



Narjes Sargolzaie<sup>1</sup>, Saedeeh Sarhadi<sup>2,3\*</sup>, Nezarali Moulaci<sup>4</sup>, Javad Nikbakht<sup>5</sup>  
<sup>1</sup>Infectious Diseases and Tropical Medicine Research Center, Resistant Tuberculosis Institute, Zahedan University of Medical Sciences, Zahedan, Iran  
<sup>2</sup>Health Promotion Research Center, Zahedan University of Medical Sciences, Zahedan, Iran  
<sup>3</sup>Department of Community Medicine, School of Medicine, Zahedan University of Medical Sciences, Zahedan, Iran  
<sup>4</sup>Department of Internal Medicine, School of Medicine, Zahedan University of Medical Sciences, Zahedan, Iran  
<sup>5</sup>Urology and Nephrology Research Center, Department of Urology, Shahid Labbafinejad Medical Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran  
<sup>\*</sup>School of Medicine, Zahedan University of Medical Sciences, Khalij Fars Blvd. Zahedan, 9816743463 Iran

Tel: +985433295715  
 Fax: +985433295728  
 Email: dr.sarhadi93@gmail.com

### Investigating the quality of clinical teaching in major wards of educational hospitals from the perspectives of faculty members and students

**Background:** Considering the important role of clinical teaching in creation and development of students' clinical skills, challenges in clinical teaching, and lack of information due to the paucity of studies in this field, the present study aimed to investigate the clinical teaching status in major wards of the educational hospitals affiliated to Zahedan University of Medical Sciences from the perspectives of faculty members and medical students in 2019.

**Method:** This cross-sectional (descriptive-analytical) study was conducted on the faculty members and students in major wards. The quality of clinical teaching was evaluated using Maastricht Clinical Teaching Questionnaire.

**Results:** This study was conducted on 31 instructors and 142 students. The results revealed no significant difference among different wards regarding the score of clinical teaching quality from the perspective of instructors (internal ward:  $97.3 \pm 10.4$ , surgical ward:  $94.8 \pm 13.7$ , gynecology and obstetrics ward:  $99.4 \pm 6.6$ , and pediatric ward:  $93.2 \pm 6.3$ ). In fact, the instructors believed that the quality of clinical teaching was excellent in all major wards. However, the results showed a significant difference among different wards with respect to the mean score of clinical teaching quality from the students' perspective. Accordingly, the highest score was related to the pediatric ward ( $92.8 \pm 23.3$ ) followed by the gynecology and obstetrics ward ( $81.1 \pm 27.9$ ), internal ward ( $75.5 \pm 31.3$ ), and surgical ward ( $66.6 \pm 19.6$ ).

**Conclusion:** Based on the results, identification of students' expectations from educational programs and provision of instructors with feedbacks regarding students' educational needs can improve the quality of clinical teaching.

**Keywords:** Education, Medical, Teaching Rounds, Clinical teaching, Evaluation, Medical students, Accountable medical education

### بررسی کیفیت آموزش بالینی در بخش های ماژور بیمارستان های آموزشی کلینیکی میزبان اورطیاء کے نقطہ نظر سے تعلیمی ہسپتالوں کے بڑے وارڈز میں

**زمینہ و ہدف:** با توجہ بہ نقش اساسی آموزش بالینی در ایجاد و توسعه مهارت های بالینی دانشجویان از یک سو و مشکلات آموزش بالینی و کمبود اطلاعات به دلیل تحقیقات اندک از سوی دیگر، تصمیم گرفتیم تا به بررسی وضعیت آموزش بالینی در بخش های ماژور بیمارستان های آموزشی دانشگاه علوم پزشکی زاهدان از دیدگاه اعضای هیأت علمی و دانشجویان پزشکی در سال ۱۳۹۸ بپردازیم.

**روش:** مطالعه بصورت مقطعی (توصیفی-تحلیلی) بر روی اعضای هیأت علمی بخش های ماژور و دانشجویان حاضر در این بخشها صورت گرفت. ابزار مورد استفاده پرسشنامه استاندارد ماستریخت بود که به ارزیابی کیفیت آموزش بالینی می پردازد.

