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Determining the rate of achievement of outpatient education standards in major departments of Shiraz medical school from interns' viewpoints, based on ministry's clinical education standards in 2018–2019

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Abstract:

INTRODUCTION: In order to improve outpatient education, it is necessary to carry out formative standard evaluation to reveal the strengths and weaknesses to improve planning the quality of clinical education. Due to numerous challenges in clinical education, the present study was conducted to determine the extent to which outpatient education standards were achieved in the major departments of Shiraz Medical School.

METHODS: In this quantitative combined, cross-sectional and practical investigation in the academic year 2018–2019, 178 interns who had passed the outpatient education in the four major wards (internal medicine, pediatrics, gynecology, and surgery) in Shiraz Medical School were randomly selected. A 26-item researcher-made questionnaire, based on the Handbook of the Ministry of Clinical Education (Outpatient Education) for Health and Medical Education's Criteria and indicators, was used in three areas of preparation, timing and implementation; and the psychometric properties of the questionnaire were determined. For quantitative data analysis, SPSS version 22 was used. Furthermore, we performed a qualitative study through semi-structured interviews with 16 interns and analyzed the data using MAXQDA 10 software.

RESULTS: The results of the quantitative study showed that 8.4% of interns evaluated the program as poor, 66.3% moderate, and 25.3% good. The qualitative study showed that number and diversity of patients, instructor's educational model, and number of interns had a significant role.

CONCLUSION: Although the outpatient teaching in the four major departments of Shiraz Medical School was evaluated relatively acceptable, it is far from the ideal point and need to be improved.

Keywords:

Assessment, medical student, outpatient clinics, standard

Introduction

Given that most of the patients are referred to outpatient clinics and a small percentage refer to or are referred to specialized hospitals, it is obvious that inpatient education cannot familiarize

students with the common community health problems.^[1,2] Studies show that what matters in the future workplace of general practitioners are outpatient clinics, as they not only should be considered in terms of the type of illness but also in the short time

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available for effective communication, information, and examination, access to diagnosis, outpatient treatment, and prescription. Special attention must be paid. On the one hand, the unique characteristics of outpatient training environments in terms of first hand and varied patient referrals. On the other hand, the fact that the activity of a majority of general practitioners take place in outpatient offices and clinics, highlight the role of clinics as a prominent outpatient training environment.^[3]

Outpatient medicine is an important part of a rapidly growing health care, but effective and appropriate educational changes have not been made yet. Ineffective clinics are a major obstacle to outpatient education.^[4,5] Therefore, medical students and assistants cannot obtain the necessary experience and knowledge of patients in outpatient clinics if only trained in the inpatient clinical setting. Definitely, active attendance of outpatient clinic training groups and scientific treatment while facing patients, improve the quality of student education and service delivery.^[6]

Previous studies have shown that in case of inadequate and inaccurate implementation of clinical education standards including outpatient education which consist of clinical skills, communication skills, and professional ethics, the graduated general practitioners in their early years of professional practice are not sufficiently prepared to provide clinical services.^[1]

Therefore, the booklet of criteria and indicators of clinical education in educational centers and hospitals of Iran was compiled in 2009 with the aim of describing the standards of clinical education by Yazdani *et al.*, in Vice-Chancellery for Education and Student Affairs, Ministry of Health and Medical Education (MOHME), Medical Education Research and Development Center. The goal is to take effective steps to develop clinical education by providing minimum standards, and to meet their needs by carefully evaluating their needs.^[7]

Considering the importance of outpatient education in clinics as an important factor in medical education, such a study is essential. It is also crucial in terms of the professional competencies needed to train physicians, especially in acquiring communication, diagnostic skills, as well as familiarity with community health priorities and recent health system approach and strategy in promoting and expanding health services. Therefore, medical universities of Iran have practiced the quality of the current clinical education. Khorasani *et al.* (2007) in reviewing the quality of clinical education from the viewpoints of teachers and students of Mazandaran University of Medical Sciences have found that the status of clinical education is particularly inappropriate for learners. The weaknesses were mentioned as inadequate

physical space, lack of opportunities for independent activity, lack of active supervision of teachers, lack of prescription training, and weaknesses in teaching differential diagnostics.^[8]

