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# Comparison of self-, peer, and teachers' evaluation about the clinical skills of nursing students at the department of psychiatry

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## Abstract:

**BACKGROUND:** Evaluating clinical performance is a challenge in nursing education. On the other hand, a single evaluation method cannot be used to judge different areas of interpersonal skills. Therefore, this study was conducted to compare the evaluation of teachers', peer, and self-evaluation of nursing students in the psychiatric ward of Baharan Hospital affiliated to Zahedan University of Medical Sciences.

**MATERIALS AND METHODS:** In this analytical cross-sectional study, forty trainee students were selected by a census method in a time period and they were evaluated by three methods including self-, peer, and teachers' evaluation. Their clinical skills were assessed using a school-based clinical evaluation questionnaire containing 15 questions in the areas of taking history, examination of psychiatric health, and the ability to communicate with the patient. The analyses were performed by SPSS-22 software.

**RESULTS:** The mean and standard deviation of the evaluation scores of clinical teachers as well as peer and self-evaluation in the areas of taking patient's history were  $13.82 \pm 2.74$ ,  $14.46 \pm 2.68$ , and  $15.75 \pm 2.56$ , respectively. In addition, the outcomes in the areas of psychiatric examination were  $8.11 \pm 1.54$ ,  $9.25 \pm 2.70$ , and  $10.43 \pm 2.65$  and in the areas of clinical communication were  $8.93 \pm 2.03$ ,  $9.04 \pm 2.25$ , and  $10.21 \pm 1.98$ , respectively. There was a significant correlation between the mean of teachers' evaluation and self-evaluation scores ( $P = 0.003$ ) as well as comparing peer and self-evaluation ( $P = 0.048$ ). However, no significant correlation was observed between teachers' and peer evaluation ( $P = 0.062$ ).

**CONCLUSION:** Due to the difference in scores of different methods of evaluation, self- and peer evaluation can be used as a complementary method with teachers' evaluation in measuring the clinical performance of clinical students.

## Keywords:

Clinical skills, peer evaluation, self-evaluation, teachers' evaluation

## Introduction

Clinical evaluation is one of the main pillars of medical education.<sup>[1]</sup> Due to the important role of nursing in the health-care system of the country, it is necessary to pay attention to improving the quality of clinical education.<sup>[2]</sup> Nursing is a practice-based discipline in which clinical

evaluation plays a vital role.<sup>[3]</sup> Evaluating the systematic process of collecting, analyzing, and interpreting information to determine how successful the students are in achieving their educational goals is an essential element that can lead education from a static state to a dynamic route.<sup>[4]</sup> It is an essential part of the educational process and identifies evidence of students' achievement to learning goals.<sup>[5]</sup> Student evaluation is one

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of the important aspects in the process of educational activities and provides the possibility to determine the strengths and weaknesses based on its results, hence appropriate steps can be taken by strengthening the positive aspects and eliminating the shortcomings in creating change and reforming the educational system.<sup>[6]</sup>

The main role in student evaluation is played by the clinical teachers.<sup>[7]</sup> On the other hand, only one evaluation method cannot be used to judge the necessary characteristics of medical students in the areas of interpersonal skills and problem-solving. Furthermore, there is no evaluation method that can independently and completely evaluate science, interpersonal skills, problem-solving skills, and professional tendencies, which are necessary features of a medical student.<sup>[8]</sup>

Students also have an imagination about their ability and expect that the evaluation done by the clinical teachers is consistent with this thought and the teachers' judgment about them is not far from the reality of their minds; however, always at the end of the internship, several students refer to clinical teachers or officials to object to their evaluation score and raise a variety of issues, and the challenges of clinical evaluation continue despite some efforts.<sup>[9]</sup> On this basis, some experts have emphasized the use of an evaluation team because they believe that there is a tendency to make personal judgments in individual evaluation,<sup>[10]</sup> which is considered the foundation of success in personal and professional life, and its contribution to nursing should be emphasized to both educators and students through various programs.<sup>[11]</sup> Although experts emphasize student evaluation by clinical teachers, one of the methods of student evaluation is self-evaluation, which has been confirmed in studies. The use of this method has been confirmed as a useful and dynamic method for evaluation.<sup>[12]</sup>

