ORIGINAL ARTICLE

The Effect of Logbook on the Clinical Training Aspects of Oral Medicine from the Perspective of Students and Faculties of Ahvaz School of Dentistry

Fatemeh Babadi[1],
Mohammad Shooriabi[1],
Hamed Saberikia[2,*], Maria
Cheraghi[3]

[1]Department of Oral and
Maxillofacial Medicine,
School of Dentistry, Ahvaz
Jundishapur University of
Medical Sciences, Ahvaz,
Iran

[2]Student Research
Committee, Ahvaz
Jundishapur University of
Medical Sciences, Ahvaz,
Iran

[3]Department of Oral Health
and Social Dentistry, School
of Dentistry, Social
Determinant of Health
Research Center, Ahvaz
Jundishapur University of
Medical Sciences, Ahvaz,
Iran

*Ahvaz Jundishapur
University of Medical
Sciences,
Golestan St.
Ahvaz, 6135715775
Iran

Tel: +986133205168
Fax: +986133205320
Email:
saberikia.h@ajums.ac.ir

Background: Assessing students' clinical performance is one of the most difficult tasks of faculty members. Logbook is one of the most effective methods for educational assessment. The aim of the present study was to assess the efficacy of logbook from the viewpoints of Ahvaz dental students and faculty members of Oral and Maxillofacial Medicine department.

Methods: The present cross-sectional study was conducted on the 70 students and six faculty members of Department of Oral and Maxillofacial medicine, School of Dental Medicine, Ahvaz Jundishapur University of Medical Sciences. The questionnaire obtained from the previous studies and included four areas of necessity, quality, format, and implementation process and the way of completing the logbook. Data were analyzed using descriptive statistical analysis, independent t-test, and SPSS ver.18.

Results: The viewpoint of faculty members regarding the four features of logbook and the overall view of the logbook was more than those of students. However, no significant difference was found between the viewpoint of students and faculty members. 50.7% of the students and more than 50% of the faculties considered the use of the logbook necessary to ensure consistent educational standards in clinical training. They also showed that the logbook meets all 50% of the educational standards both in format and implementation process.

Conclusion: Faculty members and students showed a positive view toward using logbooks, but positive overall view of the faculty members was more than those of students. Therefore, reviewing the logbook is not necessary, but more familiarity with the logbook content seems to be important.

Keywords: Logbook, Students, dental, Educational Measurement

أثر السجل التعليمي على جوانب التدريب السريري لطب الفم من وجهة نظر طلاب و أعضاء هيئة التدريس بكلية أهواز لطب الأسنان

مقدمة: يعد تقييم الأداء السريري للطلاب أحد أصعب المهام لأعضاء هيئة التدريس و يعد السجل التعليمي أحد الطرق فعالية للتقييم التربوي. الهدف من هذه الدراسة هو تقييم فعالية السجل من وجهة نظر طلاب طب الأسنان و أعضاء هيئة التدريس بقسم طب الفم و الوجه و الفكين في جامعة اهواز.

الطريقة: أجريت الدراسة المستعرضة الحالية على ٧٠ طالبًا و ستة من أعضاء هيئة التدريس بقسم طب الفم و الوجه و الفكين في كلية طب الأسنان بجامعة الأهواز جوندي‌شابور للعلوم الطبية. تم إعداد الاستبيان من الدراسات السابقة و تضمن أربعة مجالات للضرورة و الجودة و الشكل و عملية التنفيذ و كيفية استكمال السجل. تم تحليل البيانات باستخدام التحليل الإحصائي الوصفي ، واختبار t المستقل ، و SPSS ver.18.

النتائج: كانت وجهة نظر أعضاء هيئة التدريس فيما يتعلق بالسمات الأربع للكتاب و المنظور العام للكتاب أكثر من الطلاب. ومع ذلك ، لم يتم العثور على فرق كبير بين وجهة نظر الطلاب و أعضاء هيئة التدريس. اعتبر ٥٠.٧٪ من الطلاب و أكثر من ٥٠٪ من أعضاء هيئة التدريس استخدام السجل لازما لضمان المعايير التعليمية المتسقة في التدريب السريري. كما أظهروا أن السجل يستوفي جميع المعايير التعليمية بنسبة ٥٠٪ سواء من حيث الشكل أو التنفيذ.