In a study on the quality of clinical education from the viewpoints of medical faculty and students of Bushehr University of Medical Sciences, Hadizadeh stated that 35% of the courses of general medical students should be allocated to outpatient medicine.^[9] Soltani Arabshahi and Salajegheh on the evaluation of the assessment status of the clinical training field of Firoozgar Hospital in Tehran, based on basic standards of the Iranian General Medical Education Course, showed that clinical education of all three groups (obstetrics and gynecology, internal medicine, and surgery) in the assessment field, has followed the national average standards.^[10] Zamanzad *et al.* have conducted a study in Shahrekord on investigating the satisfaction and evaluation of the quality of clinical education from the students' viewpoint. They concluded that medical students were dissatisfied with outpatient education in the major departments.^[11]

Jamshidian *et al.*, (2010) on educational program in pediatric clinics based on experiences of teachers and interns in Isfahan showed that both instructors and interns referred to the short duration of presence in pediatric clinics. While one-third of the entire pediatric internship period was spent in the clinics, they tended to be in pediatric clinics or general pediatric wards instead of specialty wards.^[12] Failure to perform appropriate remedies for high risk patients and their timely referral are among the problems encountered in outpatient diagnostic and therapeutic procedures. The cause of this problem should be sought in the lack of the necessary skills in educational clinics during schooling, especially in the major wards (pediatric, internal medicine, gynecology, and surgery).^[1]

Evaluation studies of the current state of clinical education according to the Educational Transformation Plan in Iran show that despite physicians' interest in outpatient treatment and the importance of community-based education, clinical education centers have failed to provide adequate conditions for outpatient education.

Shiraz University of Medical Sciences (SUMS) as one of the most important universities of medical sciences in the country, with a large number of specialized and subspecialty clinics and training centers, covers a large number of patients. Hence, it is necessary for medical education authorities and planners of this university to be aware of the quality of their major clinic education and to recognize their strengths and weaknesses. Therefore, the present study aimed to evaluate the strengths

and weaknesses of the implementation of outpatient clinical education standards for major wards from the perspective of interns of Shiraz Medical School.

Methods

This study is a combined, cross-sectional, and practical research. The study was conducted in two parts: Qualitative and Quantitative in the School of Medicine, SUMS in the academic year 2018–2019. The study population consisted of interns of SUMS who had completed their outpatient education in major groups.

Simple random sampling was used in the quantitative study. One hundred and seventy-eight medical graduates and interns who had undergone outpatient education in the four major groups were selected for the study; included 44 individuals from pediatric group, 43 internal medicine, 43 surgeries, and 48 from gynecology group. Inclusion criteria were passing outpatient education in the major groups and satisfaction for participating in the study. The data collection method was a researcher-made questionnaire whose information and questions were taken from the primary format of the Ministry Manual for Clinical Education (Outpatient Education) Criteria and Indicators. The questionnaire consisted of 26 items in three areas of preparation, scheduling, and implementation. Preparation area aimed to provide readiness for outpatient training and consisted of 8 items including instructor readiness for outpatient training, instructors' supervision on interns while visiting patients, number of interns, general clinics for outpatient visits, classroom adjacent to clinic, sufficient number of tables and chairs at the clinic, and the equipped examination room at the outpatient clinic with Closed camera TV (CCTV) equipment to record student performance.

The purpose of the scheduling area was to determine the appropriate time that interns spend on outpatient clinic and has 3 items including the presence of interns in pediatrics and internal medicine outpatient clinics 2 days a week, and gynecological and surgical outpatient clinics 1 day a week in and also their presence until the end of the outpatient clinic. The area of implementation with the aim of how training is performed in the outpatient clinic had 15 items including patients' composition (common/uncommon), number of patients (new/follow-up), determine learning goals, study guide, type of outpatient education, duration of teacher – student interaction per patient (new/follow-up), educational clinic attendance, availability of reference books, use of instructional prescriptions, use of work files by the intern, availability of logbooks and portfolio in major groups, and intern evaluation through an examination of his performance in the outpatient clinic. The 5-point Likert scale questionnaire was used; as always, most of the time,

sometimes, rarely, and never. The content validity of the questionnaire was confirmed by teachers and experts of Medical Education Development and Research Center. The reliability (Cronbach's alpha) of the questionnaire was 0.88.