Self-evaluation is the most common and traditional method used in the evaluation of competence.<sup>[13]</sup> Self-evaluation is a developmental skill and It is an important part of the evaluation process in which a person assesses and analyzes individual performance in relation to standards. In addition, self-evaluation gives the opportunity person to express his/her ideas for its performance.<sup>[14]</sup>

Improving and enhancing self-esteem is an important factor in the professional development of medical science graduates in Canada and the United States.<sup>[15]</sup> Compared to teachers' evaluation, it has more realistic and robust results.<sup>[12]</sup> However, relying on the information obtained from the self-evaluation of decision-making to continue education by the student would be more logical.<sup>[13]</sup> Peer evaluation is also a form of self-evaluation; peer

evaluation encourages students to gain responsibility of their own learning process.<sup>[16]</sup> Studies have shown that the peer evaluation method was more effective in the development of critical thinking and peer support of the nursing students.<sup>[17]</sup> However, it is useful as a subevaluation method.<sup>[18]</sup>

Since evaluation plays a crucial role in the educational process and several methods have been proposed to evaluate clinical skills and due to the fact that nurses are the main body and key members of the psychiatric team after their graduation, who support the patient in order to adapt to the current situation and gain their previous ability during the care and treatment interventions, with a variety of skills, techniques, and counseling principles, the evaluation of clinical teachers and peer and self-evaluation were compared in the psychiatric ward.

## Materials and Methods

### Design and setting

This research is a cross-sectional, analytical study, which was implemented in the psychiatric ward of Baharan Hospital affiliated to Zahedan University of Medical Science in the first half of the 2018–2019 academic year.

### Participants and sampling

Sampling was done by census method. All sixth-term students (forty people) of the Zahedan University of Nursing and Midwifery who were engaged in a psychiatric internship unit attended the study with written consent. The eligibility criteria included the selection of a psychiatric internship unit in the sixth term. The exclusion criteria were incomplete questionnaires. The internship groups consisted of eight groups of five people. All internships were conducted by a master psychiatric teacher.

### Data collection tools and technique

Data collection tools were demographic information form (including age and gender) and students' clinical skills' evaluation questionnaire. Skills were evaluated based on the goals of the psychiatric internship in three parts: the ability to communicate with the patient (1–5 item), taking patient's history (6–10 item), and the psychiatric examination status (11–15 item), compiled and designed as a 15-item questionnaire by the professors of the School of Nursing. For content validity, the questionnaire was presented to colleagues who had experience in internships and clinical evaluation of psychiatric nursing students. After collecting the comments, the questionnaire was set with 15 questions on a four-point Likert scale (failed = 0, incomplete = 1, almost complete = 2, and complete = 3). The sum of the evaluation scores is 0–45. Higher scores indicate

better students' performance. In addition to the content validity, the reliability of the tool was confirmed by implementing it in a sample of five students as a pilot. The reliability of the instrument was evaluated by Cronbach's alpha method; the internal consistency was 0.82. Students participating in the pilot study were excluded from the study. Each student was evaluated based on this tool from the perspective of a clinical instructor and a peer. At the beginning of the internship, the instructor and students of each group were informed about the objectives of the course by presenting a clinical lesson plan. The students were informed that in the last 2 days of the internship, the patient will be evaluated by a clinical instructor, peer, and individual. Peer selection was done by random four students in the same group. Students were also informed that grades did not affect the end-of-course score. All questionnaires were completed in the last 2 days of the 10-day internship after the student presented his/her patient and after answering the questions of the instructor or students. Evaluations continued until the end of the term.

### Ethical considerations

The researcher collected data after receiving approval from the Ethics Committee of Zahedan University of Medical Sciences (IR.ZAUMS.REC.1399.117). All participants provided their informed written consent, and they were made aware of the research process and were assured of the confidentiality of their information. In addition, they were allowed to withdraw at any stage during the study.

### Statistical analysis

Analysis of the data was done using descriptive statistics methods such as mean and standard deviation as well as analytical statistics including paired *t*-tests (study of the difference between teachers', self-, and peer evaluation scores regarding the ability to communicate with patient, taking history, and examination of psychiatric status examination), and Pearson correlation coefficient (study of the relationship between scores of teachers' and self-evaluation and peer evaluation) was obtained by SPSS 22.0 statistical software (IBM Corp, Armonk, NY, USA). The significance level was considered  $P < 0.05$ .

