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### Evaluation of students' satisfaction with the teaching assistant method in Sabzevar University of Medical Sciences

**Background:** Dynamic establishment and optimal continuity of the educational system is strongly influenced by the quality and quantity of planning. However, planning teaching and learning activities is the most important one. The aim of this study was to evaluate students' satisfaction with the teaching assistant method and determine factors affecting it in Sabzevar University of Medical Sciences.

**Method:** In this cross-sectional study, 49 undergraduate nursing (29 students) and public health (20 students) students with non-experience of teaching assistant method were selected through simple random sampling method. Data were collected with a modified questionnaire and its validity and reliability was measured.

**Results:** The mean score of satisfaction was  $33.70 \pm 1.04$  from 48 total scores. There was a significant relationship between gender and field of study variables with satisfaction variable ( $P < 0.05$ ). Public health students and male students were more satisfied with the teaching assistant method. The mean scores of satisfactions in public health (mean score = 36.30) and male students (mean score = 35.50) were higher than nursing (mean score = 31.17) and female students (mean score = 32.59) respectively.

**Conclusion:** Evaluation of the students' satisfaction showed that students' satisfaction with the teaching assistant method is higher than average and using this method can be effective in improving the education system.

**Keywords:** Teaching Assistant, Personal Satisfaction, Students

### تقييم رضا الطلاب عن طريقة التدريس المساعد في جامعة سايزيفار للعلوم الطبية

**الخلفية:** يتأثر التأسيس الديناميكي والاستمرارية المثلى للنظام التعليمي بشدة بجودة وكمية التخطيط. ومع ذلك، فإن التخطيط لأنشطة التدريس والتعلم هو الأهم. الهدف من هذه الدراسة هو تقييم رضا الطلاب عن طريقة التدريس المساعد وتحديد العوامل التي تؤثر عليه في جامعة سايزيفار للعلوم الطبية.

**الطريقة:** في هذه الدراسة المقطعية، تم اختيار 49 طالباً جامعياً في التمريض (29 طالباً) والصحة العامة (20 طالباً) ليس لديهم خبرة في طريقة مساعد التدريس من خلال طريقة أخذ العينات العشوائية البسيطة. تم جمع البيانات باستبيان معدل وقياس صدقها وموثوقيتها.

**النتائج:** كان متوسط درجة الرضا  $33.70 \pm 1.04$  من إجمالي 48 درجة. توجد علاقة معنوية بين الجنس ومتغيرات مجال الدراسة ومتغير الرضا ( $P < 0.05$ ). كان طلاب الصحة العامة والطلاب أكثر رضا عن طريقة التدريس المساعد. كان متوسط درجات الرضا في الصحة العامة (متوسط الدرجة = 36.30) والطلاب (متوسط الدرجة = 35.50) أعلى من التمريض (متوسط الدرجة = 31.17) والطلاب (متوسط الدرجة = 32.59) على التوالي.

**الخلاصة:** أظهر تقييم رضا الطلاب أن رضا الطلاب عن طريقة مساعد التدريس أعلى من المتوسط وأن استخدام هذه الطريقة يمكن أن يكون فعالاً في تحسين نظام التعليم.

**الكلمات المفتاحية:** مدرس مساعد، رضا شخصي، طلاب

### بررسی میزان رضایت دانشجویان از روش دستیار آموزشی در دانشگاه علوم پزشکی سبزوار

**زمینه و هدف:** پویایی و پیشرفت نظام های آموزشی متأثر از کمیت و کیفیت فرآیند برنامه ریزی است، که از مهم ترین آنها برنامه ریزی برای یاددهی و یادگیری می باشد. هدف از انجام این پژوهش، ارزیابی رضایت دانشجویان از روش دستیار آموزش در دانشگاه علوم پزشکی سبزوار بود.

**روش:** در این مطالعه مقطعی، 49 نفر از دانشجویان مقطع کارشناسی رشته های پرستاری (29 نفر) و بهداشت عمومی (20 نفر) که تجربه حضور دستیار آموزشی در کلاس را نداشتند، به روش نمونه گیری تصادفی ساده انتخاب شدند. ابزار گردآوری داده ها نیز پرسشنامه تعدیل شده ای بود که روایی و پایایی آن سنجیده شده است.