Data collection was done referring to major wards of educational hospitals affiliated to SUMS, outpatient clinics of major wards, Imam Reza Comprehensive Health Center, Ali Asghar Hospital Poisoning Unit and SUMS office of Vice-Chancellor for Health. In this wards, Shiraz physicians who had recently graduated and had applied for the project (interns) were asked to complete the questionnaires. Quantitative data analysis was performed in descriptive and analytical sections using SPSS 22 software, using *t*-test, one-sample *t*-test, one-way ANOVA, and Tukey *post hoc* tests.

In the second part of the study which was the qualitative study method, the interns who had been trained in four major outpatient groups were selected for interview to explain their experiences. Data gathering using qualitative methods can provide more accurate information. What's more, valuable information on practical and suitable solutions will also be gained as a result of better communication with program participants and the possibility of being more active presence at the course.^[12]

In this study, semi-structured in-depth interview was used to collect data. Sixteen trainees who had completed outpatient education in four major groups of pediatrics, internal medicine, surgery, and gynecology were selected through purposeful sampling with maximum diversity. Interviews were conducted by the researcher in a person-to-person manner. Semi-structured interviews were conducted with three questions including the following answers.

1. Are they familiar with the standards of outpatient education?
2. What are the strengths of outpatient training in the four major groups?
3. What are the weaknesses of outpatient education in the four major groups?

The participants' responses were followed up with subsequent questions to gain a deeper understanding of the main themes and experiences experienced by the participants. The interviews lasted from 20 to about 40 min.

Due to the time constraints students had, important and key issues were noted and they mentioned the most important problems in the outpatient clinic and the major departments. The results were entered the MAXQDA10 software after the interview. The study data were

saturated with 16 interviews. Thus, in the last three interviews, no new codes were found, and the researcher found that there was no new information that would lead to the creation of a new theme.

Prolonged engagement with data was done to evaluate the credibility. In this study, participants were asked in various ways to confirm the dependability of research questions to reduce or eliminate the probability of participants presenting false information. The researcher attempted to do the interviews carefully and without bias so that another researcher in the same or similar situation would repeat the process would achieve the same responses. Furthermore, to ensure the reliability of the data analysis, the researcher performed a member check. If participants were removed or added something, this was included in the final text of the data. For the confirmability of data analysis, expert checking was conducted by three teachers in qualitative research.^[13]

Ethical considerations

The research plan was first approved by SUMS Research Committee, No. 15027, with code of ethics IR.SUMS.REC.1397.69. Furthermore, in order to observe ethical considerations in this study, the participant was informed about the purpose of the plan and interview before conducting the interview and the interviews were done and recorded after verbal consent. Ethical considerations including confidentiality of names, not using data for or against participants, failure to interfere with and misusing participants' conversations were informed to the participant.

Results

The findings of this study are presented in two separate sections: Qualitative and Quantitative.

Quantitative study results

Based on the results, a total of 178 graduates and general practitioner interns of Shiraz Medical School participated in this study. Sixty-four were male (37.4%), 107 females (62.6%), and seven individuals did not specify their genders. The age range of the participating students was between 22 and 30 years with a mean of (26.37 ± 1.37). From all the participants, 44 (24.7%) were from pediatric group, 43 (24.2%) from surgical group, 48 (27%) from gynecological group, and 44 (24.7%) from internal medical group. In order to evaluate the assessment levels of learners regarding the evaluation of outpatient clinic education, based on the standard developed by Bazargan *et al.*, (2007) the above-mentioned variable was described from Shateri's viewpoint (2009) (42 and 43). According to the standard, results obtained from a mean of 1.33 to 2.33 indicate poor

evaluation status or students who scored lower than other respondents on outpatient clinic education and the results range from 2.34 to 3.66 were a medium level, and 3.67–5 were considered as a good assessment, or students who scored higher on outpatient clinic education than other respondents.

The results of frequency distribution of interns' evaluation of outpatient clinic education are shown in Table 1. The results of descriptive statistics of clinical education status variable in outpatient clinics based on major departments are shown in Table 2.

