Research Article

Explaining Midwifery Students' Experience of Their First Attendance in Clinical Skill Centers: A Content Analysis Study

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Abstract

Background: Learning clinical skills on "real patients" not only endangers patient safety but also raises many ethical concerns.

Methods: This is a qualitative study designed and implemented using the content analysis method. The studied population included all midwifery students of Ahvaz Jundishapur University of Medical Sciences who had recently passed the course: "Introduction to the Principles and Techniques of Patient Care at Clinical Skill Centers (CSC)". Data were analyzed by conventional content analysis method.

Results: Overall, 156 codes were extracted from the research data, which were organized into 9 categories and 28 subcategories after removing or merging similar codes. The midwifery students' experience of attending CSC was reflected in the form of three main themes (i.e., self-regulation, mentoring, and support management) and nine sub-themes (reinforcing intrinsic motivation in students, building self-confidence in students, mentor as a model, proper formulation and implementation of rules in CSC, training communication skills, the need to apply modern training methods, revising the structure, practice, and schedule of student groups).

Conclusions: According to the findings of the present study, it could be concluded that primary education in CSC plays a very important role in reducing the stress of working with patients, professionalism, increasing self-confidence, and teaching clinical skills to students. Of course, achievement of this goal heavily relies on the crucial role of teachers of this course, who act as mentors responsible for planning, organizing, and modeling in addition to teaching.

Keywords: Content Analysis, Clinical Skill Center (CSC), Midwifery Students

1. Background

Clinical education constitutes the basis of any education program in medical sciences (1). Students have to acquire professional knowledge, skills, and attitudes during their medical studies; hence, a large amount of time is devoted to their clinical practice period so that they can acquire adequate clinical skills (2). Learning clinical skills on "real patients" not only endangers patient safety but also raises many ethical concerns. This has resulted in the establishment of Clinical Skill Centers (CSCs) in medical colleges where the students practice and learn different aspects of medical skills and knowledge (3). Thanks to their teaching aids, models, and manikins, these centers provide an opportunity for students to enhance their clinical and communication skills in a relaxed, controlled environment with minimal stress (4). CSCs have been reported to eliminate students' emotional stress in their initial encounter with the patient (which often results from lack of sufficient skills and fear of error and failure) and prepare them for the first experience of visiting a real patient (5). Ali et al. quoting Bradley et al., wrote that CSCs cannot replace training with real patients, but instead, they gradually introduce ways of interacting with the patient and the highly sensitive patient community (6).

Experiences obtained from clinical settings should be taken into consideration when developing readiness and skills in functional professions training programs since this is one of the most effective factors contributing to education, if not the most effective one (7). Redmond et al. investigated the experience of nursing students at CSC and the hospital. They found that from the participant's perspective, the difference between nursing laboratories and other scientific laboratories (physiology,

microbiology, etc.) could be attributed to the following factors: The slower process of learning skills in CSC nursing, facilitation of learning skills in CSC by mentors, other learning facilitators, and the existence of some barriers to learning (8). Thunes and Sekse aimed to get a better understanding of the midwifery students' first encounter with the maternity ward and of what was essential to them in the learning environment. They conducted a qualitative study using in-depth interviews with six students during their first clinical practice at a maternity ward. The findings show that the students needed to feel their presence was desired and that they wanted to be included in the activities in the ward. The authors argued that learning should be based on the student's expectations, understanding, and previous experiences. The most important factor influencing the students' well-being and learning was their relationship with their mentors. In conclusion, learning in a clinical setting requires more than just motivated students (9). Shahoei et al. also examined midwifery students' experience in clinical settings, and the key concepts or themes revealed in their study included learning facilitators and inhibitors. The former included sub-themes of mentors' performance, student satisfaction, and pre-clinical training. At the same time, the latter involved a lack of environmental facilities, a lack of coordination in educational programs, and the behavior of healthcare personnel (10). Ahmadi et al. argued that the majority of the midwifery students (69.8%) had a positive view about learning in CSCs. They mostly believed that the old and poor-quality models were the most important problems they encountered (66.7%). Despite students' satisfaction with clinical skill centers, shortcomings and inappropriate behaviors can affect their interest and motivation (11). According to Ashrafnia et al., one of the challenges of the undergraduate educational program in midwifery was the lack of educational facilities and equipment, including the mismatch between the number of students and educational facilities and adequate equipment (specialized and advanced models). According to one of the participants in their study: "The models we have at the clinical skills center are very old and do not have many of the capabilities of the new models, and if we had better equipment, we could address some of the clinical deficiencies in college." (12). The findings of Chesser indicated that a warm welcome by the clinical staff on the first day had a positive effect on the student's sense of self-confidence. This promoted the integration of the learned theories and practicing them in the clinical setting with the help of qualified staff. Chesser found that acquiring basic clinical skills had to be considered first in order to ensure that B.A.

