How Can Vaginal Birth Management Skills Gained Much Better?

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ABSTRACT

Objective: In Turkey, midwives are given passive roles by claiming that the midwives are insufficient in the management of birth. The aim of this study was to determine the effects of clinical practice and simulation on normal birth management of midwifery students.

Methods: The study was performed as a cross-sectional design at the Marmara University in Istanbul, Turkey, with 64 midwifery students. The data were collected via 2 questionnaires, the first for sociodemographic characteristics, the second for normal labor management skills.

Results: The normal birth management skills of the students in the simulation group were significantly higher than those in the clinical group (p<0.05). The simulation group emphasized that a restricted case is the most significant disadvantage (87.5%). The clinical group students underlined that one-to–one contact with pregnant women is the most significant advantage (65.6%).

Conclusion: It was seen that it is very advantageous to gain normal birth management skills firstly in simulation and then reinforce these skills in clinical practice in midwifery education. Thus, the disadvantages of both methods may be overcome.

Keywords: Simulation, labor management, midwifery, student

1.INTRODUCTION

It is argued that new graduated midwives have not been insufficient skills in field of labor management. Indeed, they are assigned as passive. Thus, antenatal, innatal and postnatal midwifery care services have been deliberately taken from midwives, and these care services are predominantly provided by obstetricians in our country (1). By 2018, all antenatal and postnatal care services are provided by family physicians and obstetricians (95%) in Turkey. The highest rates of cesarean section (CS) are found in Turkey (53.1%) worldwide, and these rates are more than four times as high as those in Finland, which has the lowest (15.5%) CS rates because one of every two births is performed by cesarean section, this reduces the need for a midwife in the innatal period (2). Midwives have to look at documentation especially in education research hospitals and medicine faculties. This situation causes midwives gradually disappear from birth processes. The midwife who moves away from labor management loses their knowledge and skills in the normal labor process over time. When the midwife does not manage labor, the trust in the midwife decreases and the physician directly enters the circuit. Thus, it is seen that the system that excludes midwives is self-feeding and creates a vicious cycle in itself. The most typical example of this system is observed in Istanbul.

In Turkey's most crowded and developed city Istanbul, the number of midwives who are actively involved in labor is very limited. Unfortunately, the prejudice that normal labor should not be managed by midwives for they are not equipped and competent is getting spread by the media.

For these reasons, CS cannot be effectively dealt with. In order to effectively challenge it, there is a need for well-equipped and well-trained midwives in labor management. It is clear that supporting theoretical knowledge with practical experience is needed in midwifery. In midwifery education, clinical practice and/or simulation methods are performed for getting skills in real-world applications. Also in our faculty, practice for midwifery students is performed in the labor clinics of Research and Training Hospitals/ Faculties of Medicine and Birth Simulation Laboratories. Simulation practice is accepted as an education method that could present an experimental environment similar to real life by decreasing possible risks, making it easy to learn by feedback, providing positive outcomes and increasing the collaboration between the student and the educator (3-6). For our educators, it is very important to evaluate the clinical and simulation practice with the student's perspective in order for the student to gain the ability to manage the labor process. This is because it is the only way we may get a road map. Moreover, there are limited studies on this topic in Turkey.

2.METHODS

This study was planned and carried out as a descriptive design to find out the effects of simulator and clinical practice in teaching midwifery students management of normal labor. This study was conducted with 3rd-year midwifery students the Marmara University between October 2017 and January 2018. Ethical approval was received from Marmara University, Institute of Health Sciences (Number:82). Moreover, the study was approved by Marmara University Scientific Research Board (SAG-E-090.517.0244, 2018). In Turkey, midwifery education is given as an undergraduate degree of 4 years after high school. Students in this field have some of the highest scores in the central university entrance examination by their years of application.