The results of quantitative data analysis using univariate *t*-test showed that interns have relatively favorable look for outpatient clinic education in major departments of medical school [Table 3].

In addition, one-sample *t*-test was performed to evaluate training in outpatient clinics of Shiraz Medical School in preparation, scheduling, and implementation. The results are shown in Table 4.

The results showed that considering the significant level ($P = 0.029$), it can be said that from the viewpoint of practitioners, the average of outpatient dimension of clinic training in the major departments was significantly different from the total average; and physical space, educational facilities, etc., for Interns' training are in line with the ministry's clinical training

Table 1: Frequency Distribution of Interns' Evaluation of Outpatient Clinic Training

Level of evaluation	Frequency	Percent
Weak evaluation	15	8.4
Medium evaluation	118	66.3
Good evaluation	45	25.3
total	178	100

Table 2: Descriptive statistics of clinical education status in outpatient clinics based on major departments

Educational group	No.	Preparation	Scheduling	Implementation
		mean±SD	mean±SD	mean±SD
Pediatrics	44	3.29±0.742	3.93±0.676	3.35±0.695
Surgery	43	2.96±0.684	3.64±0.771	3.14±0.620
Gynecology	48	2.90±0.866	3.79±0.809	3.18±0.805
Internal medicine	43	3.36±0.647	3.91±0.826	3.35±0.697
Total	178	3.12±0.764	3.28±0.775	3.25±0.711

Table 3: Univariate *t*-test results to compare the mean of outpatient clinic education of the major departments with the average value

Variable	Mean	Standard deviation	T	Degree of freedom	Significance level
Clinical education	3.28	0.675	5.57	177	0.000

standards. This indicates the relatively favorable condition of the preparation training area from the viewpoint of interns.

In addition, considering the significant level of $P = 0.000$, from the perspective of interns, outpatient clinic scheduling of major departments was desirable for training students and in line with the clinical education standards of the ministry, which indicates the desirable status of scheduling area for students. Considering the significant level of $P = 0.000$, the outpatient clinic of the major departments is relatively desirable to train students according to the clinical education standards of the ministry from the students' point of view.

T-test was used to evaluate interns' clinical education status in outpatient clinics of major departments of Shiraz Medical School based on the gender [Table 5].

The results showed that gender had a significant effect on the status of clinical education in major departments of Shiraz Medical School ($P = 0.006$). As a result, it can be stated that female interns have a better assessment of the clinical education status of major departments of medical school than male learners.

One-way ANOVA was used to evaluate the significant difference between the mean values of interns' evaluation of education status in outpatient clinics of major departments of Shiraz Medical School [Table 6].

Table 4: Univariate t-test results for comparing mean dimension of preparation, scheduling, and implementation on the scale of outpatient clinic education average value

Variable	Average	Standard deviation	T	Degree of freedom	Level of significance
Preparation	3.13	0.764	2.205	177	0.029
Scheduling	3.82	0.775	14.11	177	0.000
Implementation	3.26	0.711	4.82	177	0.000

Table 5: Comparison of mean clinical education status in outpatient clinics of major departments based on gender

Clinical education	Group	Mean	t	Significance level
Gender	male	3.11	2.812	0.006
	female	3.38		

Table 6: One-way analysis of variance to evaluate the status of clinical education in outpatient clinics based on major sections

Source of change	Sum of squares	Degree of freedom	Mean square	F	significant
Intergroup	2.99	3	0.998	2.231	0.086
Intragroup	77.84	174	0.447		
total	80.83	177			

Considering the value of 2.231 and the significance level of 0.086, it is noteworthy that there is no significant difference in the mean score of interns of the major departments in clinical education status in outpatient clinics.

One-way ANOVA was used to evaluate the significant differences between the mean values of interns' evaluation of education status in outpatient clinics of major departments of Shiraz Medical School in three dimensions of preparation, scheduling, and implementation [Table 7].

The tables show that the major groups are not significantly different in terms of scheduling and implementation, but in the dimension of preparation (the means and facilities of the major groups) are significantly different. Therefore, the Tukey *post hoc* test was used to investigate the difference between the groups. This test showed that although gynecology (3.14 ± 0.602) and surgery (3.14 ± 0.602) groups had a poorer assessment of preparation than internal and pediatric groups, the only groups that had significant differences were gynecology and internal medicine (0.005 ; $F = 4.380$).