**یافته ها:** بر اساس تحلیل داده ها، میانگین نمره رضایت از 48 نمره،  $33.70 \pm 1.04$  بود. بین متغیرهای جنسیت و رشته تحصیلی با رضایت ارتباط معنادار آماری وجود داشت، به گونه ای که دانشجویان بهداشت عمومی و دانشجویان آقا از روش دستیار آموزشی رضایت بیشتری داشتند ( $P < 0.05$ ). میانگین نمرات متغیر رضایت در دانشجویان بهداشت عمومی (میانگین نمرات = 36.30) و پسر (میانگین نمرات = 35.50) به ترتیب بالاتر از دانشجویان پرستاری (میانگین نمرات = 31.17) و دختر (میانگین نمرات = 32.59) بود.

**نتیجه گیری:** سنجش رضایت دانشجویان نشان داد که به طور کلی رضایت دانشجویان از روش دستیار آموزشی بالاتر از حد متوسط است و استفاده از این روش می تواند بر ارتقا آموزش موثر واقع گردد.

**واژه های کلیدی:** دستیار آموزشی، رضایت شخصی، دانشجویان

### سبزوار یونیورسٹی آف میڈیکل سائنسز میں تدریسی اسسٹنٹ کے طریقہ کار سے طلباء کے اطمینان کا اندازہ

**پس منظر:** تعلیمی نظام کا متحرک قیام اور بہترین تسلسل منصوبہ بندی کے معیار اور مقدار سے بہت زیادہ متاثر ہوتا ہے۔ تاہم، تدریس اور سیکھنے کی سرگرمیوں کی منصوبہ بندی سب سے اہم ہے۔ اس مطالعے کا مقصد سبزوار یونیورسٹی آف میڈیکل سائنسز میں تدریسی معاون کے طریقہ کار سے طلباء کے اطمینان کا جائزہ لینا اور اس پر اثر انداز ہونے والے عوامل کا تعین کرنا تھا۔

**طریقہ:** اس کراس سیکشنل اسٹڈی میں، 49 انڈرگریجویٹ نرسنگ (29 طلباء) اور پبلک ہیلتھ (20 طلباء) طلباء جن کا ٹیچنگ اسسٹنٹ طریقہ کار تجربہ نہیں تھا، سادہ سے ترتیب نمونے لینے کے طریقہ کار سے ذریعے منتخب کیا گیا۔ ڈیٹا کو ایک ترمیم شدہ سوالنامے کے ساتھ جمع کیا گیا تھا اور اس کی صداقت اور وضوحیت کی پیمائش کی گئی تھی۔

**نتائج:** اطمینان کا اوسط سکور 48 کل سکور سے  $33.70 \pm 1.04$  تھا۔ اطمینان متغیر ( $P < 0.05$ ) کے ساتھ مطالعہ کے متغیرات کے صنف اور فیلڈ کے درمیان ایک اہم تعلق تھا۔ صحت عامہ کے طلباء اور مرد طلباء تدریسی معاون کے طریقہ کار سے زیادہ مطمئن تھے۔ صحت عامہ میں اطمینان کے اوسط سکور (مطلب اسکور = 36.30) اور مرد طلباء (مطلب اسکور = 35.50) بالترتیب نرسنگ (مطلب اسکور = 31.17) اور طالبات (مطلب اسکور = 32.59) سے زیادہ تھے۔

**نتیجہ:** طلبہ کے اطمینان کے جائزے سے معلوم ہوا کہ تدریسی معاون کے طریقہ کار سے طلبہ کا اطمینان اوسط سے زیادہ ہے اور اس طریقہ کار سے استعمال تعلیمی نظام کو بہتر بنانے میں موثر ثابت ہو سکتا ہے۔

**مطلبہ الفاظ:** تدریسی معاون، ذاتی اطمینان، طلباء

## INTRODUCTION

Improving the quantity and quality of education in educational centers requires professors who are proficient in teaching and using modern techniques (1,2). One of the ways to facilitate and promote learning and benefit from the educational capabilities of graduate students is the use of teaching assistants (1). It applies to eligible postgraduate or doctoral students who work with their professors in teaching and conducting practical or theoretical classes (1,3). Increasing the number of students and the need to hold educational classes with high quality are some of the reasons that encourage faculties to use the educational capacity of postgraduate students (4). In fact, this position (teaching assistant) is the link between professors, postgraduate and undergraduate students (5).

In most cases, the age similarity of the teaching assistant with the students encourages students to ask the assistant. The teaching assistant is able to provide more explanations about continuing education. Postgraduate or doctoral students can improve their skills and resumes. The workload of professors is also reduced and better conditions are provided for research (1,6).

