

Research Article**Factors Affecting The Quality Of Clinical Education From The Perspective Of Medical Students**

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Abstract:

Introduction: Identifying and informing the factors related to the quality of clinical education is the first scientific step for any educational intervention. Therefore, the purpose of this study is to investigate the factors affecting the quality of clinical education from the perspective of medical students of Jahrom University of Medical Sciences in 2022.

Methods: In this cross-sectional descriptive study, 60 clinical students of Jahrom University of Medical Sciences in 2022 were included in the study. Data collection tools in this study are a demographic information questionnaire and a clinical education quality questionnaire. Data analysis was performed using descriptive and inferential statistical tests with the help of SPSS software version 21.

Results: The results showed that the satisfaction of clinical students of Jahrom University of Medical Sciences was at the average level (54.2%). The highest satisfaction of students was in the field of improving educational processes. Student satisfaction was slightly above average in the areas of teacher evaluation and educational and managerial deficiencies. Students' satisfaction with the methods of improving the quality of education was low.

Conclusion: Clinical education is a serious issue in the education of medical students in which professors and students are equally involved, but factors such as the clinical environment and the curriculum can also affect student performance. According to this study, motivating students and providing more educational spaces and facilities will improve clinical education for students at Jahrom University of Medical Sciences.

Keywords: Clinical Education, Students, Medicine, Jahrom.

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Background:

In today's world, the issue of quality has faced the management of organizations with challenges. Service quality is an important factor for the growth, success, and sustainability of the organization and is a strategic, effective, and inclusive issue on the management agenda (1-2). On the other

hand, quality is of special importance in clinical education, so clinical education can be considered as a learning facilitation activity in a clinical environment in which the clinical instructor and the student are equally involved and its purpose is to make measurable changes in the student. For clinical care (3). In clinical education, the

student, in interaction with the instructor and the clinical learning environment, applies the previously learned theoretical and practical concepts in real situations and on real patients. Therefore, any weakness in the field of clinical education of students will cause weakness and reduce the efficiency of graduates (4). Clinical environments have variable and unpredictable characteristics, and this has inevitably affected student education and made the role and function of clinical teachers more important so that some educational experts consider clinical education more important than theoretical education (5). It should be noted that the learning of medical students in clinical settings is greatly affected by the effectiveness of this educational environment. Important factors of this clinical effectiveness, which are very important, can be considered a clinical instructor, clinical environment, personal characteristics of students, clinical evaluation and planning, and in general, the creation of a local model that can be effective in the educational process. The results of many studies indicate that there is a relatively deep gap in the process of scientific education for students, so the existing clinical education does not give the student the necessary ability to express clinical competence and skills. Various studies have shown that multiple problems have prevented the achievement of goals (6). Identifying issues in clinical education and taking action to improve them will improve the quality of medical services. This enables medical educators to get an accurate picture of the situation in the clinical environment and to draw a good perspective (7). About 50% of medical science courses are devoted to clinical education, and many experts have claimed

that clinical experience enables students to acquire the necessary competence and competence in clinical skills and theoretical knowledge (8-10). In their study, Negricea et al. Showed that tangible factors have the greatest impact and then the reliability and desirability of academic values have the greatest importance in increasing the quality of education (11). In the research of Roman et al., Internship guidance by skilled and experienced instructors has been mentioned as a very important factor in improving the quality of internships (12). The results of Papp et al.'s research showed that students consider the learning environment appropriate when there is good communication between staff and students are accepted, respected, and given a good opportunity to learn to achieve their goals. To be given (13). Hubacko concluded in his research that teaching skills and curriculum content and the number of students and faculty expertise affect the quality of teaching at the university (14). Addressing the existing shortcomings and improving the status of clinical education depends on determining the status of clinical education and identifying the factors affecting effective clinical education. Despite conducting similar research in Iran, due to the diversity of teachers, students, and most importantly the educational system and facilities in each university unit improving the quality of clinical education requires continuous review of the current situation and determining and strengthening strengths. And the identification of weaknesses, the present study aims to investigate the factors affecting the quality of clinical education from the perspective of medical students of Jahrom University of Medical Sciences in 2022.

Method:

In this cross-sectional descriptive study, 60 clinical students of Jahrom University of Medical Sciences in 2022 were included in the study. After obtaining a license from Peymanieh and Motahhari teaching hospitals and with the cooperation of Edo hospitals, the researchers entered the students' clinical environment (wards) and began to explain this study and distribute and collect questionnaires. Attempts were made not to collect information during student clinical rounds. Inclusion criteria include all clinical medical students in the course; External and internal and exclusion criteria include incomplete completion of questionnaires and dissatisfaction with participation in the study. Data collection tools in this study are a demographic information questionnaire and a clinical education quality questionnaire. Demographic information includes age, gender, and level of education. The clinical education quality questionnaire has 56 questions and has 5 areas of teacher evaluation (7 questions), spaces and facilities (18 questions), educational and managerial deficiencies, quality methods of educational promotion, and results of improving educational processes. This questionnaire has been validated by

Mortazavi et al. (15). The scoring of the questions was yes and no. The minimum and maximum scores were 0-56. Data analysis was performed using descriptive and inferential statistical tests with the help of SPSS software version 21. The significance level was considered $p < 0.05$.