Qualitative study results

The number of participants in qualitative interviews was 5 in gynecology department, 3 in internal medicine, 4 in pediatric, and 4 in surgery. Semi-structured interviews with interns who had undergone major clinical course training revealed that most of these learners did not know the standards of outpatient education.

The results of the qualitative study showed that the learners in all four groups complained more about the conditions of the clinics (area, location, lighting, and ventilation), and especially the interference of the education of the students of public university with Shahid Doran international campus (International Division, SUMS). With the integration of out-of-school education of Shiraz Medical School students with the students of self-government unit, a large number of students were in some groups; so it affected the quality and quantity of education and there is not enough opportunity for the practical work of all learners.

They also believed that in internal medicine and pediatric groups the duration of clinical training was short provided that the training was about the common and general cases. At both the internal and pediatric clinics, learners were satisfied with the number of hours the teachers were present, empowering them to take history, to do physical examination, and to some extent, the prescription, the more tendency of teachers to the community-based education, and the appropriate interaction with the teachers. In cases that the teachers

Table 7: One-way analysis of variance to assess the status of clinical education in the areas of preparation, scheduling, and implementation in major departments

	Source of change	Sum of squares	Degree of freedom	Mean square	F	significant
Preparation	Intergroup	7.27	3	2.424	4.38	0.005
	Intragroup	96.29	174	0.553		
	total	103.56	177	---		
Scheduling	Intergroup	2.31	3	0.772	1.289	0.280
	Intragroup	104.15	174	0.599		
	total	106.46	177	---		
Implementation	Intergroup	1.73	3	0.577	1.141	0.334
	Intragroup	87.92	174	0.505		
	total	89.65	177	---		

were specialists, the learners were more satisfied than those who were subspecialist, because the education was devoted to the common cases. Furthermore, in terms of number of patients in these two educational clinics, they were satisfied with the reception of appropriate number of patients. In cases that patients are recurrent and follow-up, instructors are also trained appropriately. Lack of neonatal clinic education was one of the defects of pediatric outpatient clinics. Another important point in these interviews was the students' dissatisfaction with subspecialty and subspecialist education, especially in pediatric group. According to the interviews, the education of the common cases and what they will face in their professional future is very poor and most of the training is specialized. They believed that training should be more in line with the training needs of a general practitioner to address common community problems.

The number of referred patients and the variety of diseases are important aspects of this type of education. The large volume of patients referred to the educational clinic (gynecology and surgery) limits the availability of necessary training and explanations by teachers, and the possibility of examining patients in a principled and scientific way and obtaining a complete history. There is also a lack of access to outpatient treatment follow-up for gynecology and surgery clinics are considered as training deficits. In addition, the majority of patients in the surgical education clinic are post-operation follow-up, and the lack of patient diversity is a barrier to proper education for students.

The ability to teach biography-writing, physical examination, independent visitation, and prescription depends on the relevant teacher which is not available in gynecology and surgery clinics, and students usually play the role of spectator. In the surgical training clinic, the teachers do not have the motivation for outpatient and community-based education.

In the gynecology training clinic, interns are more likely to be involved in history due to the large number

of patients; so, they have no opportunity to know the diagnosis and final treatment of the disease. The lack of adequate physical space is more common in gynecology training clinics. Another important issue regarding the clinical education of the gynecology department is the lack of permission to examine the patients by male learners. According to the students, the duration of the clinic training of the gynecology group is short, provided that these trainings are standardized.

In general, the sense of usefulness from clinical education depends on some factors, such as the limited number of patients, the ability to independently obtain history and physical examination, informing of diagnosis and treatment, and the final decision for patients, and so on. Another important issue is supervision and feedback, which includes criticism and correction of biography, clinical examination, etc., which will not lead to empower the learner if it is not done properly. Structured and coherent discussion is needed in clinical education, as the clinic's educational setting is the best opportunity for learners for biography-writing, physical examination, and prescribing skills.