الخاتمة: أظهر أعضاء هيئة التدريس و الطلاب نظرة إيجابية على السجل ، و لكن النظرة الإيجابية الشاملة لأعضاء هيئة التدريس كانت أكثر من الطلاب. لذلك ، ليس من الضروري مراجعة السجل ، و لكن يبدو من الضروري معرفة المزيد عن محتواه.

الكلمات المفتاحية: دفتر الطلاب(السجل التعليمي)، طب الأسنان ، القياس التربوي

تأثیر لاگ بوک بر جنبه های آموزش بالینی در بخش بیماری های دهان از دیدگاه دانشجویان و اعضای هیأت علمی دانشکده دندانپزشکی اهواز

زمینه و هدف: ارزشیابی کارایی بالینی دانشجویان یکی از مشکل ترین وظایف اعضای هیأت علمی می باشد. لاگ بوک یکی از مؤثرترین شیوه های ارزشیابی محسوب می شود. هدف از مطالعه حاضر ارزیابی اثر لاگ بوک از دیدگاه دانشجویان و اعضای هیأت علمی بخش بیماری های دهان دانشکده دندانپزشکی اهواز بود.

روش: این مطالعه کراس سکشنال بر روی ۷۰ نفر از دانشجویان و ۶ نفر از اعضای هیأت علمی بخش بیماری های دهان دانشکده دندانپزشکی دانشگاه علوم پزشکی اهواز انجام شد. پرسشنامه از مطالعات قبلی تهیه شد و شامل چهار حیطه ی ضرورت، کیفیت، فرمت و اجرا و نحوه ی تکمیل لاگ بوک بود. تجزیه و تحلیل داده ها با استفاده از آمار توصیفی، آزمون تی مستقل و تحت نرم افزار SPSS ورژن۱۸ انجام شد.

یافته ها: دیدگاه اعضای هیأت علمی در چهار حیطه لاگ بوک و همچنین دیدگاه کلی نسبت به لاگ بوک از دانشجویان مثبت تر بود. اما بین دیدگاه دانشجویان و اعضای هیأت علمی تفاوت معناداری مشاهده نشد. ۵۰.۷ درصد از دانشجویان و بیش از ۵۰ درصد از اعضای هیأت علمی استفاده از لاگ بوک را از آن جهت که سبب نظم و انسجام در فعالیت آموزش بالینی می شود ضروری می دانستند. آن ها همچنین نشان دادند که لاگ بوک با ۵۰٪ از استانداردهای آموزشی هم در فرمت و هم در فرآیند اجرا مطابقت دارد.

نتیجه گیری: در مجموع اعضای هیأت علمی و دانشجویان دیدگاه مثبتی نسبت به لاگ بوک داشتند اما دیدگاه اعضای هیأت علمی مثبت تر بود. از این رو بازنگری در لاگ بوک ضروری نبوده اما آشنایی بیشتر با محتوای آن ضروری به نظر می رسد.

واژه های کلیدی: لاگ بوک، دانشجویان، دندانپزشکی، ارزیابی آموزشی

اہواز کی ڈینٹل کالج کی اکیڈمک کونسل اور طلباء کی نظر میں کلینیکل تعلیم پر لاگ بک کے مفید اثرات کا جائزہ ۔ یہ تحقیق اہواز میڈیکل یونیورسٹی کے منہ کی بیماریوں کے شعبہ میں انجام دی گئی

بیک گراونڈ: میڈیکل طلباء کی کلینیکل تعلیم کے موثر ہونے کا اندازہ لگانا ہر فیکلٹی کی اکیڈمک کونسل کی ذمہ داری ہوتی ہے اور اس سے عہدہ برآ ہونا قدرے دشوار بھی ہوتا ہے۔ لاگ بک کلینیکل تعلیم کے موثر ہونے کا اندازہ لگانے کا ایک اہم وسیلہ ہے۔ اس تحقیق کا ہدف اہواز میڈیکل یونیورسٹی کے منہ کی بیماریوں کے شعبہ میں لاگ بک کے موثر ہونے کا جائزہ لینا ہے۔