## Results

Among the forty students who participated in the research, 18 students were boys (45%) and 28 were girls (55%). Their average age was  $21.50 \pm 0.74$ . Shapiro-Wilk test was used to test the normality of the data, and the assumption of normality was confirmed.

The mean scores obtained from the evaluation of total clinical skills in the psychiatry ward, regarding the

clinical teachers' evaluation, were  $30.87 \pm 4.75$  and in the self- and peer evaluation were  $36.39 \pm 6.03$  and  $32.78 \pm 5.98$ , respectively.

To compare the mean values, the evaluation of total clinical skills, the paired *t*-test showed that there is a statistically significant difference between the mean of teachers' and self-evaluation scores ( $P = 0.003$ ), as well as peer and self-evaluation ( $P = 0.048$ ). No significant statistical difference was observed between the mean of teachers' and peer evaluation scores ( $P = 0.062$ ).

The mean scores in the areas of taking patient's history were reported in the teachers' evaluation were  $13.82 \pm 2.74$  and peer and self-evaluation were  $14.46 \pm 2.68$  and  $15.75 \pm 2.56$ , respectively.

The paired *t*-test in the areas of taking patient's history indicated that there was a statistically significant difference between the mean of teachers' and self-evaluation scores ( $P = 0.027$ ) as well as peer and self-evaluation ( $P = 0.002$ ). However, no significant statistical difference was observed between the mean scores of teachers' and peer evaluation ( $P = 0.44$ ).

The mean scores reported in the areas of psychiatric examination in the teachers' evaluation were  $8.10 \pm 1.54$  while in peer and self-evaluation were  $9.25 \pm 2.70$  and  $10.42 \pm 1.65$ .

The paired *t*-test for the areas of psychiatric status indicated that there was a statistically significant difference between the mean scores of teachers' and self-evaluation ( $P = 0.001$ ) as well as peer and self-evaluation ( $P = 0.043$ ). However, no significant statistical difference was observed between the mean of teachers' and peer evaluation ( $P = 0.077$ ).

The mean scores in the areas of the ability to communicate with the patient in the teachers' evaluation were reported to be  $8.92 \pm 2.03$  while peer and self-evaluation scores were obtained  $9.03 \pm 2.25$  and  $10.21 \pm 1.98$ , respectively. The paired *t*-test in these areas showed that there was a statistically significant difference between the mean scores of the teachers' and the self-evaluation ( $P = 0.004$ ) as well as peer and self-evaluation ( $P = 0.022$ ). However, no significant statistical difference was observed between the mean of teachers' and peer evaluation scores ( $P = 0.799$ ) [Table 1].

Finally, Pearson's correlation test indicated that there is a correlation between teachers' and self-evaluation ( $P = 0.003$ ), teachers' and peer evaluation ( $P = 0.062$ ) as well as peer and self-evaluation ( $P = 0.048$ ) [Table 2].

**Table 1: Comparison of the mean score of students' evaluation based on clinical teachers', peer, and self-evaluation**

Evaluation area	Type of evaluation	Mean±SD	P
Taking patient's history	Evaluation of clinical teachers'	2.74±13.82	0.001
	Self-evaluation	2.56±15.75	
	Evaluation of clinical teachers'	2.74±13.82	0.299
	Peer evaluation	2.68±14.46	
	Self-evaluation	2.56±15.75	0.032
	Peer evaluation	2.68±14.46	
The psychiatric examination	Evaluation of clinical teachers'	1.54±8.10	0.001
	Self-evaluation	2.65±10.42	
	Evaluation of clinical teachers'	1.54±8.10	0.077
	Peer evaluation	2.70±9.25	
	Self-evaluation	2.65±10.42	0.043
	Peer evaluation	2.70±9.25	
The ability to communicate with the patient	Evaluation of clinical teachers'	2.03±8.92	0.004
	Self-evaluation	1.98±10.21	
	Evaluation of clinical teachers'	2.03±8.92	0.799
	Peer evaluation	2.25±9.03	
	Self-evaluation	1.98±10.21	0.022
	Peer evaluation	2.25±9.03	
Total clinical skills	Evaluation of clinical teachers'	4.75±30.85	0.001
	Self-evaluation	6.03±36.39	
	Evaluation of clinical teachers'	4.75±30.85	0.110
	Peer evaluation	5.98±32.78	
	Self-evaluation	6.03±36.39	0.008
	Peer evaluation	5.98±32.78	