The strengths of the outpatient education of the major departments from the interns' point of view can be the large number and variety of patients, the familiarity and proper management of common diseases by the teachers, the motivation of students for responsive and community-based education, the student experience of physical examination, patient history, and partly prescription and the interest of the teachers in some groups. The weaknesses of outpatient education included inadequate educational space in the clinic, the large number of follow-up patients and the small number of new patients, especially in the surgical group, lack of authority of the interns to take history, and physical examination in some groups, lack of proper prescription training, not active presence of all the teachers in some groups, specialized education in all four educational groups in the clinic, lack of community-based education

perspective by most teachers and lack of knowledge about final diagnosis of patients due to overcrowding. In addition, the results of qualitative data analysis in the form of codes, subcategories and main categories are presented in Tables 8-11.

Table 8: Categories, subcategories and codes extracted in outpatient clinics of surgery group from the perspective of interns

Category	Sub-category	Code
Factors related to planning	Obstacles related to planning	Small No. of new patients
		Untidy outpatient clinic education
		Not having limitation for patient reception

Discussion

The present study aimed to determine the rate of accessibility to the outpatient education standards in accordance with MOHME standards in the major departments of medical school from the viewpoint of interns in 2018–2019.

The results of the present study in the quantitative section show that, in general, outpatient clinics of the major departments of Shiraz Medical School are in a relatively desirable level, and these clinics meet the minimum standards of ministry clinical training in all three dimensions of preparation, scheduling, and

Table 9: Categories, sub-categories and codes extracted from outpatient clinics of gynecology from the perspective of interns

Category	Sub-category	Code
Factors related to planning	Facilitators related to planning	A small No. of patients' reception in Shahid Faghihi Hospital
	Obstacles related to planning	Substituting the cardiology clinic instead of outpatient clinic The weakness of outpatient clinic The integration of public university students with Shahid Doran international campus Not having limitation for patient reception in education clinic The large No. of patients (more than 50 individuals) The weakness of outpatient education
Factors related to the patients	Obstacles related to the patients	Not allowing male students to examine the patients Not complete cure of some patients caused by the numerous patients
Factors related to the teachers	Obstacles related to the teachers	Presenting specialty issues in educational clinics Lack of sufficient clinical education in Hafez Hospital Lack of sufficient education about prescription Lack of the presence of some of the gynecology group teachers in outpatient educational clinic Not informing the student of the final decision of patients' treatment Dependency of the education to the teachers in some of the cases Lack of sufficient education about common gynecology diseases lack of necessary interaction between the teachers and student Running the class and conferences by the senior assistant or fellows in some occasions
		Facilitators related to teachers
Factors related to the students	Facilitators related to the students	Motivated students to the outpatient education Adding 2 weeks of conditional outpatient education to the appropriate education related to this course
	Obstacles related to the teachers	Involving students to the non-educational issues of patients Not allowing the male students to be present in Zeinabieh Hospital The large No. of standby female students in Zeinabieh Hospital Lack of necessary skills in doing physical examination Not allowing the male students to do examination in gynecology ward and normal vaginal delivery Lack of necessary skills in the management of common diseases lack of enough time for study The large number of students in education clinic
Environmental factors	Obstacles related to the environmental factors	Lack of necessary and new facilities Not having air-conditioner in education clinic especially in Zeinabieh Hospital Lack of appropriate physical space for outpatient clinic Lack of enough seats in outpatient clinic

Table 10: Categories, Sub-categories, and Extracted Codes in Pediatric Outpatient Clinics from the Intern's Perspective

Category	Sub-category	Code
Factors related to planning	Obstacles related to planning	Lack of the time for outpatient clinic Integration of Shahid Doran international campus with the public university and being a large No. of students
	Facilitators related to planning	Most of the patients were new in outpatient clinic Diversity of patients in the outpatient education clinic Using the specialist teachers for outpatient clinic Reception of sufficient patients' number in education clinic
Factors related to the teachers	Obstacles related to the teachers	Dependency of the education to the teachers in rare cases Education the non-common diseases by the specialty teachers
	Facilitators related to teachers	Teaching the common diseases Appropriate education on physical examination and taking the history from the patients Empowering the students to do physical examination and taking the history from the patients The on time and appropriate presence of teachers in clinics The better education by the specialist teachers Experiencing the proper prescription to some extent teachers who were interested in outpatient education Sufficient presence of teachers in outpatient clinic Appropriate interaction between teachers and students
Factors related to the students	Facilitators related to the students	Interested students to the outpatient education Adding 2 weeks of conditional outpatient education to the appropriate education related to this course
	Obstacles related to the teachers	A large No. of students in the educational clinic
Environmental factors	Obstacles related to the environmental factors	Lack of appropriate physical space for outpatient clinic in Shahid Faghihi Hospital Lack of enough seats in outpatient clinic of Shahid Faghihi Hospital