روش: اس تحقیق میں ستر طلبا اور چھے اساتذہ نے شرکت کی ۔ تحقیق کے لئے سوالنامہ بنایا گیا تھا جس میں چار ابواب یعنی لاگ بک کی ضرورت ، کیفیت ، فارمیٹ اور عملی طریقہ کاراور لاگ بک کو مکمل کرنے کے تحت سوالات پوچھے گئے تھے۔ ڈیٹا کا تجزیہ ٹی ٹسٹ اور ایس پی ایس ایس اٹھارہ سافٹ ویر سے کیا گیا۔

نتیجہ: اساتذہ اور طلبا نے لاگ بک کے بارے میں مثبت نظر کا اظہار کیا ہے۔ ان لوگوں کا کہنا ہے کہ لاگ بک کلینیکل تعلیم میں نظم کی برقراری میں مدد گار ثابت ہوتی ہے لھذا اس کی ضرورت ہوتی ہے۔ ان لوگوں کا کہنا ہے کہ لاگ بک پچاس فیصد تک تعلیمی معیارات ، فارمیٹ اور عملی تعلیم سے مطابقت رکھتی ہے ۔

سفارش: مجموعی طور پر طلبا اور اساتذہ نے لاگ بک پر مثبت نظر کا اظہار کیا ہے لیکن طلبا سے زیادہ اساتذہ نے لاگ بک کے بارے میں تاکید کی ہے، اور کہا ہے کہ اسی وجہ سے لاگ بک پر نظر ثانی کرنے کی ضرورت نہیں ہے البتہ اس کے مضامین سے بیشتر آشنائی ضروری ہے۔

کلیدی الفاظ: لاگ بک ، طلباء ، ڈینٹل فیکلئی

INTRODUCTION

In medical education, the clinical education has a strong relationship with the quality of the clinical learning environment i.e. the theoretical knowledge that transfers into clinical practice (1). Assessment of student performance in clinical settings is one of the most difficult tasks of faculty members and health education specialists (2). In clinical evaluation, the student's exposure to the patient and student's progress in achieving the objectives of the desired skills must be assessed (3). Evaluation of education programs and identifying the strengths and weaknesses in training process reinforce the positive aspects and assist education decision makers to initiate meaningful change in education (4). A wide range of clinical assessment methods are currently available including observational measurement, rating scales, student writing portfolio report, systematic daily or hourly record of activities or logbook (5). One of the methods to solve clinical problems is to continuously evaluate the achievement with reference to a certain goals and objectives designed by education program using logbook (6). Logbook is one of the powerful positive steering assessment methods on learning and educational curriculum (7).

A logbook is a booklet of skills which describes some of the main tasks students are expected to perform. After completing each of the assignments and recording the details including date, time, and manner, the academic and clinical performance of students are monitored and approved by faculties using paper-based students' logbook (8). So, recording the detailed data in the operational logbook avoids forgetting, pedagogical bias, and students' misunderstandings and misconceptions (9). Learning goals are already set in the logbook, and students receive equal educational opportunities (10). Logbooks can help teachers and students to achieve educational and clinical goals as they reduce the gap between theoretical knowledge and clinical practice (7). Various studies have shown that the use of logbooks is more effective than traditional evaluation methods (11, 12). Unfortunately, most evaluation methods evaluate professional knowledge, not professional competence (13). The results of some studies have shown that the contents of some logbooks are far from ideal educational pattern and do not provide feedback on students' performance and adaptation of instruction, so they require some modification (14, 15). A study on Nottingham University students' logbooks has shown improved overall trend; however, some faculties and students are not familiar with the purpose and importance of using logbooks. Also, some students were reluctant to record their actions and share their activities in order to receive signed consent from their faculties (16). There is a little evidence in the literature regarding the use of a clinical logbook to evaluate dental education. In a study conducted at School of Dentistry of Shiraz University, the findings showed that logbooks help teachers and students to achieve their educational and clinical goals due to the reduced gap between theoretical knowledge and clinical performance, despite the fact that the students were reluctant to fill their logbooks (17). The aim of the present study was to assess the effect of logbook on the clinical training aspects of oral medicine from the perspective of students and faculties of Department of Oral and Maxillofacial Medicine, School of Dentistry, Ahvaz Jundishapur University of Medical Sciences (AJUMS).