Developing assistants' educational skills improves their self-efficacy. The level of assistants' interest in educational activities and determining their expectations from students increases the quality of education (7). Providing periodic feedback on the performance of assistants by departments and students and the state of compliance with the expectations of the educational group is an effective step in identifying and eliminating shortcomings. Also, in order to ensure the careful selection of assistants, the expected competencies in this process must be determined (7-9). Various studies have been conducted to examine the effect of the teaching assistants' activities around the world, for example, the study on the educational activities of doctoral students in the University of Cambridge (4).

The important point in trying to train assistants is to correctly identify their needs (10), while the duties of assistants are usually determined based on the needs of the department and the assistants' professional needs are not considered (11,12). Assistants are sometimes hesitant about their ability in teaching process and their role as a student or a teacher (10, 13).

Since universities play a key role in the training of human resources, it is imperative that they keep pace with advances in education and take steps to improve the quality and quantity of their performance. Using new techniques and fixing deficiencies can improve the performance of faculties and the quality of education. Therefore, this study was conducted to determine the level of students' satisfaction from teaching assistant as a new method in Sabzevar University of Medical Sciences.

## METHODS

This cross-sectional study was conducted in Sabzevar University of Medical Sciences, 2018-2019. The research population included undergraduate students of nursing and public health department.

According to inclusion criteria and professor's expertise (PHD in health education), six classes were available for selection. Inclusion criteria were spending at least two semesters and not being familiar with teaching assistant in previous semesters and exclusion criteria was student's unwillingness to continue cooperation.

From six eligible classes, two classes were selected in nursing and public health by simple random sampling method. Nursing students (16 female and 13 male): personal and family health course and public health (20 female students): medical sociology course.

The selection criteria for teaching assistant were being postgraduate or doctoral students. However, due to lack of doctoral course in the health faculty, selection has been made among the postgraduate students. In this study, the teaching assistant and professor were female. Reviewing the student's resume and characteristics like the student's previous experiences in teaching, her motivation and interest in teaching, top public relations and ability to manage the class were also considered in the selection of teaching assistant.

Finally, this study was performed by the teaching assistant method among 49 public health and nursing students with a 10% probability of loss.

After obtaining the necessary approvals from the research council and the ethics committee (IR.MEDSAB.REC.1398.089), the method of teaching and administering the class with the teaching assistant was explained to the students and then the consent form was completed by them.

The data collection tool in this study was a modified questionnaire based on the satisfaction questionnaire in the study of Borim Nejad et al's (14). The questions of the questionnaire (14) were changed based on objectives of study and validity and reliability were checked. The content validity of the questionnaire was evaluated by a panel consisting of ten experts (5 health education experts and 5 medical education experts). Content Validity Ratio (CVR) and Content Validity Index (CVI) were determined. CVR was higher than 0.62 (that was appropriate based on the table of Lawshe) and CVI was higher than 0.79. Cronbach's alpha was used for the reliability of the questionnaire. The amount of this coefficient was calculated 0.92. The questionnaire consisted of sixteen closed-ended questions by likert-type (fully (1 point), to some extent (2 points) and Not at all (3 points)). For example, "I liked this teaching method" or "I recommend implementing this method in other classes". Also four demographic questions (age, gender, field of study, and academic grade point average) were assessed.

The data were analyzed by SPSS<sub>16</sub> using descriptive and analytical statistics. The descriptive statistics used frequency and contingency tables to analyze demographic questions. Descriptive indicators such as mean and standard deviation have been examined.

The analytical statistics (normality of data was determined by Kolmogorov-Smirnov) Mann-Whitney, Chi-square tests, correlation coefficient, and linear regression were used to investigate the data.

**RESULTS**

Results showed that the mean age and academic grade point average of students were  $20.85 \pm 0.13$  and  $17.22 \pm 0.17$  respectively. The mean score obtained from answering the satisfaction questions was  $33.70 \pm 1.04$  from 48 total scores. The lowest score obtained was 18 and the highest score was 44 (Table 1). The results of Kolmogorov–Smirnov test showed that statistical distribution of variables was not normal ( $P < 0.05$ ).

The results of linear regression test showed that there was a significant relationship between the field of study and student's satisfaction level ( $P = 0.001$ ). Also, there was a significant relationship between gender and satisfaction level ( $P = 0.02$ ). The significant relationship between the two variables of academic grade point average and satisfaction score was not significant ( $P = 0.68$ ). There was also no significant relationship between age and satisfaction score ( $P = 0.69$ ) (Table 2). The results of table 2 showed that effect of the field of study ( $\beta = 0.66$ ) was more than the gender of the students ( $\beta = 0.46$ ) on the satisfaction score.