students were appropriately prepared for clinical work and that socialization is one of the important processes in the development of B.A. curricula (13). Aliakbari et al. also found that the participants in their research had different experiences of their first presence in the delivery room. Some of these experiences were reported to be personal and partly related to the training and educational conditions, the environment, the mentor, etc. Generally, their participants considered a former negative mentality as one of the important factors influencing their first experience of being in the delivery room. Moreover, they reported that after entering the delivery room, confrontation with real situations played a crucial role in their experience of attending the delivery room. They believed that psychological unpreparedness, practical unpreparedness, stressful behavior of the mentor, fear of childbirth risks, lack of independence, and the unpleasant environment of the delivery room were among the important factors forming their first experience of attending a delivery room. They highlighted two main themes in the experiences of their participants: (1) Changing previous beliefs and (2) stressful childbirth internships (14). According to Aliakbari et al., fear is one of the emotions that students experience when entering a new clinical environment, and it can have negative effects on learning. Ahmadi et al. conducted a qualitative analysis aimed at determining the experience of fear and its consequences among midwifery students during their undergraduate program. The midwifery students' fear consisted of the following subcategories: Fear of harming, fear of encountering their first childbirth, and fear of penalties. In their study, fear not only raised the students' stress levels (leading to physical and psychological issues) but also hindered the adoption of their professional role (15).

The literature lends support to the importance of CSC in improving the learning level of medical students, eliminating the fear of encountering the patient, and increasing the safety level of patients. Therefore, improving the conditions of these centers is one of the duties of medical education study centers. Since the first encounters and experiences are often associated with permanent consequences, this qualitative study aimed to explore the first experience of midwifery students entering clinical skill centers. The results of this study could be used to remove the existing obstacles in this process and help the students have a pleasant experience for an informed and responsible entrance to the clinical setting.

2. Methods

This was a qualitative study designed and implemented using the content analysis method. The study population included all the second-semester midwifery students of Ahvaz Jundishapur University of Medical Sciences (n = 32) who had recently passed the course "Introduction to the Principles and Techniques of Patient Care" at Clinical Skill Centers (CSC). After the guest students (n = 2) were removed, all eligible midwifery students were invited to the Midwifery Department office and were introduced to the lead researcher by the secretary of the department. Then, each student entered the research interview room and was briefed on how to participate in the study and their right to participate or withdraw from the study. Then, their written informed consent was obtained. The interviewer was both a Ph.D. candidate in Medical Education and a faculty member with a notable background in midwifery. In this study, the principles of confidentiality of audio and handwritten information of the interviews were strictly observed. In-depth, non-structured individual interviews were conducted in the interviewer's office to collect the data. This type of interview was selected due to its flexibility and in-depth data. Purposive sampling was first performed for the interview and continued until data saturation. In this type of sampling method, the participating groups are chosen according to pre-determined criteria for specific research questions [16]. Furthermore, in this type of research, the number of samples varies, and the researchers continue sampling until they can arrive at a new idea [17]. The inclusion of the students in the study was gradual. Transcription of the interviews and determination of meaning units were done immediately after each interview. After the eighth interview, no new concept was extracted. However, to ensure data saturation, three more interviews with three students were conducted, which confirmed data saturation.

