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Teaching styles of medical teachers: Are the teaching styles of basic and clinical teachers different?

Background: Knowing the teaching styles of teachers and modifying their educational strategies can be effective in improving the quality of education. The purpose of this study was to determine and compare the teaching style of basic and clinical medical teachers in Ahvaz Jundishapur University of Medical Sciences in 2021.

Method: This cross-sectional descriptive study was conducted on 131 medical teachers in Ahvaz Jundishapur University of Medical Sciences from April to June 2021. The data collection instrument was Grasha-Riechmann's questionnaire, which includes 40 questions in 5 sections. Data was analyzed by SPSS 18 software.

Results: The average age of the study population was 46.56 ± 8.65 years, with more than half being females (57.6%), and clinical teachers (56.5%). The preferred teaching styles of medical teachers were as follows: Expert style (28.2%), Facilitator style (26.7%), Formal Authority (20.6%), Delegator (14.5%), and Personal Model (9.9%). There was a significant difference between the teaching styles of basic and clinical teachers and basic teachers use more facilitator style; while clinical teachers use more expert style ($p=0.001$). There was no significant difference between the teaching styles by age, gender, teaching experience, and academic rank.

Conclusion: Medical teachers prefer expert and facilitator teaching styles. These findings can help medical teachers to modify their teaching styles for more effective learning.

Keywords: teaching style, students' learning style, medical education, educational strategies

أساليب التدريس لمعلمي الطب: هي أساليب التدريس الأساسية والسريرية

الخلفية: إن معرفة أساليب تدريس المعلمين وتعديل استراتيجياتهم التعليمية يمكن أن تكون فعالة في تحسين جودة التعليم. كان الغرض من هذه الدراسة هو تحديد ومقارنة أسلوب التدريس لمدرسي الطب الأساسي والسريري في جامعة أهواز جنديشاپور للعلوم الطبية في عام ٢٠٢١.

الطريقة: تم إجراء هذه الدراسة الوصفية المقطعية على ١٣١ مدرساً للطب في جامعة أهواز جنديشاپور للعلوم الطبية في الفترة من أبريل إلى يونيو ٢٠٢١. وكانت أداة جمع البيانات هي استبيان جراشا-ريشمان، والذي يتضمن ٤٠ سؤالاً في ٥ أقسام. تم تحليل البيانات بواسطة برنامج SPSS 18.

النتائج: كان متوسط عمر مجتمع الدراسة 46.56 ± 8.65 سنة، أكثر من نصفهم من الإناث (٥٧.٦٪)، والمدرسين السريريين (٥٦.٥٪). كانت أساليب التدريس المفضلة لمدرسي الطب على النحو التالي: أسلوب الخبير (٢٨.٢٪)، أسلوب الميسر (٢٦.٧٪)، السلطة الرسمية (٢٠.٦٪)، المفوض (١٤.٥٪)، والنموذج الشخصي (٩.٩٪). كان هناك اختلاف كبير بين أساليب التدريس لدى المعلمين الأساسيين والسريريين، وكان المعلمون الأساسيون يستخدمون أسلوباً ميسراً أكثر؛ بينما يستخدم المعلمون السريريون أسلوباً أكثر خبرة ($p=0.001$). لا توجد فروق ذات دلالة إحصائية بين أساليب التدريس حسب العمر والجنس والخبرة التدريسية والرتبة الأكاديمية.

الاستنتاج: يفضل معلمو الطب أساليب التدريس المتخصصة والميسرة. يمكن لهذه النتائج أن تساعد معلمي الطب على تعديل أساليب التدريس الخاصة بهم من أجل تعلم أكثر فعالية.

الكلمات المفتاحية: أسلوب التدريس، أسلوب تعلم الطلاب، التعليم الطبي، استراتيجيات التعليم

روش های تدریس اعضای هیأت علمی دانشکده پزشکی: آیا روش تدریس اساتید پایه و بالینی متفاوت است؟

زمینه و هدف: شناخت سبک های تدریس اعضای هیأت علمی و اصلاح راهبردهای آموزشی آنان می تواند در بهبود کیفیت آموزش مؤثر باشد. هدف از این مطالعه مقایسه سبک تدریس اعضای هیأت علمی پایه و بالینی دانشکده پزشکی دانشگاه علوم پزشکی جندی شاپور اهواز در سال ١٤٠١ بود.