**یافته ها:** در این مطالعه ۳۱ استاد و ۱۴۲ دانشجویان در این بخشها شرکت کردند. نتایج نشان داد که تفاوت معنی داری نداشت (بخش داخلی:  $97.3 \pm 10.4$ ، بخش جراحی:  $94.8 \pm 13.7$ ، بخش زنان:  $99.4 \pm 6.6$  و بخش اطفال:  $93.2 \pm 6.3$ ). در واقع کیفیت آموزش بالینی از دیدگاه اساتید در همه بخشهای ماژور در محدوده عالی قرار داشت. میانگین نمره کیفیت آموزش بالینی از دیدگاه دانشجویان در بخش های مختلف ماژور تفاوت معناداری داشت به این ترتیب که بالاترین نمره مربوط به بخش اطفال ( $92.8 \pm 23.3$ ) بوده است و به دنبال آن به ترتیب مربوط به بخش زنان ( $81.1 \pm 27.9$ )، داخلی ( $75.5 \pm 31.3$ ) و جراحی ( $66.6 \pm 19.6$ ) بوده است.

**نتیجه گیری:** بر اساس نتایج این مطالعه شناسایی انتظارات و توقعات دانشجویان از برنامه های آموزشی و بازخورد نیازهای آموزشی آنها به اساتید مربوطه می تواند راهگشای ارتقا کیفیت آموزش بالینی باشد.

**واژه های کلیدی:** آموزش، پزشکی، دوره های آموزشی، آموزش بالینی، ارزشیابی، دانشجویان پزشکی، آموزش پزشکی پاسخگو

### التحقق من جودة التدريس السريري في الأقسام الرئيسية بالمستشفيات التعليمية من وجهة نظر أعضاء هيئة التدريس والطلاب

**الخلفية:** بالنظر إلى الدور المهم للتدريس السريري في خلق وتطوير المهارات السريرية لدى الطلاب، والتحديات التي تواجه التدريس السريري، ونقص المعلومات بسبب ندرة الدراسات في هذا المجال، هدفت الدراسة الحالية إلى التعرف على وضع التدريس السريري في التخصصات الرئيسية. أُنجحت المستشفيات التعليمية التابعة لجامعة زاهدان للعلوم الطبية من وجهة نظر أعضاء هيئة التدريس وطلبة الطب لعام ۲۰۱۹.

**الطريقة:** أجريت هذه الدراسة المقطعية (الوصفية التحليلية) على أعضاء هيئة التدريس والطلاب في الأقسام الرئيسية. تم تقييم جودة التدريس السريري باستخدام استبيان ماستريخت للتعليم السريري.

**النتائج:** أجريت هذه الدراسة على ۳۱ مدرساً و ۱۴۲ طالباً. كشفت النتائج عن عدم وجود اختلاف كبير بين الأجنحة المختلفة فيما يتعلق بدرجة جودة التدريس السريري من وجهة نظر المعلمين (الجناح الداخلي:  $97.3 \pm 10.4$ ، جناح الجراحة:  $94.8 \pm 13.7$ ، جناح أمراض النساء والتوليد:  $99.4 \pm 6.6$ ، وجناح الأطفال:  $93.2 \pm 6.3$ ). في الواقع، يعتقد المعلمون أن جودة التدريس السريري كانت ممتازة في جميع الأقسام الرئيسية. ومع ذلك، أظهرت النتائج اختلافاً كبيراً بين الأقسام المختلفة فيما يتعلق بمتوسط درجة جودة التدريس السريري من وجهة نظر الطلاب. وبناء على ذلك، كانت أعلى الدرجات مرتبطة بجناح الأطفال ( $92.8 \pm 23.3$ )، يليه جناح أمراض النساء والتوليد ( $81.1 \pm 27.9$ )، والجناح الداخلي ( $75.5 \pm 31.3$ )، وجناح الجراحة ( $66.6 \pm 19.6$ ).

**الاستنتاج:** بناء على النتائج، فإن تحديد توقعات الطلاب من البرامج التعليمية وتزويد المعلمين بالتغذية الراجعة فيما يتعلق باحتياجات الطلاب التعليمية يمكن أن يحسن جودة التدريس السريري.