METHODS

The present cross-sectional study was conducted in 2019 at the AJUMS School of dentistry. The participants included six (n=6) faculty members and 70 (n=70) dental students in the 8th semester who were registered and enrolled for a course of diagnosis of oral diseases (practical 2). The students participated in this study were all from the same entry; however, students with different entries were excluded from the study. All the students were qualified for the study and were at the high level of proficiency with the grade point average (GPA) of "15.66".

Data were collected using a written questionnaire and logbook. The logbook was designed and approved by a number of faculty members at the department of oral and maxillofacial medicine according to the chapters provided by the Ministry of Health in Iran. Application of designed logbook was approved by Department of Education Development Center (EDC), AJUMS.

The questionnaire was developed based on the previous relevant studies (18). The questionnaire validity was confirmed by faculties of oral and maxillofacial medicine department. The reliability of the questionnaire was determined by administering 10 dental students responded to the questionnaire twice in a 10-day interval. The coefficient of correlation between the two tests was 80% (the reliability of questionnaire was confirmed). The questionnaire was divided into two sections including demographic information and questions about the quality and necessity of using the logbook, as well as an open-ended question about participants' viewpoints. The first part of the questionnaire contained demographic information. The second part consisted of 42 questions that described the participants' views on the logbook in four domains as following: 1- The necessity of using the logbook including 8 questions on a 5-point Likert scale (0= strongly disagree, 1= disagree, 2= Neutral, 3= agree, and 4= strongly agree with the minimum and maximum scores of 0-32). 2- How to complete the logbook including 4 questions on a 5-point Likert scale (0= strongly disagree, 1= disagree, 2= Neutral, 3= agree, and 4= strongly agree with the minimum and maximum scores of 0-16). 3- Quality of the logbook content including 22 questions on a 5-point Likert scale (0= strongly disagree, 1= disagree, 2= Neutral, 3= agree, and 4= strongly agree with the minimum and maximum scores of 0-88). 4- Consequences of designing the form and process of logbook implementation including 8 questions on a 5-point Likert scale (0= strongly disagree, 1= disagree, 2= Neutral, 3= agree, and 4= strongly agree with the minimum and maximum scores of 0-32). The minimum and maximum scores in four domains were 0 and 169, respectively. The questionnaire also included an open-ended question. After course registration, students were provided with a logbook. Students were logged their attendance in details (date, time,

student participation, quality of performance) in the logbook and their attendance signed off and approved at the end of the clinical tasks. At the end of the semester students were asked to complete the questionnaire. The detailed notes were explained to the students and informed consent was obtained. The students completed the questionnaire in the presence of the interviewer. Data were analyzed using descriptive statistics, independent t-test, and SPSS ver.18.

RESULTS

In the present study, the data from the questionnaire were analyzed using descriptive statistics (mean and standard deviation) and independent t-test to compare participants' viewpoints.

The mean age of students and faculty members was 23.6 and 36.8 years, respectively. 66.6% of the faculties and 67.1% of the students were female. The faculties had specialized doctoral degrees in the field of oral diseases. The mean score of self-assessment of the faculty members and students are presented in Table 1.

The mean score of faculty members in the four domain of study (1-The necessity of using the logbook 2- How to complete the Logbook 3- Quality of Logbook content 4- Consequences of designing the form and process of logbook implementation) was more than those of the students. But, according to Table 2, this difference was not significant in any of the indices, i.e. no significant difference was observed between faculties' and students' viewpoints (p-value=0.451). 50.7% of the students and more than 50% of the faculties believed that using the logbook causes discipline and

consistency in educational activities (Table 3). Over 66.7% of faculties believed that logbooks enhance students' ability to perform clinical tasks and also increase student's awareness of educational objectives, and over 45.7% of the students also agreed with them.