2.1.Participants

This study included all voluntary students who received training on normal birth for first time and in their 3rd year. They must complete the theoretical course in 4 class hours and clinical practice in 8 class hours in a week, provided in a total 14 weeks in every semester. In the first four weeks, they were taught 'Normal Birth' in theoretical classes (56 hours) by the lecturer, and these courses were held by using methods such as videos and modeling. In this study, the students completed their 14-week semester with 4 theoretical weeks and 10 practical weeks. After the theoretical training was completed, distribution of all student groups was achieved by using the application random.org. Firstly, two main groups (clinic and simulation) were created by randomization. Randomization was performed by utilizing https://www.random.org/ site. After this, these students were sent to five different hospitals: Zeynep Kamil Women and Child Diseases Research and Training Hospital (n=7), Kartal Dr. Lütfi Kırdar Research and Training Hospital (n=6), Pendik Marmara University Research and Training Hospital (n=7), Şişli Hamidiye Etfal Research and Training Hospital (n=6) and Okmeydanı Research and Training Hospital (n=6). These hospitals that were visited for labor practice in the most developed city, Istanbul, provide high-quality healthcare services. There was an assistant, expert or midwife appointed by the faculty who was responsible for each group of students. Midwives have authority only in normal birth management. Therefore, both the clinical and simulation training are just a normal birth are managed. Before the practice, all students in both groups were told about the cases that they could possibly encounter, the rules and procedures that are required and the labor management skills they should have.

Each scenario lasted between 45-60 minutes. After the scenario was entered into the computer, the lecturer took on a supporting role. Scenario contents are all normal births. However, each scenario consists of different parameters such as age, parity, body mass index (BMI), education level. The simulation group was divided into 4 groups, and every group consisted of 8 participants who were allocated by randomization. Our faculty uses a simulator (NOELLE Birthing and Maternal Simulator) with automated software and computer controlled for labor management practice. A lecturer taught a normal birth course, and an assistant accompanied the students in the simulation laboratory. Again, these student groups' feedback was given on the level of every student for every performance by the forward-backward methods.

After the students in both groups completed their practice, they were asked to fill in a questionnaire form that was developed by the lecturer based on a literature review. No information about the study was provided to them in order to prevent possible bias and avoid putting pressure on their feelings before practice. Thus, it was aimed to prevent any influence on their responses by both the lecturer and their peers. Before they filled in the data form, an explanation was made, and their consent was obtained.

In the data collection form, they were asked some questions on their age, marital status, reasons for choosing the profession of midwifery, their views on the advantages and disadvantages of clinic practice and simulator application. They were asked to share their views as open-ended as possible and without any restriction on language.

The skills that must be acquired in relation to normal labor process management were determined as; evaluation of dilatation and effacement, determination of presentation and fetal head level, push technique, protection of perinea and labor maneuvers, cord clamping, following signals of placental separation, placenta delivery and bleeding control. The students were asked to evaluate themselves by a 5-point Likert-type scoring for every parameter that was related to the labor process. The scores were categorized as; 1: I need to improve, 2: I have not improved yet, 3: Sufficient, 4: Good level, 5: I am skilled. All the data were evaluated by an analysis program. The level of statistical significance was accepted as $p < 0.05$.

3.RESULTS

The clinic group (n=32) and the simulation group (n=32) consisted of 64 participants in total, and all participants were single. As a result of the Kolmogorov Smirnov Test, central and currency criteria and histograms, it was seen that the groups showed normal distribution. The mean age of the students in the clinic group (n = 32) was 20.81 ± 1.35, and the mean age of the students in the simulation group (n = 32) was 20.91 ± 0.77. According to the central high school exam results students are accepted to universities in Turkey. In this exam, the first choice of 15 students from both groups is the midwifery department.

The mean scores that the students gave themselves about their normal birth management skills were evaluated by a student's t-test, and the results of this test are provided in Table 1. After the evaluation, significant differences were found between the groups based on their mean scores in each skill in favor of the simulation group ($p < 0.05$).

