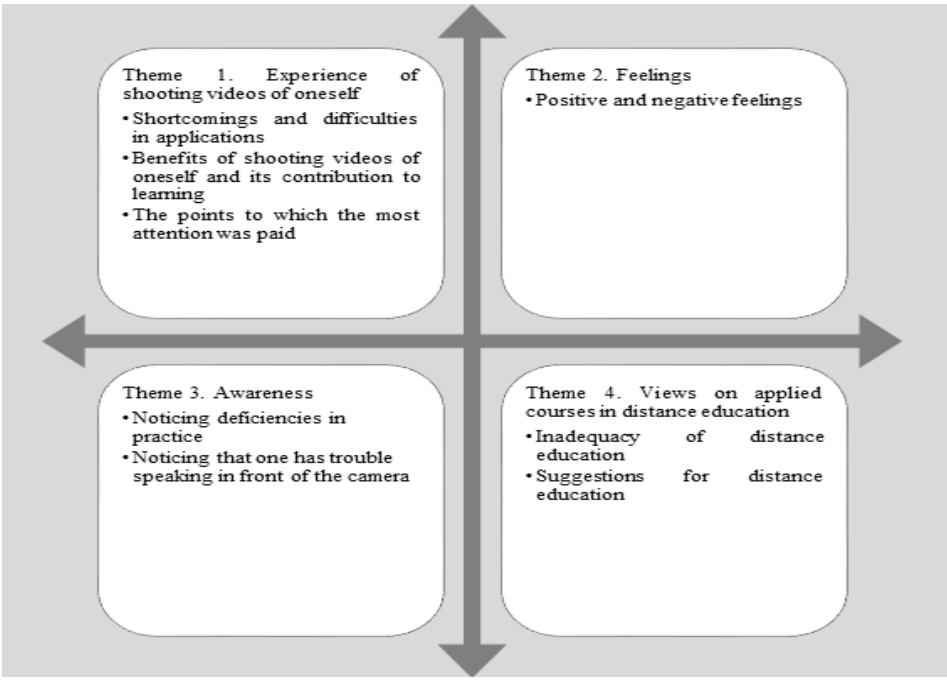

Figure 1. Themes related to the midwifery students' opinions and experiences about self-made subcutaneous injection application videos

Most of the participating students (n=11) stated that the most challenging factor for them while they were shooting videos at home was the absence of a teacher. They also stated that they felt that their practices were not adequately supervised because they were not able to do the practices in a professional way, they were not able to realize their mistakes and deficiencies, and they were not familiar with distance education. *"I would prefer to be in contact with the teachers in a professional way and to perform my practices under their observation. The videos we shot without a trainer due to the circumstances made me feel bad" (C11).*

Benefits of shooting videos of oneself and its contribution to learning. Most of the participating students (n=12) stated that it was beneficial to shoot videos of themselves in SC injection practice at home, that it affected their learning positively, reinforced their practice, and helped them learn the steps of the procedure better and notice their mistakes. *"Even though I performed the practice on an inanimate object, I think shooting the video helped me learn how to hold the injector and get our hands used to it, and improved my learning. Having the opportunity to watch the video later was a good chance for me" (C9).* However, one student stated the following negative view: *"shooting a video of yourself did not have a positive effect on your learning, and did not contribute enough your theoretical knowledge on the subject into practice" (C10).*

The points to which the most attention was paid. Although almost all of the students (n=13) said that the points they paid attention to most in performing SC injection were hygiene rules, selection of safe insertion site, insertion angle of the injector and blood control, nearly half of the students (n=5) could not determine the insertion angle of the injector correctly, and more than half of them (n=8) performed blood control even though they were supposed not to. *"The angle of the syringe, the way to insert it, the safe and correct insertion site, and the hygiene rules were the points I paid attention to" (C9).*

Theme 2. Feelings

Positive and negative feelings. Almost all of the participating students experienced positive and negative feelings and experiences while they shot videos of themselves. Half of the students (n=7) stated that they noticed that they experienced such feelings as nervousness and anxiety. However, a few students (n=5) noticed that they felt tension, lack of self-confidence, and inadequacy. *"I realized that I made some mistakes because I was too nervous and worried when I was trying to do the homework better" (C6).*