The used test

Paired t-test

SD=Standard deviation

**Table 2: Correlation of clinical skills' evaluation of nursing students according to self-, peer, and clinical teachers' evaluation**

Evaluation score	Evaluation of clinical teachers	Peer evaluation	Self-evaluation
Evaluation of clinical teachers			
Pearson correlation coefficient	1	0.357	0.539
P		0.062	0.003
Peer evaluation			
Pearson correlation coefficient	0.357	1	0.378
P	0.062		0.048
Self-evaluation			
Pearson correlation coefficient	0.539	0.378	1
P	0.003	0.048	

## Discussion

Research results showed that there is a statistically significant difference between the mean of teachers' and self-evaluation total clinical skills scores, as well as peer and self-evaluation.

Helmer *et al.* evaluated differences between faculty, self-, and peer evaluations of student journal club presentations during advanced pharmacy practice experiences and concluded that faculty scores were lower compared to student evaluations of themselves and their peers. Further incorporation of self- and peer evaluation throughout pharmacy school curricula may

improve students' competence in performing these evaluations. Formal training is needed to improve students' ability to complete self- and peer evaluations.<sup>[19]</sup> Atash sokhan *et al.* revealed a significant difference among three methods of evaluation, considering general and specific clinical skills,<sup>[20]</sup> which is consistent with the results of the current study. However, the studies of Sadeghi *et al.* and Alimohammadi *et al.* showed that teachers' and student self-evaluation scores were not significantly different,<sup>[21,22]</sup> which was not consistent with the results of the current study. The probable reason is that the features of their samples were different from the participants in this study. Liang *et al.* used multiple

methods for evaluation to obtain a more comprehensive and accurate.<sup>[13]</sup>

Regarding the ability to communicate with patient, there is a statistically significant difference between teachers' and self-evaluation, as well as peer and self-evaluation. The results of the study of Sadeghi *et al.* showed that there was no significant difference in the communication between self- and teacher evaluation, while in communication, students' self-evaluation score was higher.<sup>[20]</sup> However, in the study of Mehrdad *et al.* in the domains of clinical skills and communication, there were no significant differences between all scores.<sup>[23]</sup> The reason for the difference between the noted research and the present study is due to the higher number of samples, the presence of eight clinical teachers, and the higher number of evaluators.

In the areas of psychiatric examination and taking patient's history, there was a statistically significant difference between the mean of teachers' and self-evaluation, as well as peer and self-evaluation.

Study of Schneider *et al.* showed that there was correlation in the Physical examination skills between self- and teacher evaluation in medical students.<sup>[24]</sup>

In the study of Atash Sokhan *et al.* revealed a significant difference among three methods of evaluation considering general and specific clinical skills in midwifery students.<sup>[20]</sup> According to the results of Mehrdad *et al.* study, there was a significant difference between students' self-evaluation and clinical teacher evaluation scores in the specific skills dimension, and the average score of clinical instructor was lower.<sup>[23]</sup> In justifying these results, in addition to the differences regarding the evaluation environment, evaluation tools, evaluation duration, students, and evaluated skills, it can also be pointed out that in the present study, evaluation was done in an internship.

It is recommended to consider self- and peer evaluation as a powerful tool for increasing individual and group dynamics and organizing individual learning. Obviously, this requires learning the "correct judgment" skill, which can be learned from metacognitive skills. It is recommended to consider peer and self-evaluation as a complementary approach to teacher's evaluation in order to improve clinical performance.<sup>[20]</sup>

### Limitation and recommendation

Limited skills were examined in a specific environment with a small number of students that can restrict the generalizability of the obtained results. Therefore, similar studies are recommended for other students in different wards and environments.

## Conclusion

In total, according to the results of the current research, self- and peer evaluation as one of the ways to receive feedback from learners can be a useful reflection of the success of the training program in creating the necessary capabilities in various areas of apprenticeship and internship evaluation regarding clinical students. It can be highly considered as a powerful tool for increasing individual and group dynamics and organizing individual learning in clinical education.

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### Conflicts of interest

There are no conflicts of interest.

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