Table 1. *Self evaluation mean score results on normal birth management skills*

Normal Birth Management Skills*	Group	Mean Scores	Std deviation	t**	p
Dilation / effacement	Clinic	1.94	0.948	6.83	**0.01**
	Simulation	3.47	0.842		
Fetal position	Clinic	2.03	0.933	5.99	**0.01**
	Simulation	3.25	0.672		
Fetal head station	Clinic	1.78	1.039	6.44	**0.01**
	Simulation	3.25	0.762		
Coaching to push during contractions	Clinic	2.75	0.803	3.84	**0.01**
	Simulation	3.63	1.008		
Preservation of perineum /childbirth	Clinic	2.13	0.942	4.84	**0.01**
	Simulation	3.25	0.916		
Cord clamping	Clinic	2.28	1.114	3.79	**0.01**
	Simulation	3.31	1.061		
Placenta separation sign and placenta delivery	Clinic	3.00	1.270	3.21	**0.01**
	Simulation	3.84	0.767		
Bleeding control	Clinic	2.13	1.070	3.07	**0.01**
	Simulation	2.94	1.045		

Clinic n=32   Simulation n=32 df=62
*Likert: 1: I need to improve, 2: I have not improved yet, 3: Sufficient, 4: Good level, 5: I am skilled. **Student's t test

The most frequently stated advantage about clinical practice in the clinic group was direct contact with pregnant women as seen in Figure 1 (65.6%), and the most significant disadvantage was that people did not request support from the midwife as seen in Figure 2 (81.3%).
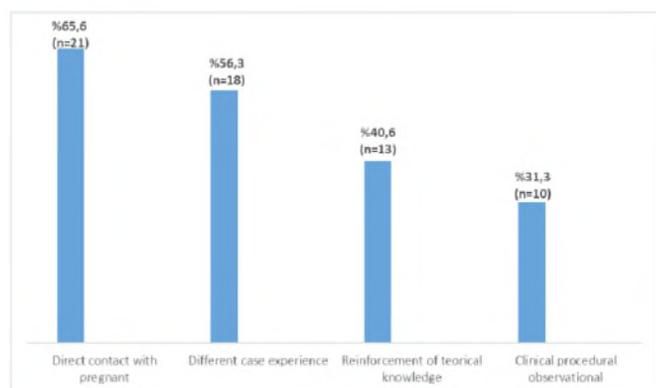

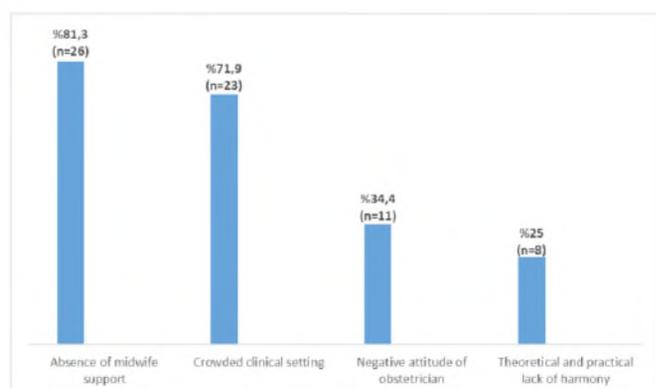**Figure 1.** *Clinical advantages of midwıfe education (n=32)*

Figure 2. *Clinical disadvantages of simulation training (n=32)*

In the simulation group, the most significant stated advantage of the simulation process for was absence of malpractice (Figure 3) (84.4%), and the most significant stated disadvantage was not being able to meet different cases as seen in Figure 4 (87.5%).
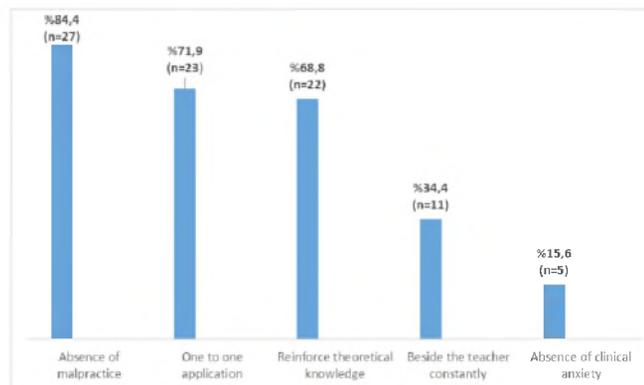