روش: این مطالعه توصیفی مقطعی بر روی ١٣١ نفر از اعضای هیأت علمی دانشکده پزشکی که به روش سرشماری انتخاب شدند، انجام شد. روش گردآوری داده ها پرسشنامه استاندارد گراشا بود که شامل ٤٠ سوال در ٥ بخش می باشد. داده ها با استفاده از نرم افزار SPSS 18 تحلیل شد.

یافته ها: میانگین سنی افراد مورد مطالعه 46.56 ± 8.65 سال بود که بیش از نیمی از آنها زن (٥٧/٦٪) و اساتید بالینی (٥٦/٥٪) بودند. سبک های اولیه تدریس اعضای هیأت علمی به ترتیب سبک های تدریس تخصص گرا با فراوانی ٢٨/٢ درصد و تسهیل کننده با فراوانی ٢٦/٧ بودند، سبک های امرانه با فراوانی ٢٠/٦ درصد، وکالتی با فراوانی ١٤/٥ درصد و فردی با فراوانی ٩/٩ درصد در مراتب بعد قرار داشتند. بین سبک های تدریس اساتید پایه و بالینی تفاوت معنی دار وجود داشت و اساتید پایه بیشتر از سبک تسهیل کننده و اساتید بالینی بیشتر از سبک تخصص گرا استفاده می کنند ($p=0.001$). اما بین سبک های تدریس اعضای هیأت علمی بر اساس ویژگی های دموگرافیک از قبیل سن، جنس، سابقه تدریس و رتبه علمی تفاوت معنی دار وجود نداشت.

نتیجه گیری: اساتید پزشکی سبک تدریس تخصص گرا و تسهیل کننده را ترجیح می دهند. این یافته ها می تواند به اساتید پزشکی کمک کند تا سبک های تدریس خود را برای یادگیری مؤثر اصلاح کنند.

واژه های کلیدی: سبک تدریس، سبک یادگیری دانشجویان، آموزش پزشکی، راهبردهای آموزشی

طبی اساتذہ کے تدریسی انداز: بنیادی اور طبی کے تدریسی انداز ہیں

پس منظر: اساتذہ کے تدریسی انداز کو جاننا اور ان کی تعلیمی حکمت عملیوں میں ترمیم کرنا تعلیمی معیار کو بہتر بنانے میں کارگر ثابت ہو سکتا ہے۔ اس مطالعے کا مقصد ٢٠٢١ میں ابواز جندیشاپور یونیورسٹی آف میڈیکل سائنسز میں بنیادی اور طبی طبی اساتذہ کے تدریسی انداز کا تعین اور موازنہ کرنا تھا۔

طریقہ: یہ کراس سیکشنل وضاحتی مطالعہ ١٣١ طبی اساتذہ پر اپریل سے جون ٢٠٢١ تک ابواز جندیشاپور یونیورسٹی آف میڈیکل سائنسز میں کیا گیا۔ ڈیٹا اکٹھا کرنے کا آلہ گراشا ریچمین کا سوالنامہ تھا، جس میں ٥ حصوں میں ٤٠ سوالات شامل ہیں۔ ڈیٹا کا تجزیہ SPSS 18 سافٹ ویئر کے ذریعے کیا گیا۔

نتائج: مطالعہ کی آبادی کی اوسط عمر 46.56 ± 8.65 سال تھی، جس میں نصف سے زیادہ خواتین (٥٧/٦٪) اور طبی اساتذہ (٥٦/٥٪) تھیں۔ طبی اساتذہ کی ترجیحی تدریسی طرزیں حسب ذیل تھیں: ماہرانہ انداز (٢٨/٢٪)، سہولت کار کا انداز (٢٦/٧٪)، رسمی اتھارٹی (٢٠/٦٪)، مندوب (١٤/٥٪)، اور پرسنل ماڈل (٩/٩٪)۔ بنیادی اور طبی اساتذہ کے تدریسی انداز میں ایک نمایاں فرق تھا اور بنیادی اساتذہ زیادہ سہولت کار کا انداز استعمال کرتے ہیں۔ جبکہ طبی اساتذہ زیادہ ماہرانہ انداز استعمال کرتے ہیں ($p=0.001$)۔ عمر، جنس، تدریسی تجربہ، اور تعلیمی درجہ کے لحاظ سے تدریسی انداز میں کوئی خاص فرق نہیں تھا۔