**الكلمات المفتاحية:** التعليم، الطب، جولات التدريس، التدريس السريري، التقييم، طلاب الطب، التعليم الطبي المسؤول

### فیکلٹی میزبان اور طیاء کے نقطہ نظر سے تعلیمی ہسپتالوں کے بڑے وارڈز میں کلینیکیل تدریس کے معیار کی پھان بین کرنا

**پس منظر:** طیاء کی طبی مہارتوں کی تخلیق اور نشوونما میں کلینیکیل تدریس کے اہم کردار، طبی تدریس میں درپیش چیلنجز، اور اس شعبے میں مطالعے کی کمی کی وجہ سے معلومات کی کمی کو مدنظر رکھتے ہوئے، موجودہ مطالعہ کا مقصد کلینیکیل تدریس کی حیثیت کی تحقیقات کرنا ہے۔ ۲۰۱۹ میں فیکلٹی میزبان اور میڈیکل کے طلباء کے نقطہ نظر سے زاهدان یونیورسٹی آف میڈیکل سائنسز سے منسلک تعلیمی ہسپتالوں کے وارڈز۔

**طریقہ:** یہ کراس سیکشنل (تفصیلی تجزیاتی) مطالعہ بڑے وارڈز میں فیکلٹی میزبان اور طلباء پر کیا گیا تھا۔ Maastricht Clinical Teaching Questionnaire کا استعمال کرتے ہوئے کلینیکیل تدریس کے معیار کا جائزہ لیا گیا۔

**نتائج:** یہ مطالعہ ۳۱ اساتذہ اور ۱۴۲ طلباء پر کیا گیا۔ نتائج نے انسٹرکٹرز کے نقطہ نظر سے کلینیکیل تدریس معیار کے اسکور کے حوالے سے مختلف وارڈز میں کوئی خاص فرق ظاہر نہیں کیا (اندرونی وارڈ:  $97.3 \pm 10.4$ ، سرجیکل وارڈ:  $94.8 \pm 13.7$ ، گائنی اور پرسوتی وارڈ:  $99.4 \pm 6.6$ ، اور پیڈیاٹرک وارڈ:  $93.2 \pm 6.3$ )۔ درحقیقت، انسٹرکٹرز کا خیال تھا کہ تمام بڑے وارڈز میں طبی تدریس کا معیار بہترین ہے۔ تاہم، نتائج نے طلباء کے نقطہ نظر سے کلینیکیل تدریس معیار کے اوسط اسکور کے حوالے سے مختلف وارڈز میں نمایاں فرق ظاہر کیا۔ اس کے مطابق، سب سے زیادہ اسکور پیڈیاٹرک وارڈ ( $92.8 \pm 23.3$ ) سے متعلق تھا اس کے بعد گائناکالوجی اور پرسوتی وارڈ ( $81.1 \pm 27.9$ )، اندرونی وارڈ ( $75.5 \pm 31.3$ ) اور سرجیکل وارڈ ( $66.6 \pm 19.6$ )۔

**نتیجہ:** نتائج کی بنیاد پر، تعلیمی پروگراموں سے طلباء کی توقعات کی نشاندہی اور طلباء کی تعلیمی ضروریات کے بارے میں فید بیک کے ساتھ اساتذہ کی فراہمی کلینیکیل تدریس کے معیار کو بہتر بنا سکتی ہے۔