Results:

60 clinical students (intern and external) of Jahrom University of Medical Sciences participated in the study. 46.7% of them were male and the rest were female. Their mean age was 24.48 \pm 1.95 with an age range of 22 to 31 years. 36.7% of them were interns, 28.3% were externs and the rest were students. Students' satisfaction score based on the two-choice scale was yes (score 1), no (score 0). The results showed that the satisfaction of clinical students of Jahrom University of Medical Sciences was in the medium level range (54.2%). A score of 50% is considered the average. The results showed that the highest student satisfaction was in the field of improving educational processes. The level of student satisfaction in the areas of teacher evaluation and educational and managerial shortcomings was slightly above average. The level of students' satisfaction with the methods of improving the quality of education has been low.

Table 1- Total satisfaction score and its areas from the students' point of view

Variable	Average of 50	Average of 100
Total satisfaction	54.24 ± 20.09	30.37 ± 11.25
Master evaluation	56.66 ± 30.36	3.97 ± 2.13
Space and facilities	54.24 ± 20.09	8.08 ± 3.64
Educational and managerial shortcomings	51.55 ± 29.95	6.19 ± 3.59
Methods of improving the quality of education	21.19 ± 29.29	1.27 ± 1.74
Improving educational processes	85.01 ± 27.69	11.05 ± 3.60

The results in Table 2 showed that in the field of professor evaluation, the majority of students believed that the clinical education of professors was appropriate to their specialty (75.9%) and also professors of scientific ability to work in the clinic (82.8%) and the necessary experience. They had to work in bed (82.8%). Also, students' satisfaction with the teachers' participatory spirit to interact with students (39.0%) and professors' motivation to teach students (35.6%) were below average. In terms of space and facilities, the majority of students believed that educational conferences (84.5%) are held in the clinical

environment and the devices used in teaching hospitals are worn out (84.5%). In the field of educational and managerial deficiencies, the majority of students believed that the rules are observed by clinical students in hospitals (72.4%) but students do not have sufficient motivation in clinical activities (74.6%). In the field of methods of improving the quality of education, students' opinions in all its aspects have been below average. In the field of improving educational processes, students' opinions in all its aspects have been above average.

Table 2- Frequency of answers to items on the student satisfaction questionnaire

Area		Yes	No
Clinical professor evaluation	Do clinical instructors have the right quality of education?	0.407	0.593
	Do professors provide clinical education appropriate to their field of specialization?	0.759	0.241
	Do professors have the scientific ability to work in the clinic?	0.828	0.172
	Do the professors have the necessary experience to work in the clinic?	0.828	0.172
	Do professors have a participatory spirit to interact with students?	0.39	0.61
	Do professors have the motivation to teach students?	0.356	0.644
	Do professors have the right time for clinical training?	0.441	0.559
Space and facilities	Are educational conferences held in a clinical setting?	0.845	0.155
	Is the participatory teaching method used to educate students?	0.672	0.328
	Are educational videos used in students' clinical education?	0.22	0.78
	Are educational models used in students' clinical education?	0.322	0.678
	Are hospital equipment and supplies used in clinical education?	0.542	0.458
	Does the hospital have a practice room suitable for clinical training?	0.254	0.746
	Do hospital wards have training rooms for clinical training?	0.466	0.534
	Is the physical space of hospitals suitable for clinical education?	0.431	0.569
	Is the clinical education budget sufficient?	0.288	0.712