implementation. The findings also indicate that the outpatient clinics of Shiraz Medical School have a good level at the dimension of preparation. What's more, these clinics are in compliance with the ministry's clinical education standards in training and supervision by teachers, physical space, educational facilities, and equipment to train students. The findings of the present study also showed that outpatient clinics scheduling in the major wards of Shiraz Medical School is at a good level, and the outpatient clinics of the Shiraz Medical School's major wards are in line with the ministry's clinical training standards for in scheduling which means the students' effective time attendance in different departments and clinics and at the time of visiting the patients. Besides, the outpatient clinics of SUMS have a good level of number, diversity, and composition of patients, and SUMS major departments are in compliance with the ministry's clinical education standards at the field of implementation.

The results of this study showed that gender has made a significant difference in students' evaluation of clinical performance status, and female learners had a better assessment of the clinical education status of major departments of medical school than males.

Findings of this study indicate that there is no significant difference between the mean values of interns' overall

evaluation of outpatient clinical education in major departments of SUMS; based on that, there is no significant difference between the learners of major departments' assessment of the clinical education status in outpatient clinics. The results of this study regarding the comparison of students' evaluation in the three areas of preparation, scheduling, and execution showed that in the dimension of preparation, gynecology, and internal medical groups respectively had the lowest and highest averages; in the dimension of scheduling, the surgery and pediatric groups had the lowest and highest averages, respectively. In addition, the surgery department had the lowest average and the internal and pediatric departments with the same average had the highest level in the implementation dimension.

Overall, the interns' evaluation in the areas of scheduling and execution in the major departments was not significantly different, but there was a poorer evaluation of the preparation of gynecology and surgery groups compared to the internal and pediatric groups. However, significant differences were observed only between the internal and gynecology groups, and the students in the gynecology department were more dissatisfied with the facilities and equipment (preparation area).

Table 11: Categories, subcategories and codes extracted from internal medicine of outpatient clinics from interns' perspective

Category	Sub-category	Code
Factors related to planning	Obstacles related to planning	Lack of time in outpatient clinic Integration of Shahid Doran international campus students with the public university and being a large No. of students Lack of clinical education in infants ward Some fields were reputative in internship
	Facilitators related to planning	Most of the patients were new in outpatient clinic Diversity of patients in outpatient education clinic Not having limitation for patient reception in education clinic The reception of appropriate number of patients in outpatient clinic
Factors related to the teachers	Obstacles related to the teachers	Dependency of education to the attendance of the teachers in rare situations Educating non-common diseases by the sub-specialty teachers
	Facilitators related to teachers	Complete explanation of the follow-up cases Appropriate education regarding physical examination and taking patients history Empowering the students in physical examination and taking patients history On time and appropriate presence of teachers in clinic More satisfaction of the learners with the specialists' education Educating prescription to some extent Interested teachers to the outpatient education Sufficient presence of teachers in outpatient clinic Appropriate interaction of teachers with the students
Factors related to the students	Obstacles related to the teachers	The large number of learners in outpatient clinic Limited outpatient education to one field The more need to teach common diseases in outpatient clinics Lack of enough time to educate all the students
Environmental factors	Obstacles related to the environmental factors	Lack of appropriate physical space for outpatient clinic

Although the results of this study showed that surgery and gynecology departments had a poorer evaluation than the pediatric and internal departments based on ministry standards in all areas of outpatient clinic education, especially in the field of preparation, the overall clinical performance status of the major medical departments from the viewpoint of interns was assessed at a desirable level. These departments were able to meet the minimum standards of the ministry of health in three areas of preparation, scheduling, and implementation.

