

## Clinical Education Environment Experiences of Operating Room Students

Tahere Khazayi, MSc<sup>1</sup>; Mohammadreza Hajiabadi, MSc<sup>1\*</sup>; Tayebe Khazayi, MSc<sup>2</sup>

<sup>1</sup> Operating Room and Anesthesia Department, Paramedical School, Birjand University of Medical Sciences, Birjand, Iran

<sup>2</sup> School of Nursing and Midwifery, Birjand University of Medical Sciences, Birjand, Iran

### Abstract

**Background and purpose:** The objective of medical education is to train competent and qualified workforce in order to provide services in various health environments. One of the important objectives of Operating Room students is to train workforce who can involve in patient's health and recovery. Training these students should cause clinical ability and independent decision making during surgery. Since students during internship face with many problems, this study has been conducted to explore and describe the challenges and experiences.

**Methods:** This qualitative study is a phenomenology that was conducted based on 20 students in the last semester of Operating Room associate's degree with purposive sampling. Deep and semi-structured interviews were used to collect data and data were analyzed by content analysis method.

**Results:** The findings in 5 main themes: (1) Physical space and equipment in the operating room, (2) The student's position in operating room, (3) Integrating knowledge and action, (4) Managing education environment and 5- Student's viewpoint about operating room and working in it.

**Conclusions:** Interviews with students revealed the educational environment challenges with which they are faced during their study. Teachers can provide solutions to overcome the challenges and create a positive atmosphere for students' learning using results of this study and students may continue their interest in education and improve the quality of their education.

**Keywords:** CLINICAL EDUCATION, OPERATING ROOM STUDENTS, CHALLENGE

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## Introduction

Clinical education is one of the critical sections of medical and allied sciences education which plays a major role in building student professional capabilities.

Education and learning are vital aspects of working in a clinical setting that lead to the development of knowledge, skill and attitudes. Operating Room students link their theoretical knowledge with skill in such an environment (1).

Operating room is an independent field and a branch of medical science that its graduates as a member of health team provide health, preventive, educational, research and supportive services in different related fields (2).

Clinical education is too complicated and also includes several aspects (3). Scheduled clinical experience objectives for associate's degree students of Operating Room includes providing an opportunity for students to develop clinical skills, integration of theory and practice and help students to be socialized and accepted in the community which in this way, students are faced with countless challenges (4).

However, nowadays a lot of changes have been created in the role of teachers and

\*Corresponding author: Mohammadreza Hajiabadi, MSc, Operating Room and Anesthesia Department, Paramedical School, Birjand University of Medical Sciences, Birjand, Iran.  
Email: omano@bums.ac.ir

teaching-learning process has been focused more on the students (5).

Students as recipients of educational services are the best source to identify educational problems because they have immediate presence and interaction with this process (6). This problem is completely consistent with the accountability of the education system in the evaluation of learning from a student's point of view as a customer (7).

Given the critical importance of clinical education for Operating Room students and the challenges that they are experiencing in reaching their professional role, we decided to identify real experiences of students of clinical education challenges by a qualitative study. Review of studies shows that despite recognition of the importance of clinical education to prepare the Operating Room personnel, few formal training have been provided in this field, this emphasizes the need of more attention. Several studies have been conducted so far on some education difficulties in clinical practice, but there is no qualitative study which can specify concepts related to clinical education challenges in this group.

## Methods

A phenomenology study was conducted to explore routines of operating room students in clinical education environments. The reason of choosing a phenomenology approach is that people, based on a logical assumption, are the best reference to describe feelings and experiences with their own words (8).

The samples were chosen from operating room students who had passed at least two clinical education courses.

After participants trusted us with confidentiality of interviews and sign a consent form, they were interviewed. In-depth, semi-structured, individual and face to face interview was used. Interview meeting place was chosen according to participants' choice. Each person was interviewed in one or two consecutive sessions. Each individual interview session was last about 1 to 2 hours.

The interviews were recorded with the permission of the participants. After each interview, all conversations were written down on a paper carefully and with no contact by the researcher.

For analytical reduction and improving reliability, interviews were transcribed word by word on a paper immediately after each session. On the same day, it was attempted to write notes and interpretations.

Sampling was continued until data saturation and after interviewing 20 participants and analyzes them, when no new information was obtained by two next interviews and data collected were repetitive, the sampling was completed.