**مطلوبہ الفاظ:** تعلیم، طبی، تدریس دور، طبی تعلیم، تشخیص، طبی طلباء، جوایہ طبی تعلیم

## INTRODUCTION

Clinical teaching is one of the bases of medical education, without which nurturing efficient physicians would not be possible (1). Clinical teaching can be considered as a facilitating activity of learning in a clinical setting in which clinical instructors and students contribute equally and aim to make measurable changes in students for clinical care (2). Emphasis on learner-centered education based on problem-solving is among the requirements of new educational policymaking (3). In addition, comprehensive medical education strategies focus on the development of clinical services training (4). Despite the importance of clinical teaching, no comprehensive programs have been considered for execution and evaluation of clinical points (5). Failure in clinical teaching can cause irreparable damage to patients' safety and their lives (6). The necessity to provide healthcare services alongside nurturing skillful human resources have persuaded the universities of medical sciences to review medical education continuously in order to eliminate the existing deficiencies and move towards promotion (7). In this context, the quality of clinical teaching can be assessed via a variety of criteria, and the results of assessment and comparison of these criteria can help remove the deficiencies (8). Different studies have introduced various areas, such as curricula, teaching-learning methods, examination, measurement, and results for evaluation of education (9). Nowadays, universities have to nurture students with sufficient knowledge, skills, and preparedness, so that they will be accountable towards the existing needs and expectations (10). Application of students' opinions in the quality of clinical education is one of the common methods, and various instruments have been designed for performing such assessments (11). These evaluations help instructors identify the deficiencies and make genuine attempts towards educational promotion (12). On the other hand, clinical instructors play a critical role in nurturing efficient physicians. Instructors' position as a supervisor, evaluator, and practical model indicates their central role in formation of students' skills (13,14). MCTQ (Maastricht Clinical Teaching Questionnaire) has not been used as a standard tool in Iran and in clinical teaching assessment studies. They used a questionnaire created by researchers (14-19), while this tool has been used in other countries.

Considering that in the process of teaching, the opinions of students and trainees is of particular importance and also identifying the problems and challenges is necessary to improve the quality of clinical teaching, also providing good clinical services and the lack of a similar study in medical student and professors using standard and universal tool in Iran, especially in this university, the present cross-sectional study had been designed to investigate the status of clinical teaching in major wards of educational hospitals of Zahedan University of Medical Sciences from the perspective of faculty members and medical students in 2019.

## METHODS

This cross-sectional study was conducted on total of during two consecutive periods. 142 interns and 31 instructors in

the major wards (internal, pediatric, gynecology and obstetrics, and surgical wards) of Ali-ibn-Abitaleb educational hospital affiliated to Zahedan University of Medical Sciences took part in this study in 2019. The research population included two consecutive groups of medical students entering the major wards and their instructors after obtaining informed consent. It should be noted that major wards are among the educational rotations of internship at the fourth, fifth, and sixth years of general medicine and are considered the bases of clinical teaching in three-month (internal, pediatric, and surgical) and two-month (gynecology and obstetrics) periods. Incomplete questionnaires were excluded from the study.

The study data were collected using a form, including the instructor's scientific rank, job tenure, age, sex and the student's GPA. In addition, Maastricht Clinical Teaching Questionnaire (MCTQ) was used to evaluate the quality of clinical teaching from the perspectives of instructors and students (15). The psychometric properties of this questionnaire have been evaluated in different countries and its reliability and validity have been confirmed (13-16). In the current research, in the first phase (direct translation), the English version was translated into Persian by two translators. The second step was consolidation, where both translated versions of the questionnaire were reviewed and drafts were obtained. Within the third arrange (back ward interpretation), the Persian form given within the past step was interpreted to English by two interpreters who were familiar in English and Persian, and an English adaptation was given. Within the last organize (comparison), the deciphered version was compared with the initial adaptation in terms of concept and a final questionnaire was gotten. It ought to be famous that the ultimate Persian form was assessed in terms of interpretation clarity, lack of specialized lexicon, similarity to Iranian culture, and consistency with concepts within the original form. The final questionnaire was completed by 10 faculty members in the major ward and 20 medical students. Since facial validity can be increased through the appropriate placement of words or phrases, the present researchers used 30 people to evaluate the questionnaire's facial validity and ask them to comment in terms of ease of completion as well as grammar, spelling, language, and sentences. Qualitative method was used to confirm the content validity in this study. In this approach, 10 experts in the field were asked to provide a detailed written explanation of their corrective comments after a detailed assessment. Then all comments were applied to the revised questionnaire. To determine the reliability of the MCTQ questionnaire, an internally consistent method was used. In this study, Cronbach's alpha was used to determine the internal consistency of the questionnaire. Cronbach's alpha coefficients of 0.88 and 0.9 were obtained in the instructors' and students' versions, respectively. Cronbach's alpha coefficient for articulation and reflection scales was 0.91, coaching domain ( $\alpha=0.89$ ), learning environment ( $\alpha=0.93$ ) and modeling ( $\alpha=0.86$ ). The results of other studies showed that the MCTQ is a reliable tool for use in clinical educational institutions in the Middle East. This extends the use of this questionnaire to a different cultural

context (16).