The lead researcher conducted all interviews, and the interviews began with the main question, "How did you feel when you first entered the skill lab (clinical skill lab)?" Then, the interview unfolded based on the students' responses and experiences with the environment and facilities. The length of the interviews ranged from 20 to 30 minutes. The data were analyzed using the conventional qualitative content analysis method. This analysis was performed by Mayring's deductive category application [18] (Figure 1).

In the present study, the recorded interviews were first transcribed using this approach. The transcript of each student's interview was reviewed and checked. The researcher read the transcripts several times, and the units of analysis, as well as semantic units or coding units, were specified. This involved reading the transcripts repeatedly with the researcher's full attention to detail. Then, based on the similarities of the semantic units, the condensation, abstracting, and summarization of data were performed. Subsequently, re-reading and subjective analysis were performed through continuous comparisons, the distinction between the classes was specified, and coding was performed. According to Iman et al., coding and consequently categorizing content in conventional content analysis begins along with reading a transcript or interview without any background. Based on the topic, we systematically defined the semantic units and condensed them to determine the codes, and in case they had a common context, the codes were merged to form the categories. Then, the general concept resulting from the aggregation of these categories (themes) was obtained. The content was reviewed in two stages to maintain reliability: One after completing 5 to 10 percent of the categories and the other at the end of the process [19]. In the present study, after the formation of the categories, sub-categories were formed, and we obtained themes by merging deduction and continuous analysis. The agreement percent index was used to check reliability (i.e., the agreement between the coders). In more detail, any given variable was measured or coded by two people independently of each other, and the degree of agreement or disagreement was determined in cases where there was no agreement. In case of serious disagreements, the opinion of the research team leader was sought and considered as the final result.

Intra-subject agreement percentage = (number of agreements) ÷ total number of codes. If this index is more than 60%, coding has sufficient reliability [20].

Strategies to ensure credibility are prolonged engagement, persistent observation, triangulation, and member check [21]. In this study, to ensure the reliability of the results, we used long-term engagement of researchers with data and member checks. Also, long data collection time (interviews) was avoided, and all participants were asked about the same topic.