	Is there proper nutrition for students in teaching hospitals?	0.271	0.729
	Are computer systems in hospital wards enough for training?	0.373	0.627
	Is there a suitable locker room for students in the hospital?	0.276	0.724
	Is there a suitable restroom for students in the hospital?	0.621	0.379
	Are the devices used in hospital education worn out?	0.845	0.155
	Are there enough operating rooms to train students in the hospital?	0.517	0.483
	Are there enough hospital wards for hospital training?	0.483	0.517
	Is the ratio of students to professors in clinical education appropriate?	0.271	0.729
	Are faculty members consistent in the clinical training process?	0.483	0.517
	Do hospital staff cooperate with students?	0.542	0.458
Educational and managerial shortcomings	Are appropriate practical tests performed during clinical training?	0.458	0.542
	Are the rules followed by clinical students in hospitals?	0.724	0.276
	Is there enough supervision over the evaluation of students by professors?	0.5	0.5
	Are the practical tests appropriate to what the learners have learned from the students at the end of the course?	0.431	0.569
	Is there a specific lesson plan in the clinical education process?	0.586	0.414
	Is there cooperation between the student and the professor in clinical education?	0.593	0.407
	Are students motivated enough in clinical activities?	0.254	0.746
	Is the case method used to increase experience in clinical trials?	0.593	0.407
	Are professors continuously present during clinical training?	0.603	0.397
	Is the educational content revised according to the current world knowledge?	0.492	0.508
	Do hospital officials treat clinical students appropriately?	0.458	0.542
Methods of improving the quality of education	Are in-service training held to empower teachers?	0.237	0.763
	Are material and spiritual incentives used to increase the motivation of professors?	0.186	0.814
	Are new teaching methods being used to help learners learn better?	0.254	0.746
	Are material and spiritual incentives used to increase students' motivation?	0.169	0.831

	Are new clinical training facilities being used to upgrade the training level?	0.22	0.78
	Are experienced personnel used to enhance students' clinical skills?	0.203	0.797
Improving educational processes	If the clinical procedures in the hospital are done properly, will it affect the patient's timely discharge?	0.776	0.224
	Does proper clinical training increase patient satisfaction?	0.759	0.241
	Is clinical training effective in increasing the satisfaction of hospital staff in working with students?	0.845	0.155
	Is the correct performance of clinical procedures effective in the satisfaction of the patient's companions?	0.845	0.155
	Is proper clinical training effective in students' teamwork spirit?	0.879	0.121
	Is sharing clinical knowledge effective in the spirit of teamwork among professors?	0.879	0.121
	Are proper feedback from university and hospital officials effective in students' clinical education?	0.879	0.121
	Is increasing students' clinical knowledge effective for patients' level of safety?	0.845	0.155
	Is increasing students' clinical knowledge effective in preventing the patient from returning to the hospital?	0.845	0.155
	Does increasing students' clinical knowledge affect the achievement of hospital goals in satisfaction and customer orientation?	0.879	0.121
	Is increasing students' clinical knowledge effective in achieving appropriate therapeutic indicators?	0.862	0.138
	Is increasing students' clinical knowledge effective in reducing costs and increasing productivity?	0.897	0.103
	Is increasing students' clinical knowledge effective in reducing patient admission time in teaching hospitals?	0.862	0.138

Student students' satisfaction was higher than external and intern students. Also, the satisfaction score of intern students was higher than external students. The satisfaction score of male students (54.72%) was higher than students living in dormitories (53.80%). Also, the satisfaction score of native students (53.80%) was higher than students living in dormitories (54.72%).

Discussion:

This study, which examines the factors affecting the quality of clinical education from the perspective of medical students of Jahrom University of Medical Sciences, indicates that in all areas studied, students' opinions were moderate and this could indicate their overall satisfaction with the learning environment. It is a clinic where they are learning and passing their internship and internship courses. In their study, Sayadi et al. Examined the views of nursing students about the clinical learning environment and the factors affecting it in

2015. The results of this study showed that in all areas studied, students' opinions were moderate (16). In their study, Khedmatizare examined the status of clinical education and the factors affecting effective clinical education from the perspective of undergraduate nursing students of Alborz University of Medical Sciences. The results of this study showed that the status of clinical education from the perspective of the studied students is moderate (17). The results of Wolf's research showed that students' evaluation of the clinical educational environment that develops their skills was moderate (18). The results of the present study showed that the professors had the scientific ability to work in the clinic (82.8%) and the necessary experience to work in the clinic (82.8%). Master's mastery of the curriculum, the ability to express, and the power to convey concepts are the most important characteristics of a clinical teacher and have a great impact on improving the quality of teaching-learning (19). In his study, Vahidi et al. Emphasize the importance of the role of the teacher in increasing the ability of students and promoting motivation (20). Although students' experience of clinical education is improving and overall student satisfaction is high, there is still criticism of this part of clinical education, perhaps because it is very difficult to control the clinical learning environment (21). The results of the present study showed that the devices used in hospital education are worn out (84.5%). Considering the complementary role of using teaching aids and the number of students in the department in providing an effective environment in transferring knowledge to students, it is suggested that using new teaching aids, appropriate planning to divide the appropriate number of students in educational departments