MCTQ contained 24 questions responded via a Likert scale ranging from completely disagree (1) to completely agree (5). Accordingly, scores 0-30, 31-60, 61-90, and 91-120 were considered weak, moderate, good, and excellent, respectively, and higher scores represented the higher quality of clinical teaching (14). A higher score indicated a better overall rating (16).

In this research descriptive statistics, such as frequency and mean, and inferential statistics, including chi-square test, one-way ANOVA, and Pearson and Spearman correlation tests.  $P < 0.05$  was considered statistically significant.

After the approval of the proposal, the participants were selected using convenience sampling in Ali Ibn Abitalib Teaching Hospital. Then, MCTQ was given to the faculty members and interns in the major wards (internal, pediatric, surgical, and gynecology and obstetrics) after providing them with explanations about the study objectives, reassuring them about the confidentiality of their information, and obtaining their oral consent. After collecting the questionnaires, incomplete ones were excluded and the data were analyzed using the SPSS v20 software.

## RESULTS

This study aimed to investigate the quality of clinical teaching in major wards. Among the 31 instructors, 19 (61.3%) were male and 12 (38.7%) were female. In addition, 27 instructors (87.1%) were assistant professors, 1 (3.3%) was associate professor, and 3 (9.6%) were full professors. Moreover, 13 (41.9%), 5 (16.1%), 7 (22.6%), and 6 (19.4%) instructors worked in internal, pediatric, gynecology and obstetrics, and surgical wards, respectively. Furthermore, the job tenure of

5 (16%), 6 (19.4%), 6 (19.4%), and 14 (45.2%) instructors was less than 4 years, 5-9 years, 10-14 years, and more than 14 years, respectively. Among the 142 students, 28 (19.7%) studied in the internal ward, 63 (44.4%) in the pediatric ward, 28 (19.7%) in the gynecology and obstetrics ward, and 27 (16.2%) in the surgical ward.

This study aimed to assess and compare the scores of clinical teaching quality from the perspectives of instructors and students. Based on the results, from the instructors' viewpoint, the highest and lowest scores of education quality were related to the gynecology and obstetrics ward and the pediatric ward, respectively. Considering the 95% confidence interval, the results of one-way ANOVA showed no significant difference among different wards regarding the score of clinical teaching quality from the instructors' perspective ( $p = 0.757$ ) (table 1).

Considering the instructors' self-evaluation of the relationship between some variables and the clinical quality score based on the t-test, the results indicated no significant relationship between the scientific rank and the clinical quality score ( $p = 0.752$ ). As mentioned earlier, the majority of the instructors had more than 14 years of work experience (45.2%). The results of Spearman correlation test revealed no significant association between job tenure and the score of clinical teaching quality ( $p = 0.374$ ).

From the students' perspective, the highest and lowest scores were related to the pediatric ward and the surgical ward, respectively. The results of one-way ANOVA revealed a significant difference among different wards regarding the score from the students' viewpoint ( $p < 0.001$ ). However, the results of Pearson correlation test revealed no significant relationship between the score of clinical teaching quality

**Table 1. The scores of clinical teaching quality from the perspectives of instructors and students in major wards**

	Ward	Number	Mean(SD)	Minimum	Maximum	P-value
Instructors	Surgical	6	94.8(13.7)	80	112	0.757
	Internal	13	97.3(10.4)	83	120	
	Pediatric	5	93.2(6.3)	82	97	
	Gynecology and obstetrics	7	99.4(6.6)	93	110	
Students	Surgical	28	66.6(19.6)	28	120	<0.001
	Internal	24	75.5(31.3)	24	120	
	Pediatric	48	92.8(23.3)	48	120	
	Gynecology and obstetrics	30	81.1(27.9)	30	120	