3. Results

In this study, 11 second-semester midwifery students were interviewed. The mean age of the students was 19.5 years. Most of them were Khuzestani and lived in dormitories. A total of 156 codes were extracted from the research data, which were organized into 9 categories and 28 subcategories after depleting and merging similar codes. Further analysis and classification led
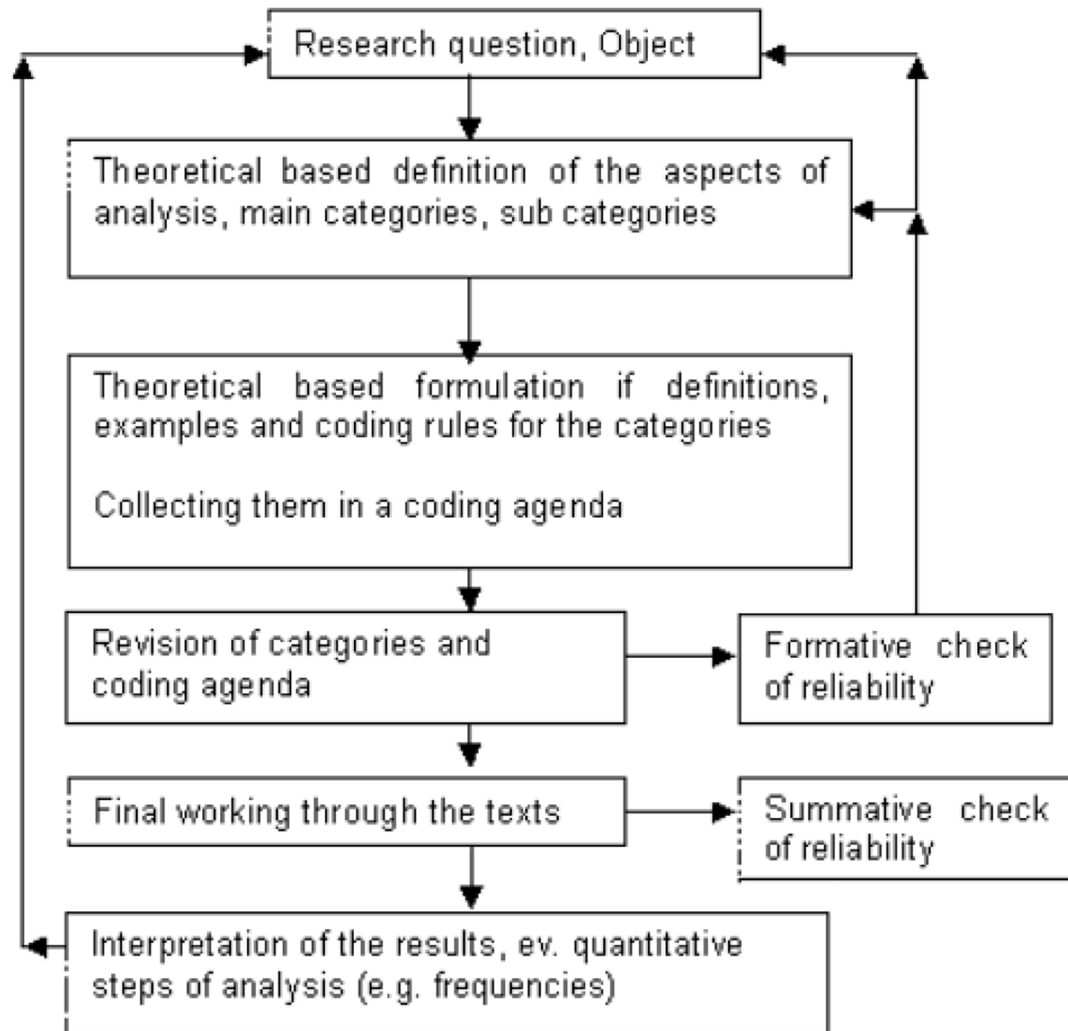
Step model of deductive category application (MAYRING 2000)

Figure 1. Step model of deductive category application (18)

to the emergence of three main categories and nine sub-categories (Table 1).

3.1. Self-regulation

Most participants reported a high intrinsic motivation to learn at CSC. One participant said:

"I was feeling good because I wanted to learn practical work, and I was excited" (Participant 1)

And another stated,

"I was interested in the field of midwifery very much, and I always wanted to get into its real environment. Skill lab was like it, and I was very happy to get into it." (Participant 5)

In some participants, the initial motivation had changed into a concern over time:

"Getting in there was a good feeling. I entered a place where I felt I was doing something useful, but as time went by, my excitement faded away. It might be because of the skill lab environment." (Participant 8).

Another participant also expressed a similar feeling:

"I liked it first. I came to learn something and go to the hospital. It was so interesting and exciting, but I had

Table 1. Main Categories, Sub-categories and Codes

Main Categories	Sub-categories	Codes
Self-regulation	Fostering intrinsic motivation in students	Having a good feeling
		Being kind
		Being happy
	Building self-confidence in students	Doing a useful activity
		Experiencing an interesting activity
		Expanding abilities
	The instructor as a role model	Feeling accountable
		Having a role model
		Providing support
Mentoring	Correct implementation of rules in CSC	Teamwork
		Group control
	Teaching communication skills	Justice
		Familiarity with the rules
	Requirement for the use of new educational and evaluation methods	Training the students
		Supervising the students
		Communication with the patient
	Revising the structure, schedule, and practice of student groups	Using the Internet for education
		Using YouTube videos for education
Support management	Supply of materials and consumables	Angioket
		Classroom
		Leukoplast
		Gloves
	Supply of non-consumable materials and equipment	Vials and syringes
		Blood pressure monitor
		Manikins

a lot of stress. I don't know why. I was going to learn accountability, which was worrying me." (Participant 4).