The students' and faculties' viewpoints on the quality of the logbook content are shown in Table 4. More than 66.7% of the faculties believed that the educational goals, the overall report of the number of clinical activities in each course, and students clinical evaluation item were included in the logbook and the clinical activities designs were consistent with the students' ability. More than 69.2% of the students agreed with the faculties' viewpoints.

The results of table 5 indicate that the format and implementation process designed in the logbook meet 50% of the needs and expectations from the viewpoint of students and faculties. Concerning how to fill the logbook, more than 56.3% of the students were interested in completing the logbook (Table 6).

The results of the study showed that 20% of the participants believed that using the electronic logbooks and correcting their appearance improve the quality of logbooks. Furthermore, assigning a higher score for filling the logbook in the final exam was recommended by participants.

DISCUSSION

The aim of the present study was to evaluate the effect of logbook on the clinical training aspects of oral medicine from the perspective of students and faculties of AJUMS Department of Oral and Maxillofacial Medicine, School of Dentistry.

Table 1. Mean and standard deviation of scores from all individual items among students and faculties

Type of assessment	Participants	Mean	SD	Std. Error Mean
Necessity	Student	21.086	7.848	0.938
Necessity	Faculty member	26.667	5.888	2.404
Quality of content	Student	61.071	18.096	2.163
Quality of content	Faculty member	62.833	15.012	6.129
Format and implementation process	Student	23.057	7.303	0.873
Format and implementation process	Faculty member	25.667	5.989	2.445
Overall view	Student	105.214	31.284	3.739
Overall view	Faculty member	115.167	24.359	9.945

Table 2. T-test results comparison of viewpoints of students and faculties

Type of assessment	"t"	Degree of freedom (DF)	Significance level (α)	Mean difference	Standard error of mean difference	95% confidence interval of the difference	
Necessity	-1.697	74	0.094	-5.581	3.289	-12.134	0.972
Quality of content	-0.231	74	0.818	-1.762	7.616	-16.937	13.414
Format and implementation process	-0.849	74	0.398	-2.610	3.072	-8.731	3.511
Overall view	-0.758	74	0.451	-9.952	13.129	-36.113	16.208

Table 3. The necessity of using logbook from the viewpoints of students and faculties

Item	Student					Faculty			
	strongly disagree	disagree	Neutral	agree	strongly agree	strongly disagree	disagree	Neutral	agree	strongly agree
	Number (%)									
The use of logbooks is essential	4(5.7)	11(15.7)	12(17.1)	30(42.9)	13(18.6)	0(0)	0(0)	1(16.7)	2(33.3)	3(50)
Increases students' motivation	5(7.1)	9(12.9)	12(17.1)	31(44.3)	13(18.6)	0(0)	0(0)	1(16.7)	3(50)	2(33.3)
improve teacher evaluations	2(2.9)	10(14.3)	8(11.4)	27(38.6)	23(32.9)	0(0)	0(0)	1(16.7)	2(33.3)	3(50)
Improve discipline and consistency in educational activities	3(4.3)	7(10.1)	6(8.7)	35(50.7)	18(26.1)	0(0)	0(0)	1(16.7)	2(33.3)	3(50)
Increases students' ability to perform clinical tasks	3(4.3)	13(18.6)	9(12.9)	30(42.9)	15(21.4)	0(0)	0(0)	1(16.7)	1(16.7)	4(66.7)
Increases students' awareness of educational objectives	3(4.3)	10(14.3)	8(11.4)	32(45.7)	17(24.3)	0(0)	0(0)	1(16.7)	1(16.7)	4(66.7)
Improve student theoretical knowledge in relation to clinical practice	3(4.3)	11(15.7)	12(17.1)	33(47.1)	11(15.7)	0(0)	0(0)	1(16.7)	3(50)	2(33.3)
Improves student attitude	4(5.7)	10(14.3)	14(20)	29(41.4)	13(18.6)	0(0)	0(0)	1(16.7)	2(33.3)	3(50)

Table 4. The quality of content logbook from the viewpoints of students and faculties