**Table 2. Comparison of the quality of clinical teaching in different major wards of the educational hospitals affiliated to Zahedan University of Medical Sciences from the instructors' and students' perspectives in 2019**

Ward	Mean ± SD (Students)	Mean ± SD (Instructors)	P-value
Surgical	66.6±19.6	94.8±13.7	<0.001
Internal	75.5±31.3	97.3±10.4	<0.001
Pediatric	92.8±23.3	93.2±6.3	0.36
Gynecology and obstetrics	81.1±27.9	99.4±6.6	<0.001

and the students' GPA ( $p=0.153$ ).

In this study, the scores obtained by the instructors and students in different wards were compared. As Table 2 depicts, the results of independent t-test showed a significant difference between the scores of clinical teaching quality in surgical, internal, and gynecology and obstetrics wards from the instructors' and students' perspectives ( $p<0.01$ ). However, no significant difference was observed between the scores of clinical teaching quality in the pediatric ward from the two groups' viewpoints ( $p=0.36$ ) (table 2).

## DISCUSSION

Investigation and evaluation of educational curricula in universities of medical sciences are among the priorities in this field. Considering the undeniable importance of clinical wards, particularly major wards that comprise more than 60% of learners' trainings, the present research aimed to assess the quality of clinical teaching in the major wards of the educational hospitals affiliated to Zahedan University of Medical Sciences. The MCTQ was considered as the criterion for estimation of the quality of clinical teaching. The results demonstrated that from the instructors' viewpoint, clinical teaching was excellent in all major wards (scores above 90). From the students' perspective, clinical teaching was excellent in the pediatric ward and good in the rest of the major wards (scores 66-81). In this regard, the lowest score was related to the surgical ward. In the research carried out by Nourian et al. also, the quality of clinical teaching was good from the instructors' viewpoint (20). In the same line, Farokhnejad and Pirdadian revealed the desirable quality of the teaching-learning process in the academic system from the instructors' perspective (21). However, several investigations have referred to the undesirable status of educational conditions from the students' point of view (22, 23). Nonetheless, the educational status was found to be appropriate in the major wards of Zahedan University of Medical Sciences. Yet, the moderate quality of education in the surgical ward from the students' perspective was in agreement with the findings of some previous studies. For instance, Behdad (24), Hosseinpour (7), and Khoshrang (25) attributed the educational problems in surgical wards to the lack of surgery faculty members in educational hospitals, high workload, day surgery, short hospital stay, absence of instructors in educational rounds, inappropriate time of theoretical classes, improper scientific content in morning visits, and dissatisfaction with operating room trainings. Overall, similar to the results of other studies (25, 26), those of the current research showed that the majority of students referred to the positive performances of the instructors in clinical environments, and only a few students were dissatisfied with non-summarization of the educational materials at the end of the course and impossibility of their cooperation.

In the present study, the students stated that the pediatric ward was the best in terms of education. Similar results were also found considering the instructors' perspective. Consistently, harifi et al. (22) disclosed that the education status in the pediatric ward resulted from regular planning and allocating sufficient time to the educational curricula. The successfulness of this ward was also attributed to the

instructors' scientific ability, quality of transferring materials to students, and presentation of up-to-date materials. Reasons for the high quality of training in the pediatric ward included the greater amount of time required for the educational rounds, the better quality of concept transfer and the emphasis on the teaching of clinical skills by the professors in the pediatric department.

In the current research, the score of education quality was relatively appropriate in the gynecology and obstetrics ward. However, a significant difference was observed between the students' and instructors' evaluations. From the instructors' perspective, the highest score was given to the quality of education in the gynecology and obstetrics ward. In contrast, Sharifi et al. reported the weakest education in the gynecology and obstetrics ward, which was even worse for male students. This was associated with the educational limitations for male students, which resulted in their weaker participation in this ward (22).

The findings of the present study also indicated a significant difference between the instructors' and interns' viewpoints in the internal ward. Similar to other wards, the instructors had a more positive attitude towards education in their ward. Although the students believed that the education status was good, the difference between the two groups' perspectives showed that various dimensions have to be reviewed in order to promote the quality of education. In the current study, the instructors' scientific rank and job tenure had no significant impacts on the quality of education.