This stress and worry is the enemy of motivation and confidence, and the instructor definitely plays a key role in acting as a role model and supporter. One of the participants said:

"We were midwifery students, and our instructors were our models. If they were good, it would affect our good feelings about our discipline. A good instructor could even improve this negative feeling, and the students would not think of changing their discipline or passing the university entrance exam again". (Participant 2).

Another participant pointed out the role of the instructor:

"The skill lab environment should be in line with the definition of the discipline so that we really love the discipline rather than avoid it. For instance, if the professors are bad-tempered, then all midwives will be bad-tempered. It shouldn't be this way. They must be good-tempered and teach us to be kind to everyone". (Participant 6).

Another participant believed that "in the skill lab, it is good to talk about the discipline and the capabilities and responsibilities associated with it." (Participant 3)

Students are one generation, or sometimes more, apart from their instructors at CSC. Sometimes, the way the family and even the school treat them has undergone major changes. Thus, it is clear that the traditional way of managing CSCs should also change. According to one participant,

"I thought of midwifery to be a busy profession, but skill lab had a relaxed and boring atmosphere, and the instructors couldn't change that feeling. In fact, the skill lab atmosphere got worse when the instructors were strict

and were hard on us, always saying midwifery meant life, but it was not." (Participant 7).

3.2. Mentoring

As far as mentoring was concerned, one of the strongest experiences recounted by all participants in one way or another was the proper setting and implementation of rules at CSC in order to enforce justice and protect students. In this regard, a student said:

"There was a manikin whose neck was broken; then they passed the buck and gave us lower scores. It was inappropriate; there was a camera that could be checked." (Participant 5)

Another participant said (Participant 9), "The skill lab is equipped with a camera; when the neck of one of the manikins was broken, they reduced two points from everyone's score, but they didn't check the camera. No one would fail their students due to this."

And another said: "Threats and threats! At the exam session, they said if you didn't say who broke the manikin, you would all fail. The guys were determined to check the camera to detect who had broken the manikin. The camera is not for beauty. They must check that. Eventually, no one knew who did it". (Participant 2)

What is interesting about this student's statement is that the offender was not detected, which led to punishing everyone, and that the camera was not used at all! To reduce such problems, the students must be briefed on the rules in order to gain a general understanding of the type of clothes they are allowed to wear, how the supplies are delivered, how and where they should be present and leave, and the name and shape of the tools and equipment before they enter the center. In this regard, one student said, (Participant 8)

"If I were the supervisor, I would give a booklet to students, letting them know what they were asked at the skill lab."

One of the rules that the participants commented on was students' clothes. One participant said:

"According to the skill lab uniforms, the shoes should be black, the clothes should be revealing, the shoes should be orthopedic. I didn't feel comfortable in those shoes at all. I had a bad feeling." (Participant 9)

Another student stated: "The first time we had a skill lab course, I didn't buy orthopedic shoes; I bought a pair of regular shoes with white margins instead. The professor complained that I had to wear simple black medical shoes. She was too tough." (Participant 11)

Skill lab attendance rules and a proper briefing session at the beginning of the semester will eliminate these problems. One of the issues raised by the participants was their inability to take the manikin as a patient. One

participant said (Participant 3): "I didn't have a good feeling of working with the manikin. I thought, why is this not something I easily communicate with?"

Another commented similarly: "Skill lab cannot help communicate with the patient. I did not learn anything. In the skill lab, it is very hard to communicate with a doll that is not alive. In the skill lab, I can communicate with my classmates and colleagues, but not with the manikin. We learned a bit about teamwork; nevertheless, sometimes there was a problem." (Participant 7)

Another participant believed: "While teaching the theoretical course, they said how to treat the patient, but no one at the skill lab cared about saying hello to the manikin and other things." (Participant 8)

One participant (Participant 11) mentioned learning to manage teamwork as one of the strengths of working in the skill lab:

"In the skill lab, I learned to work with my friends as a group."