Data were analyzed by content analysis method and at the same time data collection was performed. The researcher reviewed the data line by line. Then the objective or research question was developed and divided into a set of questions that defines certain types of data content and a method of classification was developed. After re-reading the text data and its sentences and key concepts were derived and classified according to the set of questions they were encoded. Participants' review was used to confirm the accuracy of data and derived codes.

## Results

80% of participants were female and 20% male. The average score of the participants was 16.25.

The findings were investigated in 5 main themes: 1- Physical space and operating room equipment, 2- Student's position in operating room, 3- Integrating knowledge and action, 4- Managing educational environment, and 5- Student's point of view about operating room and work in it.

### **Theme 1: Physical space of the operating room had experienced some problems.**

All students had experienced some problems in relation to operating room. A participant has described his experience of physical space: "We are standing from morning and do

not have a place to sit, even we drink tea while standing.”

The following excerpts are the experiences of two participants expressed scrub room: “In some operating rooms, scrub room is away from operating room and we cannot be with bare hands in front of men, when washing hands, pumps' electronic eye is not working, no one comply hand washing. What we learned is that a surgeon washes his hands within 30 seconds.”

Another participant stated his own experience of physical space in operating room: “Operating room is small, when the number of students is high, when moving scrub table, its equipment is sterilizing (Non-sterile).” Another participant describes his own experience of the dressing room: “If you want to get to the surgery on time you should wake up early in the morning, get to the hospital to stand in dressing room line and can dress well sooner, Imam Reza Hospital’s dressing room does not have enough space for students and they have to go get dressed by turn.”

**Theme 2: Student’s position in operating room**

All students have problems with their position and status referring to sub-themes of the relationship between a student, teacher, doctors and staff, continuing education in this field and the difference between students in the operating room.

One of the students stated about his field of study: “The most degrading field is operating room, a surgeon behaves better with anesthesia students, when they behave badly, students encounter more stress and generally respecting students causes more confidence and better working.”

One other student stated his experience about the difference between students: “When medical students come, we get nervous and our confidence is low, teacher warns us loudly and humiliates us in front of medical students, I do not like to continue study in this field.”

One of the students tells about his position in operating room: “A student has no value, they say things irrelevant to us, we are like

workers, in a surgery we do not have aid 1 and do not learn anything from aid 2, Cesarean is an important operation and I cannot stand as an aid 1 during the course.”

Another student says about the relationship between teachers, staff and doctor: “Teacher should have authority on a student and not to be so open and student should not to be struck. Teacher does not tell us what to do beforehand, doctor expects we know everything, staff also always remind us that do not sterile their equipment, they somehow humiliate us.”

In this case it was another student experience: “Teacher has not a good behavior, sometimes serious, to learn something, doctor treats as if a student has no support, the first day I washed my hands I had so much anxiety so that due to hands' shake I could not do my job right, surgeon expects that we have to know everything and it is not a training hospital.”

One of the students said about continuing study in this field: “If hospital staffs are good, I will continue; it is better than nursing and I recommend it.”

Another student says about days when operating room is without a student for example in summer: “These days, staff work hard, when we work they think we are in favor and they agree that students are doing the major part.

**Theme 3: Integrating knowledge and practice:**

All students pointed to problems with the integration of knowledge and practice. One of the students about the problems related to the application of theory in practice, stated his experiences from one of the lessons of Basic Sciences: “I only learned the names of several bones and vessels in anatomy course but when I was attending in appendectomy operating room I realized that I know nothing about layers and tissues and I did not know to pay attention to what in practical anatomy and what is important.”

Another student’s experience related to the integration of theory and practice was: “If teacher explains everything before surgery, learning is much better, otherwise, if he just

explains during surgery, you will not learn due to stress, but if you have background you will not forget, a simple task should be seen many times, but when you do not do, it is useless, when you want to do it, then you realize its problems and difficulties.”

Another participant said: “Student activity is important, he should be looking for a job that is appropriate for learning, in the second semester in operating room we went to the CSR and they wanted us to wash things that did not affect learning, we learn to check things in one or two sessions, but by the end of the semester we were in CSR.

This method is traditional and implementation of modern methods is hard for us, after a series of preliminary introduction and working conditions, we enter operating room environment and closely acquainted with everything and students can ask to learn something by research.