Based on what was mentioned above, the medical education system is undergoing huge changes in Iran. The important point to note is that in the new education methods, instructors play the role of facilitators. Also the encouragement of learning, increasing motivation, and purposeful learning are considered the major components of clinical teaching (3). Nevertheless, economic problems and necessity of performing research activities based on promotion guidelines have been mentioned by instructors as the barriers against the quality of education (1). Thus, changing and improving the quality of clinical teaching requires reviewing various aspects of education, including promotion of the quantity and quality of educational rounds, daily visits, morning reports, journal clubs, learners' evaluations, and outpatient trainings (20). Acquiring clinical skills requires students to apply theoretical training to clinical situations and practice through observation, participation, clinical reasoning, and independent clinical activity (27).

In order to reduce the limitation of students' perception, all measurements were based on both medical students and teachers. In this study the researchers compared clinical teaching from two perspectives. Therefore, this case is the strength of this study. In addition, this study evaluated only the intern level students. It is better to conduct this evaluation in the 4th and 5th year medical students and compare the results in future studies.

## CONCLUSION

According to the findings of the present research, the instructors and students believed that the education status



was good and excellent in different wards. Nonetheless, the significant differences between the scores of education quality from the students' and instructors' perspectives in all wards except for the pediatric ward indicated the necessity for planning in order to reduce this distance. Given the important role of clinical education and the results of this research, it is important and necessary to know the important components that influence the quality of education and effective interventions to improve it.

#### Ethical Considerations

Ethical issues including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc. have been completely observed by the authors. This research approved

by Zahedan University of Medical Sciences, with the code IR.ZAUMS.REC.1396.338 from the University Ethics Committee.

#### ACKNOWLEDGEMENTS

The authors thank Dr Samaneh Sargazi (Ph.D. candidate, medical education, Isfahan, Iran) for her technical assistance.

**Financial Support:** The authors received no financial support for the research, authorship, and/or publication of this article.