Item	Student					Faculty			
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	Number (%)									
Educational Objectives are included in the log books	2(2.9)	3(4.3)	14(20)	34(48.6)	17(24.3)	0(0)	0(0)	2(33.3)	0(0)	4(66.7)
Minimum educational requirements for each course are included in the logbook	2(2.9)	5(7.1)	13(18.6)	35(50)	15(21.4)	0(0)	0(0)	3(50)	0(0)	3(50)
The introductory guidelines for each course are included in the logbook	2(2.9)	2(2.9)	12(17.1)	38(54.3)	16(22.9)	0(0)	1(16.7)	2(33.3)	0(0)	3(50)
A list of student study resources is included in the logbook	3(4.3)	6(8.6)	11(15.7)	35(50)	15(21.4)	0(0)	1(16.7)	3(50)	0(0)	2(33.3)
The clinical skills that a student must learn during each course are included in the logbook	2(2.9)	6(8.6)	8(11.4)	37(52.9)	17(24.3)	0(0)	1(16.7)	3(50)	0(0)	2(33.3)
Presentation of scientific conferences in each course is included in the logbook.	2(2.9)	2(2.9)	13(18.6)	37(52.9)	16(22.9)	0(0)	1(16.7)	2(33.3)	1(16.7)	2(33.3)
Overall report of the number of clinical activities performed in each period is included in the logbook	2(2.9)	3(4.3)	13(18.8)	33(47.8)	18(26.1)	0(0)	0(0)	2(33.3)	0(0)	4(66.7)
Ethics and professional skills module are provided in the logbook	3(4.3)	8(11.4)	13(18.6)	27(38.6)	19(27.1)	0(0)	0(0)	2(33.3)	1(16.7)	3(50)

Table 4. Continued

Item	Student					Faculty			
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	Number (%)									
The educational goals listed in the logbook are consistent with the clinical lesson plan	3(4.3)	6(8.7)	15(21.7)	25(36.2)	20(29)	0(0)	0(0)	2(33.3)	2(33.3)	2(33.3)
The minimum educational requirements listed in the logbook are consistent with the clinical lesson plan	3(4.3)	4(5.7)	13(18.6)	32(45.7)	18(25.7)	1(16.7)	0(0)	1(16.7)	1(16.7)	3(50)
The internal regulations listed in the logbook are consistent with the clinical lesson plan	5(7.4)	5(7.4)	14(20.6)	26(38.2)	18(26.5)	1(16.7)	0(0)	2(33.3)	1(16.7)	2(33.3)
References listed in the logbook are consistent with the clinical lesson plan	6(8.6)	5(7.1)	15(21.4)	27(38.6)	17(24.3)	1(16.7)	0(0)	2(33.3)	1(16.7)	2(33.6)
The clinical skills listed in the logbook are consistent with the clinical lesson plan	3(4.3)	7(10)	11(15.7)	30(42.9)	19(27.1)	0(0)	0(0)	2(33.3)	1(16.7)	3(50)
The activities planned in the logbook are relevant to the needs of the students	3(4.4)	4(5.9)	12(17.6)	32(47.1)	17(25)	0(0)	0(0)	1(16.7)	2(33.3)	3(50)
The activities designed for the logbook are in line with the clinical facilities	6(9)	7(10.4)	9(13.4)	29(43.3)	16(23.9)	0(0)	0(0)	1(16.7)	3(50)	2(33.3)
The information required for any activity is appropriate for processing activities	2(2.9)	10(14.5)	10(14.5)	32(46.4)	15(21.7)	0(0)	0(0)	2(33.3)	1(16.7)	3(50)
The activities planned in the logbook are consistent with the students abilities	4(5.9)	4(5.9)	13(19.1)	32(47.1)	15(22.1)	0(0)	0(0)	1(16.7)	1(16.7)	4(66.7)
Some of the designed activities are considered as extra activity	2(2.9)	4(5.8)	19(27.5)	27(39.1)	17(24.6)	2(33.3)	1(16.7)	2(33.3)	0(0)	1(16.7)
The layout of the logbook is desirable	3(4.3)	7(10.1)	8(11.6)	29(42)	22(31.9)	0(0)	0(0)	2(33.3)	3(50)	1(16.7)
Logbook provides faculties's inside advice for students clinical errors	2(2.9)	6(8.7)	11(15.9)	34(49.3)	16(23.2)	0(0)	0(0)	2(33.3)	2(33.3)	2(33.3)
Logbook provides items for evaluation of the student	2(2.9)	5(7.1)	7(10)	35(50)	21(30)	0(0)	0(0)	1(16.7)	4(66.7)	1(16.7)
Logbook provides items for student self-assessment in	3(4.3)	4(5.7)	12(17.1)	28(40)	23(32.9)	0(0)	2(33.3)	3(50)	0(0)	1(16.7)