When you ask staff, they say go and ask teacher, because they also had these problems, but they do not help students.”

One of the participants in relation to his clinical education experience in operating room says:

“Teacher should only have the educational role rather than he goes for a surgery himself, at least in the first two or three sessions he should talk about objectives, gives training plan to students and explains it, not only writes names, specifies rooms and goes away.

When we were in CSR teacher did not come even once to ask what we're up. The exact name of equipment should be told, complete application should be said, even we do not know some devices' functions and how they work.

One of the participants says about his experience during surgery: “It is better to explain everything before surgery, for example I did a big mistake during appendix surgery, instead of Penrose drain, I got Hemovac drain, and surgeon said :“you still did not know which drain to bring?” This was the first time I saw this, teachers are not also present to see who does the right thing.”

Another participant says about his experience of clinical skills training: “If a student takes part in action is good, he considers himself responsible, keeps honor, and affects learning. Surgical references of operating room are low in order to explain a surgery step by step in Farsi and we should learn everything empirical, I want to say that when we are in operating room we do not have a strong scientific base.

#### **Theme 4: Managing Educational Environment**

Operating room students have experienced some problems in educational environment. A participant has stated his experience of the head nurse of the operating room:

“Ms. X behaves students badly, seems whatever happens in the operating room students are responsible, we cannot object, her relationship with students is not good, she wrongly assumed the operating room with the military, operating room environment should not be burdensome and make students hate it.”

Another student describes his experience: “Most of the students know operating room head with his name, there is no interaction with the students and if teacher is not present, he would do nothing for us, he enters operating room in suit and only demands the lack of equipment that staff said.”

Another participant stated his experience in answering the question: “What would you do if you were one of the heads of the operating room?” He said: “I would spend most of my time for the student and I would respect him, when there is no surgery, I would gather all the students for a scientific discussion and intimate atmosphere, during surgery, I would say all points and I would try to be serious because the patient's life is in danger.”

In this regard, another student says: “I remember my past and as I expect a student like that, I prevent tapping the hands of one person by forceps due to his/her mistake since that causes more stress among students. I would behave like Dr. X, when there is no one, he opens patient's gown, brings a stretcher, not like some surgeons who stand

away and shout for others come and do things.”

### **Theme 5: Student's point of view on operating room and working in operating room**

Most students' point of view about operating room was different from what they saw in practice.

A participant stated his experience in the early days of entering operating room: “In theory, standard principles are presented, that operating room does not have these conditions practically, physical properties vary and we did not expect it. The first day in orthopedic room, the equipment were not defined for us and we were afraid and anxious for that we may not be familiar with the equipment and cannot learn the surgery steps, deal with the surgeon during surgery, cannot hear surgeon's voice.

Experience of a student was: What we read had no consistency with what we have seen, I did not think that way, many things are not respected, the environment was new, and first we thought it was much sterile but that was very comfort, not as we feared.

Another participant described his experience in operating room: I thought staff was much nicer, at least teacher is kind; during an immediate surgery they disregard rules and did not respect hygiene. Another student stated his experience in the early days: I had the stress of entering the hospital and unexpected problems, I was confused for a long time, I thought I would do things wrong, I fear that what will happen to the patient in operating room.

Another participant described his view and experiences of operating room: I had no special mentality about operating room and a surgeon, and I liked this would be more functional and not just watching afar, I thought we are involved more. Theory and practice adaptation was not seen, during surgery, many things were weird.

## **Discussion**

One of the essentials of good education is proper training platform that has various aspects and properties in terms of physical aspects, facilities, and teacher and also human resources working in those sectors. A good clinical learning environment is defined as a good atmosphere where there is good cooperation between members and a student can be seen as a younger colleague (9).

Conflicts and possibly contentions between staff, surgeon and students all affect clinical education process indirectly that is consistent with the findings of this study (10).

Any shortcomings and deficiencies in the training of operating rooms have direct effect on learning clinical skills and finally the health of the community. Problems and deficiencies in the fields of education and especially clinical education, feeling of discrimination in the enjoyment of services of sectors, inappropriate evaluation and planning deficiencies play a significant role in preventing the achievement of the objectives of the educational system. These students have suffered and they can be indifferent to their field and lead to decreasing self-esteem and their escape from their profession.