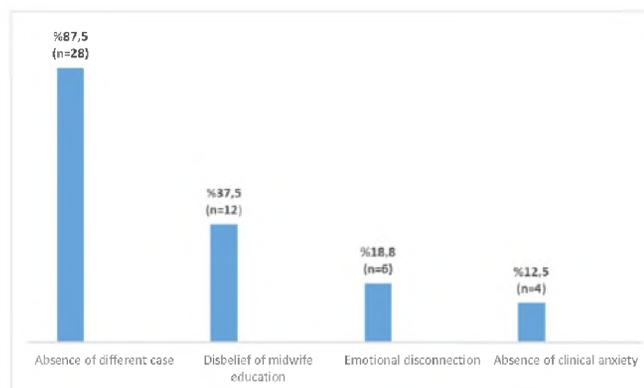**Figure 3.** *Simulation advantage of midwıfe education (n=32)*

Figure 4. *Simulation disadvantage of midwıfe education (n=32)*

4.DISCUSSION

The clinically-based learning model in midwifery education offers students the opportunity to learn real cases comprehensively. In this model, the student may harmony the theoretical and the practical and learn how to approach the situation by seeing, hearing and doing. Additionally, this may also be adapted to warnings such as teamwork, staying composed and crisis management. In this context, more than one of every two students (65.6%) in the clinical group considered that it is an important advantage to direct contact with the pregnant women. This finding is very important because midwifery is a science and art which keeps the person in the center. Students may communicate directly with the woman during the labor at the clinic. Because each birth is unique, one has the potential to provide numerous individualized midwifery care. In several studies, it was determined that qualified and effective communication between the midwife and the woman is affected both sides. As the birth satisfaction of the woman increases, the midwife

increases their communication and labor management skills (7-9).

Students interact with not only women but also other team members and the relatives of the patient in the clinic. The importance of this situation in complex healthcare situations was highlighted in the literature. In some studies on simulation that were conducted in aeronautics and medicine, it was emphasized that cognitive and technical skills are not solely enough, and effective team working skills must be acquired (10). Because midwives who are important team members in labor clinics could provide care to individualized, spontaneous, various and cost-effective cases, labor clinics may gain advantages by employing them. About one of every three students in the clinic group (31.3%) stated that seeing the clinical process was important. In some studies that supported this finding, it was determined that when students who experienced early clinical experience transitioned to clinics as doctors, they lived 'practice shock' less, and they were more relaxed at the clinic (11). Again, in parallel to our students' views, vies of medical students were also obtained. These students stated that, because of the clinical practice, they learned to communicate effectively and actively, and they had increased skills and adopted cultural diversity practices (12).

However, it is worth thinking about that midwifery students defined the most significant disadvantage as that they did absence of midwife support (81.3%). Eight of every ten students told that they could not receive any support from their colleagues. In Istanbul, which is the most developed and crowded city in Turkey, midwives are passive in birth management and the labor process is completely under the control of the physician at a large proportion of clinics. Midwives who work at clinics perform certain tasks such as documentation and injections. So, when they are not able to take an active role in the labor process, they cannot provide any support to the students. However, in a systematic review, it was found that there were lower rates of cesarean birth, lower rates of labor induction and augmentation, significant reduction in the incidence of third and fourth degree perineal tears, lower use of regional anesthesia and higher rates of breastfeeding in births which were managed by midwives (13). Considering these findings, our students saw more traumatic and intervention labor. Thus, the nature of this process could change and be medical. Additionally, every woman is accepted to a clinic at different stages. So, the students could not see and manage a birth process from its beginning to its end during their rotation. All these reasons present a negative learning environment for the students. In this study, it was found that the students in the clinic group got lower scores from every skill related to the labor process in comparison to the simulation group (p<0.05). In parallel to our study, another study that found a lack of skills in medical students showed the reasons as lack of autonomy, lack of qualification in the learning environment and lack of support (14). So, it is recommended that student defense should be controlled, and a trustful clinical setting and acceptance of the students should be supplied by the educators and

healthcare professionals (15). However, in another study, it was stated that it is not enough by itself to set environmental conditions, but also the senses and the self-concepts of midwifery students should be improved, and this is highly important (16).