Table 5. Format and implementation process of logbook from the viewpoints of students and faculties

Item	Student					Faculty			
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	Number (%)									
Introducing the student to the learning tasks in each department	2(2.9)	2(2.9)	10(14.3)	35(50)	21(30)	0(0)	0(0)	1(16.7)	2(33.3)	3(50)
Targeting students' efforts toward learning assigned tasks	2(2.9)	5(7.1)	10(14.3)	33(47.1)	20(28.6)	0(0)	0(0)	1(16.7)	3(50)	2(33.3)
Targeting teachers' efforts in teaching assigned tasks	3(4.3)	6(8.6)	12(17.1)	30(42.9)	19(27.1)	0(0)	0(0)	1(16.7)	3(50)	2(33.3)
Creating educational requirements for students	3(4.3)	3(4.3)	14(20)	30(42.9)	20(28.6)	0(0)	0(0)	1(16.7)	3(50)	2(33.3)
developing positive teacher-student interaction	4(5.8)	4(5.8)	13(18.8)	30(43.5)	18(26.1)	0(0)	0(0)	1(16.7)	3(50)	2(33.3)
Encouraging faculties to observe student practice and provide feedback	3(4.3)	5(7.1)	11(15.7)	29(41.4)	22(31.4)	0(0)	0(0)	1(16.7)	3(50)	2(33.3)
Documenting student internal activity	3(4.3)	7(10)	10(14.3)	26(37.1)	24(34.3)	0(0)	0(0)	1(16.7)	2(33.3)	3(50)
Scope and standards of students practice in Common diseases	2(2.9)	5(7.1)	9(12.9)	32(45.7)	22(31.4)	0(0)	0(0)	1(16.7)	3(50)	2(33.3)

Table 6. How to fill out logbook from the viewpoints of students and faculties

Item	Student					Faculty			
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	Number (%)									
I care about completing the logbook	3(9.4)	8(25)	3(9.4)	12(37.5)	6(18.8)	1(2.6)	3(7.9)	4(10.5)	18(47.4)	12(31.6)
I complete the logbook daily	4(12.5)	5(18.8)	9(28.1)	10(31.3)	3(9.4)	1(2.6)	6(15.8)	5(13.2)	17(44.7)	9(23.7)
I consult with faculty members to complete the logbook	3(9.4)	6(18.8)	7(21.9)	12(37.5)	4(12.5)	1(2.6)	2(5.3)	8(21.1)	14(36.8)	13(34.2)
I have specific criteria for completing the logbook	2(6.3)	9(28.1)	10(31.3)	7(21.9)	4(12.5)	1(2.8)	2(5.6)	11(30.6)	15(41.7)	7(19.4)

The findings of the present study showed that faculty members and students both had positive views toward using a logbook. Faculties' view of logbook was more positive than those of the students, but there was no statistically significant difference between the two groups. Regarding the necessity of using logbooks, faculties and students found it necessary to create discipline in educational activities, increase student's ability to perform clinical tasks, and raise student awareness of educational goals and theory related to clinical practice.

In this study, more than 60% of students and faculties considered logbooks necessary to enhance students' ability to perform clinical tasks.

The results of the study by Wendy et al. in 2001 on 74 medical students in California showed that students who used logbooks in the clinical experience had more ward rounds, higher-acuity patients, and performed more procedures compared to the other group (19). In the present study, the participants found logbooks necessary since it would make a better evaluation of the students (50%) and increase students' motivation (44.3%).