**Conflict of interest:** The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

#### REFERENCES

- Gandomkar R, Salsali M, Mirzazadeh A. Factors Influencing Medical Education in Clinical Environment: Experiences of Clinical Faculty Members. *Iranian Journal of Medical Education*. 2011; 11 (3) :279-90.
- Mortazavi SM, Sharifira Gh, Khoshgofar Moghaddam AA. Factors Affecting the Quality of Clinical Education from the Perspective of Teachers and Learners of Saveh Hospitals in 2019: A Descriptive Study. *J Rafsanjan Univ Med Sci* 2020; 19 (9): 909-24.
- Rajabi F, Majdzadeh R, Ziaee A. Trends in medical education, an example from a developing country. *Archives of Iranian Medicine*. 2011;14(2):132-38.
- Hennen, B. Demonstrating social accountability in medical education. 1997. *Higher Education*. 74.
- Fasihi Harandy T, Soltani Arabshahi K. A survey of input and process of clinical education in Iran University of Medical Sciences. *Payesh*. 2003; 2 (2) :131-36.
- Garside JR, Nhemachena JZ. A concept analysis of competence and its transition in nursing. *Nurse Educ Today*. 2013; 33(5): 541-5.
- Hosseinpour M, Behdad A, Samii H. Assessment of medical interns opinion about education in surgery courses in Isfahan University of Medical Sciences. *Iranian Journal of Medical Education*. 2001; 1 (3):30-35.
- Zahedi M, Amirmaleki Tabrizi H. Medical Education Effectiveness from the Viewpoints of Medical Students of Tehran University of Medical Sciences. *Iranian Journal of Medical Education*. 2008; 7 (2) :289-98.
- Wolf FM, Shea JA, Albanese MA. Toward setting a research agenda for systematic reviews of evidence of the effects of medical education. *Teach Learn Med*. 2001;13(1):54-60
- Scott, John C. The Mission of the University: Medieval to Postmodern Transformations. *The Journal of Higher Education*, 2006; 77(1):1-39.
- Plescia M, Groblewski M. A community-oriented primary care demonstration project: refining interventions for cardiovascular disease and diabetes. *Ann Fam Med*. 2004;2(2):103-9.
- Anne M. Rodino Michael D. Wolcott. Assessing Preceptor Use of Cognitive Apprenticeship: Is the Maastricht Clinical Teaching Questionnaire (MCTQ) a Useful Approach?, *Teaching and Learning in Medicine*, 2019; 31(5): 506-18.
- Boerboom TBB, Dolmans DHJM, Muijtjens AMM, Jaarsma ADC, Van Beukelen P, Scherpbier AJJA. Does a faculty development programme improve teachers' perceived competence in different teacher roles? *Med Teach*. 2009;31(11):1030-31.
- Boerboom TB, Dolmans DH, Jaarsma AD, Muijtjens AM, Van Beukelen P, Scherpbier AJ. Exploring the validity and reliability of a questionnaire for evaluating veterinary clinical teachers' supervisory skills during clinical rotations. *Med Teach*. 2011;33(2): e84-91.
- Stalmeijer RE, Dolmans DH, Wolfhagen IH, Muijtjens AM, Scherpbier AJ. The Maastricht Clinical Teaching Questionnaire (MCTQ) as a valid and reliable instrument for the evaluation of clinical teachers. *Academic Medicine*. 2010;85(11):1732-8.
- Al Ansari A, Tabbara KS. Evaluating the Reliability and Validity of the Maastricht Clinical Teaching Questionnaire in Bahrain. *Oman Medical Journal*. 2019;34(5):427.
- Kelly M, Bennett D, McDonald P. Evaluation of clinical teaching in general practice using the Maastricht clinical teaching questionnaire. *Med Teach*. 2012;34(12):1089.
- Vaughan B. Developing a clinical teaching quality questionnaire for use in a university osteopathic pre-registration teaching program. *Research Gate. BMC Med Educ*. 2015; 15:70.
- Olmos-Vega F, Dolmans D, Donkers J, Stalmeijer RE. Understanding how residents' preferences for supervisory methods change throughout residency training: a mixed methods study. *BMC Med Educ*. 2015;15(1):177.
- Nouriant A, Arbooni F, Mazloomzadeh S, Shervin Badv R. Comparison of the state of clinical education in major wards with the desired state from the students' view point and Professors at Zanjan University of Medical Sciences. *J Med Educ Dev* 2018, 11(29): 77-86. Persian.
- Farrokh Nejad Kh, Pirdadian M. Quality assurance through quality assessment of the teaching-learning process in the university system. Conference on internal evaluation of quality in the academic system [Internet]. 1390;-(-):0-0. Available from: <https://sid.ir/paper/493867/fa>. Persian.
- Harifi B, Ghafarian Shirazi H, Momeninejad M, Saniee F, Hashemi N, Jabarnejad A, et al . A survey of the quality and quantity of clinical education from the viewpoint of medical students. *jmj*. 2012; 10 (2):57-64.
- Anbari, Z, Ramezani, M. The obstacles of clinical teaching and strategies for the improvement of quality of education at Arak University of Medical Sciences in 2008. *Arak Medical University Journal (AMUJ)*. 2010; 13(2):110-18.
- Hosseinpour M, Behdad A, Samii H. Assessment of Medical Interns Opinion about Education in Surgery Courses in Isfahan University Of Medical Sciences. *Iranian Journal of Medical Education* 2001; 1 (3): 30-35.
- Khoshrang H, Salari A, Dadgaran I, Moaddab F, Rouh-Balasi L, Pourkazemi I. Quality of Education Provided at The Clinical Skills Lab From Medical Students' viewpoints in Guilan University of Medical Sciences. *rme*. 2016; 8 (2):77-83.
- Delaram M, Shams S. The viewpoints of students about the performance of clinical instructors in nursing and midwifery school at Shahrekord University of Medical Sciences. *Educational Development of Judishapur*. 2018; 9(1):11-19.
- Salajegheh M. Application of cognitive apprenticeship model in clinical education: A scoping review, *Journal of Medical Education Development*. 2023; 16(49): 68-78.