نتیجہ: طبی اساتذہ ماہر اور سہولت کار تدریسی انداز کو ترجیح دیتے ہیں۔ یہ نتائج طبی اساتذہ کو زیادہ مؤثر سیکھنے کے لیے اپنے تدریسی انداز میں ترمیم کرنے میں مدد کر سکتے ہیں۔

مطلوبہ الفاظ: پڑھانے کا انداز، طلباء کے سیکھنے کا انداز، طبی تعلیم، تعلیمی حکمت عملی

INTRODUCTION

Teaching style is a set of activities and methods that leads to learning. Teaching includes purposeful interactive actions that are designed, implemented, and evaluated by the teacher and provide learning opportunities for learners. Therefore, the guidance and leadership of the educational process and its effect on students and their ability to learn is known as teaching style (1, 2). Grasha considered teaching style as a specific pattern of beliefs and behaviors presented by the teacher and emphasized on the facilitating role for teachers (3). Most experts believe that style is an important element in teaching (2). Educational experts believe that a good teaching depends on the teacher's familiarity with teaching styles (4).

It has been more than half a century that the effectiveness of teaching styles has been studied in higher education, and different categories of teaching styles have been presented (5). One of these classifications is provided by Grasha. Different teaching styles based on Grasha's classification include expert-oriented (Expert), dictating (Formal Authority), individual (Personal Model), Facilitator, and representative-oriented (Delegator) styles; The Expert style emphasizes on the transmission of necessary and specialized information and refrains from providing unnecessary content. Imperative or Formal Authority style is based on doing assignments that the teacher sets for the student without asking the student's opinion. Individual or Personal style is presented based on tangible and understandable examples for the learner, and it is assumed that the teacher will teach the learner the correct ways of thinking. In the Facilitator style, the teacher allows the students to try to discover the meaning of the lesson by themselves, and the teacher only solves their problems and shows the way. In the Delegator style, students work independently on projects and the professor is available as an informed person and assistant (3).

Various studies have been done on teaching styles. In a study, Razaghinejad et al., by examining the teaching styles of medical teachers, reported that their preferred styles are the Expert and Delegator styles (6). In another study that was conducted at Kurdistan University, the preferred styles of teachers were the Delegator and Formal Authority styles (7). Dash has also introduced the preferred style of the medical teachers, as a Delegator style in Sharjah (1). The results of the Shaari study in Malaysia showed that teachers often use Personal model and Expert-oriented styles and rarely use the Delegator style (8). In a study "investigating the teaching style and personality traits of teachers", Janak found that the personality traits of teachers are significantly effective in predicting their teaching style (9). In another study, it has been shown that the use of interactive teaching and learning styles in teaching process makes students joy and participate more in the class and learn better (10).

Regarding the importance of teaching style, there are several views including Harden who has emphasized if is not focused on the quality of teaching, behavior modification and as a result learning will not be possible (11). He considered the art of teaching as the factor that communicates the student's

needs for learning and believed that a good teaching depends on the teacher's familiarity with teaching styles. In this regard, Felder also stated that a successful teacher is a teacher who help the students to get the maximum learning by respecting the principles of teaching and harmonizing the teaching style with the learning methods (12). In a study at Isfahan University of Medical Sciences, Haghani suggested that the teaching styles of teachers should be chosen based on the preferred styles of students (10). Therefore, paying attention to different teaching styles is an important principle in education.

Although several studies have used Gersha's teaching style questionnaire to determine the teaching styles of their medical schools (1, 7, 8, 10), however, no research has compared the teaching styles of basic and clinical medical teachers.

The comparison of teaching styles of medical teachers provide valuable data for the development of standard teaching styles for effective teaching. Understanding the teaching styles of medical teachers not only increases teaching competencies, but also helps them to stay up-to-date with their teaching strategies. The present researchers expect such data to help medical teachers to coordinate their teaching styles in the education of students. Therefore, considering the importance of teaching style and its effect on students' learning and improving education, it seems necessary to conduct researches that can reveal the teaching style. Since the teaching style of the medical teachers plays an important role in improving the education, the present study was conducted to explore the teaching styles of the basic and clinical medical teachers at the medical school of Ahvaz Jundishapur University of Medical Sciences (AJUMS).