The mean score of satisfaction in public health students (mean score = 36.30) was higher than nursing (mean score = 31.17) and they were more satisfied with the plan ( $P < 0.05$ ).

Also, the mean score of satisfaction in male students (mean score = 35.50) was higher than female students (mean score = 32.59) and they were more satisfied with the plan ( $P < 0.05$ ) (Table 3).

**DISCUSSION**

Findings of the study showed that public health students' satisfaction was higher than nursing student. Also, there was a higher satisfaction rate among the total male students participating in the project than the total female population and the effect of the field of study was more than the gender of students on the satisfaction score. The present study not only emphasizes this case and its necessity, but also deals with the satisfaction of the target group and the effective factors. In this regard, Noghan et al's (15) showed a significant relationship between field of study and satisfaction which is consistent with the results of the present study. In contrast, Seyedmajidi et al's (16) in their study on the performance of teaching assistants showed that female students were more satisfied with the program than male students, although there was a significant difference in the level of students' satisfaction between different fields of study.

The study of Amini Shakib et al. (17) on comparing the level of students' satisfaction with two educational methods and

**Table 1. Age, academic grade point average, and satisfaction**

Variables	Mean (SD)	Standard error	Variance	Max	Min
Age	20.85 (0.83)	0.13	0.69	23	20
Academic grade point average	17.22 (1.10)	0.17	1.22	18.76	14.87
Satisfaction score	33.70 (6.58)	1.04	43.39	44	18

**Table 2. Relationship between demographic variables and satisfaction**

independent variables	Linear regression test	
	Beta coefficient	P-value
Age	0.58	0.69
Gender	0.46	0.02
Academic grade point average	0.64	0.68
Field of study	0.66	0.001

Dependent variable: satisfaction

**Table 3. Satisfaction rate in gender and field variables**

Variables	Mean (SD)	Standard error	Variance	Max	Min	P-value	
Gender	Female	32.59 (6.89)	1.18	47.58	42	18	<0.05
	Male	35.50 (6.75)	1.80	45.65	45	22	
Field of study	Public health	36.30 (4.78)	1.06	22.85	42	25	<0.05
	Nursing	31.17 (7.49)	1.39	56.14	45	18	

comparing the mean scores of male and female students separately in each group did not show a significant difference. A study by Gil et al's (18) on gender differences and factors that improve students' academic satisfaction showed the difference in satisfaction criteria between male and female students. Perceived performance was important in girls and teaching methods were important in boys. Suraman et al's (19) also acknowledged the differences in students' perceptions about the quality of teaching and learning based on their gender and field of study. Therefore, it can be concluded that factors such as gender and field of study are effective in using the teaching assistant and having satisfaction with it.

In a review study in the united states, Park (9) stated that the experience of hiring and preparing teaching assistants is greater than in a country like the United Kingdom compared to the USA. Important points in these practical experiences have been in the selection of teaching assistant because the process of selecting an assistant can affect students' learning, it is also necessary to monitor the performance of assistants and evaluate them. Torvi (20) in his study showed that significant number of training assistants did not receive education in engineering. Providing constructive feedback to the assistant at the appropriate time and specific evaluation method is also considered important.

Different methods of evaluating teaching assistant's performance could include evaluation by educational department, students and assistants. Study of Bradely et al's (21) showed no statistical correlation between them and concluded that each of these approaches can play an independent role in the reform of teaching assistant development. The study of Kendall et al's (11, 22) showed that students, regardless of the type of class and its subject, did not evaluate classes with the presence of an assistant negatively. However, in another study conducted in two stages during the semester, the data also showed a change in

students' attitudes during the semester, meaning that the results were different for the presence of teaching assistants in the middle and end of the semester and at the end of the semester, the evaluation rank of the teaching assistant improved and the students were more satisfied.

Designing and implementing a specific framework for measuring students' satisfaction with the performance of teaching assistants seems necessary. It is hoped that during this process, the process of improving performance will be more complete and students and faculty will benefit from its positive results.

Using teaching assistants as a new method in the educational departments and curriculum of students in universities provides the basis for progress in educational systems. Of course, in the process of selecting, the field of study and gender of the students should be considered because it affects their satisfaction.

#### 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. The ethics committee of Sabzevar University of Medical Sciences approved this research, ethics code IR.MEDSAB.REC.1398.089.

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