Equip the educational environment with welfare facilities, provide a suitable platform for students to get acquainted with various cases of diseases (22). The results of the present study showed that 56.9% of students were dissatisfied with the physical space of hospitals for clinical education. The results of Rahimi study showed that the quality of clinical education in the areas of clinical environment and welfare and educational facilities was poor (23). In the study, Hadizadeh et al. Reported that 50% of students reported poor welfare facilities and educational equipment (24). Delaram et al. In their study mentioned the lack of welfare facilities as the most important problem in the clinical environment (25). In the study of Mohammadpour et al., Which aimed to investigate the factors affecting the quality of clinical education from the perspective of students and clinical teachers of Gonabad School of Nursing and Midwifery and ways to improve it, the results showed that welfare facilities were poorly assessed by students (26). In Heshmati et al.'s study, students were dissatisfied with the use of teaching aids in the clinical setting (27). In the study of Mohebbi et al. (28), Moghrab et al. (29), the condition of facilities, equipment and physical space of clinical wards was evaluated by most of the higher students, which is not consistent with the results of the present study. Differences in clinical centers affiliated with universities and different facilities that each center has, can be the reason for this difference in findings. According to the above studies, there is a lack of facilities and environmental problems in all teaching hospitals in the country, which can be due to the lack of budget of the Ministry of Health, lack of cooperation of staff in educating students. The results of the present study showed that

the professors had the scientific ability to work in the clinic (82.8%) and the necessary experience to work in the clinic (82.8%). Clinical environments have variable characteristics and this has caused students' education to inevitably affect and make the role and performance of clinical teachers important, so that some experts and educational experts, clinical education from theoretical education have been considered more important (31-30). The results of a study in Hong Kong have shown that lack of professional knowledge and skills has been the most important problem of clinical education for students (32). The results of Zadi et al.'s study showed that most of the students considered the experience and sufficient skills of clinical instructors as an effective factor in improving the quality of clinical education (33). In the present study, the majority of students believed that the professors have the necessary experience to work in the clinic. Learning and gaining skills on the bedside is directly related to the characteristics of clinical instructors, and it seems that the implementation of the teaching-learning process through competent and efficient instructors can enable students to make the most of their abilities. Experts believe that clinical educators have a tremendous impact on increasing the quality of clinical education and can make clinical experiences enjoyable for the student (34). The results of the present study showed that the majority of students believed that educational conferences (84.5%) are held in the clinical environment. In the study of Zadi et al., One of the weaknesses of the educational system from the students' point of view was the lack of holding a conference in the clinical environment to increase the scientific ability of students

(33). It seems that holding scientific conferences in a scientific way can play an effective role in promoting learners' knowledge.

The results of the present study showed that in the field of teacher evaluation, teachers' motivation to teach students (35.6%) was lower than average. Also, students are not motivated enough in clinical activities. In the study of Mohammadpour et al., The most effective factor reported from the teachers' point of view is the existence of intrinsic motivation for clinical education (26). , Can provide better clinical services (35). The results of the study of Osma et al. (2015) showed that in the teaching process, the interests and needs of professors and students' motivations should be considered and they found that these motivations in professors and learners can bring about desirable changes in learners (36). The results of Rahimi study showed that the lack of interest and motivation for students in the clinical environment is recognized as the most important obstacle to clinical education (23). In the study of Dehghani et al., Insufficient access to welfare and educational facilities in clinical education departments has been expressed as a barrier (37). In the study of Omidvar et al., Lack of motivation for underlying problems and dissatisfaction has been expressed (38). A study, points out that even the richest and best internships and organized training programs will not be useful in the absence of motivation in learners, interest in the field, the teacher's interest in education, and clinical learning competence and aptitude are among the factors affecting They have known the motivation of clinical students to learn (39). The results of the present study showed that in the present study, the level of students' satisfaction in the areas of

teacher evaluation was higher than average. In the study of victims and colleagues, the instructor was the most important factor in the quality of clinical education (40). In the study of Mohammadpour et al., The least impact has been reported for the field related to clinical instructors (26). In the study of Khorsandi et al., The least problem of clinical education was related to clinical teachers (41). But in the study of Taheri et al., The most dissatisfaction in the field of clinical education was related to clinical teachers (42). The educational environment is one of the most important factors determining the success of an effective educational program (43). Identifying issues in clinical education and taking action to improve it will improve the quality of medical services. This enables medical educators to get an accurate picture of the situation in the clinical environment and to draw a good perspective (44). Conclusion: Clinical education is a serious issue in the education of medical students in which professors and students are equally involved, but factors such as the clinical environment and the curriculum can also affect student performance. According to this study, motivating students and providing more educational spaces and facilities will improve clinical education for students at Jahrom University of Medical Sciences.

Ethical code

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Authors Contributions

All the authors met the criteria of authorship based on the recommendations of the international Committee of Medical Journal Editors.

Conflict of interest

There are no conflicts of interest in this study.

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