Only two students stated that their video shooting experience was fun, that it did not lead to lack of professional confidence, and that they did not behave shyly. *"It was fun and a very entertaining experience for me" (C3).*

Theme 3. Awareness

Noticing deficiencies in practice. Only two of the students stated that they noticed the missing points after shooting video of themselves, and then they could shoot the video again and perform the application correctly. *"... I realized my mistake when I checked it after I took the video. In short, it helped me realize my mistakes that I thought they were right, and learn to perform them correctly" (C12).*

Noticing that one has trouble speaking in front of the camera. Almost half of the students (n=5) stated that they could not speak in front of the camera even though they knew how to administer SC injection, and that speaking in front of the camera was stressful and tense. *"Even though I knew how to do it, I had a hard time explaining it on the video. It was stressful. Because I was nervous, I incorrectly said even the things I knew. I got confused and forgot what I was going to say" (C5).*

Theme 4. Views on applied courses in distance education

Inadequacy of distance education. Most of the students (n=13) emphasized that distance education was inadequate in applied courses. They stated that practical courses in distance education were not efficient because they were not applied on models in the laboratory or on the patient in the hospital, they could not provide a permanent learning, and they led to lack of knowledge and skills because they remained in theory. *"I think that distance education is not enough in applied courses. Because we are midwife candidates, I do not think that distance education (only with videos) will be sufficient without doing an internship at the hospital, working on a model at school and in the laboratory" (C1).*

Only one student stated that she benefited from the distance-applied courses.

Suggestions for distance education. Almost all of the participating students (n=11) made various suggestions regarding the teaching of applied courses in distance education. The students suggested that practical lessons should be supported with videotaped lectures, homework should be given over videos, visual courses should be increased, continuous repetitions should be made and educators should display the application in live lessons.
"It might have been more useful if there had been videos or videotaped courses. The use of videos or videotaped courses rather than presentations would be comfortable for us" (C2).

Only one student stated that she did not find it appropriate to be evaluated and graded by a video they took.

DISCUSSION

In midwifery education, theoretical teaching and clinical teaching are a whole. Practices, which have an important place in clinical teaching, help students develop their skills before applying what they have learned in clinical settings. In this regard, midwifery educators have the responsibility to enable students to be competent in clinical practices (Mumcu and Uzun, 2020). However, with the COVID-19 pandemic, midwifery students could not participate in clinical practices in many countries. The COVID-19 pandemic made the digitalization of the midwifery education is necessary however, under the current conditions, midwifery students have been faced with many difficulties because they did not have the necessary equipment (Luyben et al., 2020). In the present study, most of the students defined distance education as a "challange" in applied courses. In several studies, it has been stated that during the pandemic, students experience technical problems such as freezing of images, disconnecting from the internet, receiving no sound and due to these problems they were not able to access course materials (Adhikari et al., 2020; Mortazavi et al., 2021; Terkeş and Yamaç, 2021). Similarly, in the present study, eight of the students stated that they experienced material deficiencies in applied courses in distance education. Universities' trying to adapt to the pandemic conditions quickly may have caused midwifery students to lack knowledge and skills in applied courses in the distance education process.

On online teaching, students in the fields of health have trouble especially in receiving feedback and discussing the practices with educators (Mortazavi et al., 2021). As in Mortazavi et al.'s study (2021), six students in the present study stated that they wanted to receive feedback from the educators because they were not sure whether they performed SC injection accurately. Especially in the applied lessons, the educators' providing feedback to students will enable them to notice the mistakes they have made and to learn more accurately.

Students' video shooting of their practices is a new method that helps them learn independently and develop clinical thinking skills. This method is also known to improve the students' ability to practice basic skills, artistic quality of teaching and group collaboration among students (Jeong, 2017; Zheng et al., 2018). On the other hand, contrary to these studies, Kuliukas et al. (2021) stated that switching to online learning and being isolated from peers made learning difficult (Kuliukas et al., 2021). As in these findings, most of the students in the present study (n=12) stated that their shooting videos of themselves while performing SC injection at home positively affected their learning and reinforced their practices; however, one student emphasized that it did not have a positive effect on her learning. Teaching methods in which increase midwifery students learning satisfaction and self-efficacy and actively do practices such as videotaping themselves in applied lessons should be developed.