Another participant stated, "The guys do not fully know the relationship with the patient. These principles must be learned in the skill lab, and we didn't learn the spirit of teamwork." (Participant 7).

According to another participant,

"The skill lab could not develop the spirit of teamwork because all the discussion was about scoring and exams." (Participant 10).

It seems that different groups had different opinions about team learning, which could be due to the difference between the groups and the lack of control over fixed student volunteers in performing the learned procedures.

One of the students stated: "Our instructors could not control the group; for example, one of my classmates was doing different procedures on her own, and we couldn't work; all students wouldn't be used. We didn't learn the spirit of teamwork; just one student did all the tasks." (Participant 1).

One student described her idea of working in the skill lab before her arrival to the skill lab: "I thought the student would spend more time with the instructor, but it wasn't like that." (Participant 10).

Stress is one of the biggest obstacles to learning. A participant said:

"My self-esteem is not bad, but in the skill lab, I was really stressed out lest I don't learn these things. That was not a temporary stress; it was becoming worse. The skill lab test was the most stressful day in my life." (Participant 4) Changing teaching and learning methods and using new techniques may be helpful, particularly when a student wants it. Another participant maintained:

"I wished manikins were more realistic or some more practical cases were shown at the same skill lab."

(Participant 4).

Another one believed:

"We wanted to take videos of the procedures, but they didn't allow us. The guys downloaded videos from YouTube." (Participant 6).

Another participant commented:

"We wanted to take the video of our own for stitching. They did not allow us to download the videos; we had to download them. We had a short time. Master could not explain one thing several times. We had to download the video in English from the internet." (Participant 11)

Nevertheless, one participant put it another way: (Participant 10) "taking the videos of our own or those of the instructor could have been very helpful; unfortunately, they did not let us. I stealthily took the videos of some pieces of equipment; it was really helpful."

The participant looked at the necessity of filming from another perspective and argued that the problem of the large number of students in groups was another obstacle to learning:

"I felt that learning had to be hard, especially as we could not take a clip of anything. I felt everything would be forgotten, especially since there were too many of us; it was very difficult to learn. I will never forget the skill lab stress, especially the stress of the skill lab test, because we did not have proper practice. The number of people in a group was too large. Some of us did not even give an injection; we did not practice at all; we only saw the instructor doing it. There was a lot of stress." (Participant 4).

As another participant stated, there is a great problem with a large number of students in practice, in addition to training and internship groups.

"Many students did not do much work before the exam. We practiced many things before the exam. We talked a lot about the exam to give us the opportunity to practice in the center." (Participant 11).

When asked how she reduced her stress, one of the participants said: (Participant 2):

"When the senior year students practice with the junior year ones in the skill lab, this can be very helpful, especially for exams."

Another participant stated:

"If I were to plan, I would increase the number of groups and decrease the number of people in each group. I would prefer groups of five in which all of the students learn rather than groups of 10 where only five would learn; the skill lab session should be neither early morning nor afternoon." (Participant 9).

Another participant (Participant 3) commented: "In the skill lab, the number of people in each group should be decreased. Training time is sufficient. The number of students is large, and they cannot practice. Sometimes,

some students even couldn't practice in one session, and we would be forced to practice the next session."

3.3. Support Management

The third theme, which was extracted from the interviews, includes two subgroups: Consumables and non-consumables. One of the students said (Participant 5):

"First, we went to the lab; the supplies were sufficient, but they were not sufficient in the end. We had no pink peripheral venous catheter or no glue, and even if there was any, it was rotten; or we used gloves that had been opened before, and then we tied the gloves to learn how to open the gloves in particular."