The results of the study suggest the fact that the majority of students in this study referred to the challenge of lack of an independent and competent teacher in operating room. These findings are consistent with other studies show that students considered having a master teacher, who only teaches students, supports and gives confidence in operating room, not only pays attention to the attendance of the students and holds scientific conferences effective on learning clinical skills in operating room.

Also in line with Harandi study, students consider the teacher as a responsible person who pays attention to students' needs, respects them and answers their questions (11).

So students who have an informed and responsible teacher, experience better training in clinical environment.

Poor facilities and lack of coordination of physical space with students' acceptance capacity in some operating rooms are typical experiences of students.

The concern of get dressed in a small dressing room leads to delay, causes waking up early in the morning to go to the hospital without transportation service.

The results of other similar studies show that the lack of accommodations for students increases clinical education problems (5).

Therefore, there should be a reforming educational environment, providing accommodations and standardizing educational environment should be considered by education authorities.

The gap between theory and practice in nursing is a problem that has been a source of concern for many years because of the delay in learning (11). In the results of this study, most of the students referred to the gap between theory and practice that is consistent with other studies.

The gap was felt in particular about basic sciences' courses, teaching method, low surgical references, providing a background and introduction before surgery, lack of internship courses, non-practical theoretical training. The results of some studies show that the level of operating room nurses' knowledge about various vessels and tissues of organs is inadequate, neglecting this leads to lack of efficacy and confusion during surgery, lack of educational videos, photo and slides and familiarizing students with unknown environment were common problems of the participants in this study. In one study, more than 90% of students believed that they learned necessary skills during surgery from the experience of the staff and not scientifically, also they believed that the experience of the people was not based on scientific principles, in fact, many students have problems in inserting the information presented in class for the clinical environment, this lack of consistency between theory and practice has long been of concern to teachers and students (12).

So it is recommended by review in education, in order to communicate between theoretical and practical training, by reducing this gap as much as possible, the students are given the opportunity to combine theory and practice for learning and understanding the unique nature of care in an integrated form.

Every profession is profoundly affected by the community provided with the service, lack of attention of the community to the dignity of the field and a sense of worthlessness and discrimination between students are typical experiences of students in this study that are consistent with some texts (12).

Keeping student's privacy in operating room, not insult to his personality and doctors and staff proper relationship with students are their reasonable and right demands that the results of a study on the causes of the students' lack of motivation towards employment and continuing study showed that negative attitude of the community to the field and inappropriate behavior of personnel to students can have a negative impact on students' motivation (13).

The results of a study revealed that while the role of doctors in the media is presented as hyperbolic idealistic and heroic, nurses are basically presented in roles that are less popular and it is emphasized that the images of nurses are effective on not only in public view but also on their own view (14).

As long as the community view as a whole does not change about nursing, seeing nursing in another way is difficult, it is important that the public be informed that today nurses with higher education, scientific knowledge and interpersonal skills, in addition to coordination with doctors, they are responsible for providing patients with qualitative care. Providing appropriate programs to introduce and recognize the profession in the community can play an important role in reforming its dignity.

The results of the present study showed that students had difficulties in relation to managing educational environment. An inflexible nurse, who has no relationship with

students and does not interfere in education and sometimes does not even know students, not only has no effect on learning and motivate them but also makes them hate the environment.

The lack of a sense of responsibility among staff in teaching students and lack of human relationships between operating room team and the surgeon, affect students' learning clinical skills. These findings are consistent with other studies showing that, staff and workplace characteristics, surgeon's relationship and operating room official attention to the presence of students in operating room are considered as important factors in students' learning (15, 16).

## Conclusion

Interview with students provided an insight into the challenges of the current educational environment which students had faced during their study, the challenge of disregarding a student's position in operating room causes lack of students' motivation and reduces the interest in continuing study in this field and they thought that their job has a low social status, with no power and independency and professional development.

Integration of knowledge and practice and the role of educational environment, particularly in clinical education environment are very important in the students' experience.

Therefore, we should attempt to reform and strengthen educational environment, particularly in clinical education environment.

Appropriate measures designed to improve and promote educational environment based on the participants' experiences and opinions can be used for proper education of students and causes continuing student interest in the field and finally leads to training specialists of high efficiency.

The results of this study indicate the need for effective interventions to allocate education facilities, change and modify educational environment and programs based on a new perspective as creative, dynamic and based on

culture, philosophy and perspective of theoretical care principles.

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