Educators have a critical role in enabling students to develop their practical skills and integrating their knowledge and skills (Foronda et al., 2020; Luyben et al., 2020). In the present study, most of the students (n=13) said that the points they paid attention most in SC injection application were hygiene rules, selection of safe insertion site, insertion angle and blood control; however, in practice, five of the students could not determine the insertion angle correctly and eight of them performed control blood even though they were supposed not to. Studies in Turkey show that midwifery education has been disrupted during the pandemic and that students cannot gain basic midwifery competencies, especially in applied

courses (Keskin and Özer Kaya, 2020; Terkeş and Yamaç, 2021). This finding shows that although applied courses are interactive and detailed in distance education, they may have caused students not to understand the applications fully and accurately.

A recent qualitative study shows that students experience both positive and negative feelings during clinical practices (Aldridge and Hummel, 2019). "Similarly, in the present study, some of the participating students experienced excitement whereas some of them experienced anxiety while shooting videos of themselves." However, while some students had negative feelings such as tension, lack of self-confidence, and inadequacy, only two students found the experience of shooting videos of themselves enjoyable and comfortable. This finding shows that students need to be evaluated and supported psychosocially in order to gain the competencies required by the midwifery profession.

Shofatunnisa et al. (2020) stated that students' use of video-assisted learning method improved their professional speaking skills such as pronunciation, posture, mimicry and facial expression (Shofatunnisa et al., 2021). In the present study, two of the students stated that they noticed their missing points after shooting a video of themselves, five of them had difficulty in speaking in front of the camera even though they knew the application, and three of them stated that it was difficult to shoot videos at home conditions because they were distracted quickly. Taking videos of oneself can be used as an effective method to improve their professional speaking skills and clinical practices in midwifery.

In studies carried out on the issue, midwifery students and students of other health departments thought that distance education was not as effective as face-to-face education and regarded it as an alternative solution (Keskin and Özer Kaya, 2020; Kuliukas et al., 2021; Mortazavi et al., 2021). On the contrary, in some studies conducted with nursing students, students are more satisfied with the web-based education than face-to-face education because the former allows students to learn at their own learning pace and to get information at designated times (Gerdprasert et al., 2010; Keskin and Özer Kaya, 2020; McMullan et al., 2011). In the present study, as in the literature, most of the students (n=13) emphasized the inadequacy of distance education in applied courses. The findings of the present study and other studies suggest that distance midwifery education can affect students' proficiency in applied courses and that it should be evaluated from several aspects during the planning stages of the courses.

CONCLUSION

Midwifery students reported that they had difficulty in accessing the internet infrastructure and course materials during the applied courses given with distance education during the pandemic. They also mentioned the following difficulties they had while shooting videos of themselves in their home environment: not being able to find a quiet working environment and due to lacked an educator they were not able to realize the mistakes. Despite all these difficulties, the students stated that shooting videos of themselves while performing SC injections had a positive effect on their learning, that they learned the steps in the application better, and they realized some of their mistakes because they had the opportunity to watch the videos they took after the application. This method, which is applied in distance education and applied courses, will contribute to the improvement of the quality of midwifery education and enhance professionalism during the pandemic period.

LIMITATIONS

Although a small sample size is appropriate for qualitative researches, the sample in this study does not reflect the feelings and thoughts of all midwifery students.

AUTHOR CONTRIBUTION

Study design: SEA, SY; data collection: SEA, SY; data analysis: SEA, SY; study supervision: SEA, SY; manuscript writing: SEA, SY; critical revisions for important intellectual content: SEA, SY. All authors read and approved the final manuscript.

CONFLICT OF INTEREST

Authors declare no conflict of interest.

FINANCIAL DISCLOSURE

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ETHICAL STATEMENT

The ethical approval from the Mersin University Ethics Committee (date: July 03, 2020, decision number: 35) and the permission from the administration of the institution where the study was to be conducted (27868579-605.01) were obtained.

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