The results of the second part of the qualitative study indicate that interns' evaluation of outpatient training of major groups was different, and the highest satisfaction of interns with outpatient education status was in internal medicine, pediatrics, gynecology, and surgery, respectively. This assessment was about the number of patients, diversity of patients, prevalence of training cases, teachers' motivation for outpatient and community-based teaching, proportion of patients and training time, effective presence of teachers, appropriateness of teachers' training to future career and professional needs of students, necessary interaction between the teacher and the student, empowering the student to take history and physical examination, and to some extent prescription and so on. In all four groups,

there was a lack of physical space, a large number of patients, a large number of learners due to the integration of PA students and the need to train common cases.

Among interns' suggestions for improvement and promotion of outpatient education in major groups, we can state the admission of limited number of patients in educational clinics, presentation of common cases and diseases in addition to specialized and specialty cases, increase of teachers' motivation to improve outpatient education, and proper planning for dividing students into outpatient centers due to their large number.

The World Federation of Medical Education has emphasized the importance of the impact of the educational environment on learning and has identified the evaluation of the educational environment as one of the requirements for the development of the medical education program.^[14]

Ghorbani *et al.*'s research findings showed that the first step in clinic education is identifying the educational session and student attention to the subject; the second step in identifying the Student's attitude to the patient according to the Student's educational level (intern), and the third step is teacher's feedback to the student.^[15]

In the study of Sharifi *et al.* on the quantity and quality of clinical education from the perspective of clinical students of Yasuj University of Medical Sciences, 68% of interns were dissatisfied with clinical education, which is inconsistent with this research.^[16]

In addition, Peccoraro *et al.* (2013) showed that medical students and internal residents were more satisfied with their ability and speed of diagnosis when they were in the outpatient clinic than the time they were in ward (it increases between 50% and 75%). However, the important point in this study was that a small percentage of them followed outpatients; so, they were unaware of their final situation which is inconsistent with our study.^[17]

According to the results of this study, it is suggested that important issues such as clinic education as an important educational principle, encouraging teachers to attend more efficiently and spend adequate time and effective training in outpatient clinics, solving the problems and barriers related to teachers, active attendance of interns in educational clinics, empowering interns in taking history, and physical examination removing deficiencies in educational clinics, devoting more time to outpatient education, planning for absorbing and referring patients to morning educational clinics, observing the balance between duration of training clinic and number of patients, variety of patients, appropriate planning for proper division of public university students and self-Shahid Doran international campus students in outpatient clinics, separating training centers for each educational level, increasing the number of outpatients training centers, and balancing the number of daily visits should be given special attention in clinical training programs in the field of clinical education.

Some of the problems of this study were lack of the willingness and motivation of interns to cooperate in filling out questionnaires and conducting interviews, not being familiar with the standards of outpatient education, number of patients, workload, fatigue, lack of hope for positive change, and lack of time caused by participating in the rounds, classes and educational conferences; it was attempted to engage interns to take part in the project by talking to them and making sure that the results of the plan were implemented in resolving outpatient problems.

Conclusion

Although the performance status of the outpatient education of the major departments of the medical school from the interns' point of view in the three areas of preparation, scheduling and execution were relatively evaluated well, they are far from ideal. Access

to this is not possible unless paying attention to the implementation of educational policies based on student learning experiences and goals, developing continuous assessments during the training, and providing effective and timely feedback to students, conducting practical exercises, especially in simulated environments. Besides, considering the quantitative and qualitative dimensions of clinical teaching places status regarding the future working conditions of graduates, enhancing the motivation of medical students, and clarifying the duties of health and medical personnel toward students in the fields of clinical education are the other important points. These strategies will serve as the most effective strategies for improving the quality of medical education and enhance the competence of a general practitioner.

This study emphasized the necessity of paying more attention to the quality of medical education and also attracting the attention of medical education planners in Iranian universities to continuous and accurate assessment of students' clinical skills in clinical fields; using the help of valid tools, providing appropriate and proper feedback to students during training, reviewing the clinical teaching methods, especially emphasis on quantity and quality of clinical education fields regarding the future working conditions of medical university graduates, announcing the minimum of learning requirements at the beginning of each course to students and continuous supervision on the presentation of training, in line with the curriculum and the plans of teachers are necessity factors to achieve the highest standards of clinical education.

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Conflicts of interest

There are no conflicts of interest.

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