METHODS

This cross-sectional descriptive study was conducted in the medical school of AJUMS from April to June 2021. The study population consisted of all the medical teachers at the basic and clinical levels who were engaged in teaching and training students. Using the results of the previous studies (13) and Cochran's formula, the sample size was estimated to be 154 medical teachers, who were selected by convenience sampling method. Being engaged in teaching in the medical school and willingness to participate in the study as inclusion criteria; and unwillingness to cooperate and failure to complete the questionnaire were considered as exclusion criteria. According to the ethical statement, participation in the study was completely voluntary and participants were allowed to withdraw from the study at any time if they did not wish to continue their cooperation.

In order to collect data, a standard questionnaire (Grasha-Riechmann) was used (14). This tool was prepared in 1990 by Grasha and Riechmann and it consisted of 40 questions and was set on a 5-point Likert scale ranging from I strongly disagree (1) to I strongly agree (5). The questionnaire is a self-reporting tool containing 5 different teaching styles, each subset containing 8 items: including Expert style, Formal Authority style, Personal Model style, Facilitator style, and Delegator style. The range of scores of teachers in each style varies from 8 to 40. The determination of the preferred style

of teachers is based on the score obtained in this questionnaire, which is determined by using the sum of the frequency of numbers, and the preferred or dominant style of the teachers. That is, the highest score obtained by a person in one of these styles is determined as his/her preferred style.

The validity and reliability of this tool has been confirmed by Grasha, and Cronbach's alpha coefficient was reported as 0.82 for the whole questionnaire (3). The validity of the Persian version of the questionnaire in Iran has been confirmed by Arbabi Sarjo through factor analysis and its reliability has been estimated by calculating the alpha coefficient of 0.71 to 0.83 (15). The validity and reliability of this instrument has been estimated and confirmed among Iranian teachers. For example, in the research of Mohammadi et al.; which was referred in this study, the validity of the questionnaire was confirmed by experts' opinion and its reliability was determined with Cronbach's alpha coefficient of 0.835 (16). In the present study, the reliability of the questionnaire was obtained using Cronbach's alpha coefficient of 0.890.

After obtaining the necessary permission, the moderator would go to the workplace of the teachers in the medical school and teaching hospitals and explain the objectives of the study and get the cooperation of the teachers, he would provide them with a questionnaire without names and personal details and request them to complete the questionnaire. Participation in the study and voluntary completion of the questionnaire was considered as a condition for entering the study.

The data was analyzed using SPSS-18 software, frequency, percentage, mean, and standard deviation were used to describe the data, and Chi-square test was used to analyze the data. A significance level of 0.05 was considered.

RESULTS

Out of a total of 154 distributed questionnaires, 131 questionnaires were completed and returned (response rate 85.1%). Of them 73 (55.7%) were male and 58(44.3%) were female. The average age of the participants was 46.56+8.65 years and the average teaching experience was 12.22+8.46 years. The field of education of 73 medical teachers (55.7%) were basic teachers and 74 (55.7%) were clinical teachers. The most preferred teaching style of medical teachers was the expert teaching style with 28.2% and the least preferred style was the personal model style with a frequency of 9.9% (Table 1).

The comparison of the frequency of teaching styles of the medical teachers showed that there is a statistically significant difference between the style used by the teachers and the expert and facilitator teaching styles significantly are used more by the medical teachers. ($\chi^2 = 16.061$, $p = 0.003$).

The comparison of the frequency of teaching styles of medical teachers based on demographic characteristics such as age, gender, teaching experience, and academic rank indicated that there was no significant difference between teaching styles and their demographic characteristics (Table 2).

The comparison of the preferred teaching styles of medical

teachers showed that there is a statistically significant difference between teaching styles of basic and clinical teachers ($p = 0.001$). Basic teachers use more Formal Authority and Facilitator styles; and clinical teachers use more Expert and Delegator styles. The frequency of preferred teaching styles by basic and clinical fields is shown in Figure 1.

Table 1. Characteristics of the participating

Characteristics	N (Percentage)
Male	73 (55.7)
Female	58 (44.3)
≤ 40 years	45 (34.4)
> 40 years	86 (65.6)
Basic	57 (43.5)
Clinical	74 (56.5)
≤ 10 years	72 (55.0)
> 10 years	59 (45.0)
Lecturer	4 (3.1)
Assistant	79 (61.2)
Associated	31 (24.0)
Professor	15 (11.6)
Expert	37 (28.2)
Formal authority	27 (20.6)
Personal model	13 (9.9)
Facilitator	35 (26.7)
Delegator	19 (14.5)