Another reason for not gaining the required skills could be highly crowded clinic setting (71.9%). Istanbul is the most crowded city in Turkey, and it has higher birth rates. However, there are several private and public hospitals that train several midwives, nurses and doctor in this city. Moreover, the healthcare system in Turkey has prioritized doctors, and a midwife/nurse could only make observations at a clinic. However, we know the limits of students in clinical observation and their problem solving skills to a great extent (17). In this context, the clinical environment has both important advantages and disadvantages for gaining skills of managing normal births.

Simulation laboratories without disadvantages of the clinical field could be utilized in the education sides. In studies by Dayal (18) and Jude (19), it was determined that students who took simulation training trusted themselves more in labor maneuvers, participated in birth management and were more active at clinics. In a study by Reynolds et al., it was found that simulation training improved knowledge on vaginal birth and education satisfaction (3). In our study, in similarity to the results of mentioned studies, the skill scores in simulation training were higher than those in clinic education, and the difference was significant (p<0.05). Thus, in several studies, it was suggested that the participants' skills increased because of feedback, recall and reasoning mechanisms in simulation training (10). Increased skills could occur due to a recall setting that could not be achieved in a clinical process, and so, this results in failure in getting fine-tuned skills, except feedback.

Besides this, the students recognized that they had a learning advantage without complication and by the possibility of making an unlimited quantity of mistakes (84.4%). In several studies, it was suggested that simulation provides a learning experience without the risk of inflicting harm on the patient (20). Thus, in many studies, it was claimed that simulation training prevented malpractice which threatens life and high costs (19,20). In another study, simulation increased critical thinking skills (21). However, there are limited studies that showed the positive effects of simulation directly (22). There is also a limited cases of evidence about how many skills and competencies could be obtained after simulation training (23). Thus, we have insufficient knowledge about the case after the simulation, especially in terms of competence statute, the number of practice sessions that is needed, and competence could be got and if simulation could decrease future malpractice or not.

On the other hand, the students in simulation training stated that it was a disadvantage not to see different cases (87.5%). In this study, although the simulator was enriched by downloading various scenarios, the students accommodated the case and required interventions shortly. This shows that

331

the provided midwifery care stopped being individual, and it turned into a scenario. However, it should not be forgotten that the participants could meet in very rare intervals by simulation (24).

Another disadvantage of simulation was the anxiety of everyone among three students (37.5%) as "what if it is not like this in real". This is because they told us that "the simulator could push powerful, after pushing, she was not tired and she did not have an emotional connection". These anxieties are really significant. Simulators cannot provide any individual connection or imitate human reactions. So, the student could not know how they will cope with a pregnant woman who is tired because of pushing during birth. However, we know virtual reality technology is getting near models where unproblematic experiments could be realized (25).

It was seen that the increased skills of the students in the simulation group clearly reflected their senses. Again, the simulation group students stated that they felt a sense of belonging, at the first time after simulation training, gained self-confidence, their motivation increased, they felt special and important in terms of the profession. In a recent study on the relationships of simulation, it was determined that simulation training prepared students for clinic, practice and they ensured themselves (21). In a systematic review (26), it was determined that simulation had positive effects on improving senses of confidence and effectiveness in similarity to our study. In a study that was conducted in Iran, it was found that a safe and supportive clinic environment brought more occupational sense of belonging in midwifery students, in contrast to our findings (27). These different findings could have emerged due to advantages and disadvantages of the clinic, besides different cultures.

5.CONCLUSION

In this study, it was determined that the simulation group students' mean skill (is wanted in labor process management) scores were higher than those among the clinic group students. However, as it is known, both the clinic and simulation groups had advantages and disadvantages. As a result, simulation training should not be in the place of clinical learning environments and it should be provided before clinical practice in getting normal birth management skills. Later, this should be integrated into clinical practice. Thus, simulation improves birth management skills, and the clinical field will support skill. In the future, the number of implementations that is the limit the skill could be obtained maximally could be determined for each skill. In addition to this, good and qualified studies are needed to evaluate the effects of simulation on clinical care outcomes and malpractice rates.

Limitations of the study; in the literature, it is recommended that simulation groups should consist of 5-6 students at most. In this study, the high number of students in the simulation groups is a limitation. After the simulation training, the qualifications of the students in the clinical setting were not evaluated. It is a limitation that the results of this research are entirely based on self-report of the students.

Acknowledgement

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