Another student believed: "The facilities at the skill lab were perfect. There were vials and syringes; the only problem was the leucoplast adhesive tape." (Participant 2).

A participant who had experience in a hospital setting said: "The facilities had to be much more than that; there were no facilities, and even if there were, that was not sufficient for our number." (Participant 9).

Another participant complained about the lack of non-consumables: "At the skill lab, the nursing staff often took the blood pressure monitor and did not bring it back, and we did not have the facilities to practice." (Participant 3).

Manikins are other non-consumables based on which most of the learning happens when the students work with them. In this regard, one of the students commented: "The manikins were tough, especially when positioning; we took their hand, and their legs slipped! However, we finally learned something. Nevertheless, the hand models were too bad for the injections. We could not learn the injections." (Participant 10).

Another participant stated: "The manikins were old. There was a manikin with a torn hand; we did not know where to inject." (Participant 1).

The students also commented on the atmosphere and environment of the skill lab (Participant 2): "The atmosphere was good in terms of ventilation, heating, and cooling, and it always smelled of Dettol. It was clean and good. We had a good feeling overall."

However, there was another view: "If they open up the space to change the decoration, it will get out of this boring and administrative state, since it is not a classroom, but a practical class." (Participant 7).

5. Discussion

Self-regulation was one of the strong themes extracted in this study. This term is used to describe the creation,

maintenance, and motivation of students to perform professionally trained skills in CSC and to build and enhance self-confidence while performing CSC-trained procedures. The instructor acts as a role model for the students to reach a level of confidence to be capable of eliminating interfering emotions and tensions and pre-operative thinking at the end of this course. Cho et al. believe that the four areas in which one can adjust are cognition, motivation, behavior, and context (22). These four areas are exactly what the education system should follow in order to train a competent midwifery student. Among these, motivation is of unique importance. Arfaei and Soofi-Abadi believe that midwifery students are sufficiently motivated and aimed at choosing this discipline. The authorities should make the necessary efforts to enhance the educational level of talented students and to achieve maximum productivity through effective learning (23). According to Moores et al., the motivation of students to study midwifery in low-income countries can be classified into two forms, namely the personal and intrinsic form (including an interest in pregnancy and childbirth, feelings of altruism or willingness to help others and personal experience of pregnancy or birth), and the professional and extrinsic form (including job security, salary and wage, opportunities for continued professional development, and increased autonomy) (24). Moreover, most students in the studied population were sufficiently motivated to learn; hence, the teachers should enhance or maintain their motivation. One of the ways to increase students' motivation is for teachers to be mindful of themselves as role models. In the study by Bluff and Holloway, a number of midwifery students and graduates cited two types of midwives as their models: The prescriptive midwives and the flexible midwives. The former strictly follow the regulations, and most of these regulations are related to the medical model mainly developed by doctors. Thus, doctors are the model of these midwives. They had been working in the hospital and were considered by the students in that study to be non-autonomous. In contrast, flexible midwives adapt to regulations to provide individual care to women. These midwives make their own decisions about the proper care of women and thus appear to be independent midwives from the viewpoint of students (25). In academic settings, professors are always intentionally or unintentionally observed and judged by their students, and the students follow their decisions as a model. Reuler and Nardone argue that models play an important role in determining how students graduate from college, transform into specialists, and become committed physicians. Their academic medical mission goes beyond their commitment to the needs of patients

and the community generally, and physicians who teach must be a model for students (26). At CSC, as the first center for student exposure to practical tasks, manikins, and simulated patients (SPs) and a center for learning communication skills, the role of the instructors of the center and selection of the best and most experienced instructors seem necessary. Midwifery students enter the center on their first days of university. Each of them has come to university from a particular family and cultural background, and all have selected a single profession. This profession requires quick decisions, necessitating a high level of confidence in them. As Nomali et al. writes, students with lower levels of self-esteem are less likely to participate in school-related activities, and they like to sit in the back seats (27).

Footnotes

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