DISCUSSION

The results of this study showed that the preferred teaching style of the teachers is the Expert style, which is in agreement with the results of Amini in Shiraz (2), Razaghinejad in Rafsanjan (6), and Arbabi Sanjarlo in Zahedan (15), where the preferred style of medical teachers was reported to be Expert style. The results of a study at UUM University of Malaysia also showed that many teachers use Expert teaching styles (8). Grasha and Smith believed that the most preferred teaching style of teachers is Expert style (14, 17) considering that the most important facts that students should acquire scientific principles and concepts. Therefore, in this teaching style, the knowledge and expertise needed by the students is important for the professor, and one-way for transferring knowledge from the professor to the student is ongoing. As a result, the learner has a passive role in the class and this teaching style does not lead to the development of the student's capacity to gain independence, responsibility, and participation. Probably, the main reason why medical teachers pay more attention to teacher-centered and subject-centered educational methods in comparison with student-centered and problem-centered interactive methods is the high volume of course materials and the compression of the

Table 2. Frequency distribution of teaching styles of teachers by demographic characteristics

Variable	Expert N (%)	Formal N (%)	Personal N (%)	Facilitator N (%)	Delegator N (%)	p-value	
Gender	Female	13(22.4)	14(24.1)	8(13.8)	11(19.0)	12(20.7)	0.074
	male	24(32.9)	13(17.8)	5(6.8)	24(32.9)	7(9.6)	
Age group	≤ 40 years	8(22.4)	10(24.1)	5(13.8)	17(19.0)	5(20.7)	0.163
	> 40 years	29(33.7)	17(19.8)	8(9.3)	18(20.9)	14(1.3)	
Background of education	≤ 10 years	19(26.4)	13(18.1)	8(11.1)	21(29.2)	11(15.3)	0.852
	> 10 years	18(30.5)	14(23.7)	5(8.5)	14(23.7)	8(13.6)	
Field of education	Basic	9(15.8)	18(31.6)	3(5.3)	22(38.6)	5(8.8)	0.001
	Clinical	28(37.8)	9(12.2)	10(13.5)	13(17.6)	14(18.9)	
Academic grade	lecturer	1(25.0)	2(50.0)	0(0.0)	1(25.0)	0(0.0)	0.905
	Assistant	21(26.6)	15(19.0)	8(10.1)	22(27.8)	13(16.5)	
	Associated	10(32.3)	7(22.6)	4(12.9)	6(19.4)	4(12.9)	
	Professor	5(33.3)	3(20.0)	0(0.0)	5(33.3)	2(13.3)	

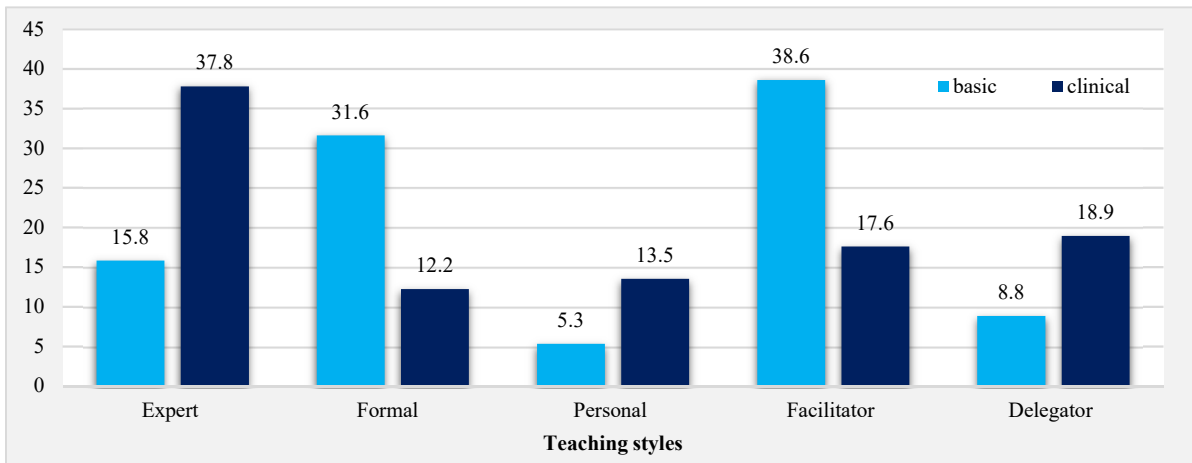


Figure 1. Frequency distribution of teaching style of basic and clinical medical teachers

academic duration.

The results of various studies showed that in higher education centers, especially universities of medical sciences, the preferred teaching style of teachers is the use of a teacher-centered style in education and knowledge transfer (1, 13, 18, 19). It is known that teachers who use student-centered teaching styles perform better and get higher grades compared to teachers who use teacher-centered teaching styles (6, 20) This issue needs the attention of educational managers of medical schools in revising the curriculum and especially providing the basis for more use of interactive and student-centered methods.

The findings of this study showed that the teaching style of the basic teachers is different from the clinical ones. Basic teachers mainly use the Facilitator style. The nature of basic science courses and the less need for practical activities raise the grounds for more use of this teaching style by the members of the basic science faculty. In this teaching style,

students are encouraged to participate in scientific activities and get help from the ability and experience of teachers to find solutions to problems. But preferred style or, the preferred teaching style of clinical teachers has been the Expert style, which is a teacher-centered style that emphasizes information transfer. The reason for the use of expert teaching style by clinical academic teachers may be due to maintaining the professor's scientific position among students or lack of familiarity with appropriate teaching styles. According to the results of various studies (21, 22) on the effectiveness of student-centered interactive teaching styles in comparison to teacher-centered styles, it is recommended to familiarize teachers with teaching styles and help them choose the appropriate teaching style.

The finding showed there was no relationship between the teaching style and the gender, age, and teaching experience of the faculty members; which was similar with finding of previous studies, such as Hassanzadeh (7), Darvish Kadhi

(23), and Keri (24). The results also showed no significant relationship between the academic rank and the teaching style, which is consistent with the findings of Razaghinejad (6) and Hassanzadeh (7). However, the results of some studies contradict these findings. For example, Bradney reported that there is a significant relationship between gender and teachers' teaching style. Razaghinejad also reported in a study that there is a significant difference between gender and teaching style (6) which is not consistent with the results of the present study. This can be due to the difference in the sampling and the target group and the educational environment and other factors that exist in education system.

The results of various studies have shown that the performance of learners has improved after the use of different teaching styles (5, 8, 20). There are different styles that teachers can use in the learning process (3), but teachers should choose the most appropriate teaching style according to the subject, the learners, and the learning environment. The researchers believe that faculty members in the new era should have the necessary knowledge and awareness about different teaching styles so that they can handle the huge responsibility they have in the field of teaching the content of the courses well (25). Therefore, teachers should be aware of their teaching style and its effect on students' learning and choose and implement effective teaching style according to conditions and facilities. The teaching style of a teacher is vital in training students. Teachers should identify teaching styles and coordinate their teaching style with students' learning styles to help them.

According to the finding of this study, the preference of the teachers is to use Expert and Facilitator styles, and since these teaching styles lead to increasing the ability of students in learning and cooperation in practical work and more responsibility for the academic progress of students, it is very important that teachers create enthusiasm by increasing mutual understanding and transparency of their teaching style so that they can increase the efficiency of their styles. Because excessive use of a specific styles such as Expert style can be tiring for young and inexperienced learners and it may reduce their learning rate. Therefore, teachers should try different teaching styles to reach the objectives of their lesson.

One of the limitations of this study was the non-cooperation

of some teachers in filling out the questionnaire, which led to a decrease in the response rate. Since the only respondents in this study were teachers of a medical school, it is recommended to use a larger sample including a wider range of medical schools in future studies. To identify the differences in teaching style, the teaching styles of teachers from different medical schools can be compared too. Also, by comparing the level of students' satisfaction with different teaching styles and the relationship between learning style of the students and teaching style of the teachers, the quality of training will be improved.

CONCLUSION

The findings of this study indicated that the teachers mostly use the Expert and Facilitator teaching style and the Personal Model teaching style is the least used. The preferred style of basic science teachers is Facilitator style; while the preferred style of clinical teachers was Expert style. There was no significant difference between the teaching styles of the teachers according to their individual characteristics, and this shows that the university teachers are still not familiar with different teaching styles and prefer the traditional styles in the classroom. These findings highlight the need for planning to empower teachers and familiarize them with different teaching styles. Considering the variety of styles, it is suggested that teachers familiarize themselves with different teaching styles and try to adapt their teaching style to the students' learning style.

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 study was approved by the Ethics Committee of Ahvaz Jundishapur University of Medical Sciences (Ethic Code: IR.AJUMS.REC.1399.420).

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