Blake et al. (2002) in a study conducted in Canada showed that logbook can determine student-teacher roles and responsibilities, provide a means for teachers to select appropriate methods, and make it easier for teachers to evaluate the student performance especially at the end of the

student's courses (20).

Mazareie et al. (2016) showed that 60% of the students were satisfied with the logbook and believed that the logbook is a practical and useful assessment tool for evaluating the students and achieving learning objectives. Likewise, logbook was considerd as a practical tool that clearly states the educational objectives and clarifies the minimum requirements for each department (17).

Asgari et al. (2016) reported that logbooks provide educational motivation and increase student satisfaction (21). Cornwall and Doubtfire (2002) examined the use of the Royal College of Psychiatrists' trainee's logbook by a cross-sectional survey of psychiatric trainees and their consultant trainers. According to the results of the study, 80% of trainers believed that logbooks would improve the quality of training, while only 60% of trainees shared similar views which it was consistent with the results of the present study (22).

Najafi et al. (2017) in a study showed that 87.5% of faculties and 44% of the students believed that using logbooks was necessary in the practical courses. Regarding the quality of the logbook content, it was also showed that the educational objectives were included in the logbook and meet the student learning needs and ability which was consistent with the results of the present study (18).

Khorashadizadeh and Alavinia (2012) suggested that a logbook has the potential to become an objective assessment tool with the self-evaluation and better accountability which should provide valid, relevant, and reliable data (23).

Regarding the format and process of logbook implementation, the present study had a positive view of the items in this domain which was inconsistent with the results of Najafi et al.'s study (18).

The area of how to complete the log was evaluated only for the students and showed that the attitude of the female students towards the completion of the logbook was significantly more positive than that of the male students. As well as, the results of Najafi et al.'s study showed that a significant number of students cared about completing the logbook and they filled out the logbook everyday (18). But, in the study of Mazareie et al. students did not attach much importance to fill out the logbook due to the heavy workload of the clinical practice and the lack of emphasis on filling out the logbook by faculties (17).

Rees and Sheard (2004) in a study conducted in Nottingham university showed that despite improvement in the general trend, some students and educators are not familiar enough with the importance and objectives of the logbooks (24).

The results of the present study showed that in three areas of necessity, quality of logbook content, and format and its implementation process of logbook, faculties' viewpoints were more positive than those of the students, but there was no significant difference in their viewpoints. However, in Najafi et al.'s study a significant difference was found between faculties' and students' viewpoints and therefore they considered it necessary to revise the content of the logbook (17).

Murray et al. (2001) in a study concluded that, despite apparently similar timetables, individual students have very different experiences. Therefore, a review on the logbook was considered necessary (25).

There are two major limitations in this study that could be addressed in future research. First, the study did not focus on alternative assessment methods and also the studied method was not compared with those using the traditional methods. Second, the performance thresholds were calculated regardless of students' scores.

In the present study, revision of the prepared logbook was not considered necessary. However, holding workshops is essential to foster students' learning and optimize students' use of logbooks, so that it can reinforce faculties in logbook assessment.

Faculty members and students showed a positive view on four domains of a logbook (the necessity of using the logbook, how to complete the logbook, quality of the logbook content, consequences of designing the form and process of logbook implementation); however, positive overall view of the faculty members was more than those of the students. Therefore, reviewing the logbooks is not necessary, but more familiarity with the logbook content and supplementary experimental workshops for students seem necessary.

REFERENCES

1. Gerzina TM, McLean T, Fairley J. Dental clinical teaching: perceptions of students and teachers. J Dent Educ. 2005;69(12):1377-84.
2. Wilkinson TJ, Frampton CM. Comprehensive undergraduate medical assessments improve prediction of clinical performance. Med Educ. 2004;38(10):1111-6.

3. Tabatabaei MK, Toosi MB. Analytical study of the four-choice conjecture of the Faculty of Medicine of Mashhad University of Medical Sciences in the second semester of 1379-80. J Med Faculty. 2002;45(76):89-95. Persian.
4. Yousefzadeh S, Golmakani N. The Midwifery Students' Perspective about

Clinical Evaluation Based on Log book. J Res Dev Nurs Midwifery. 2012;9(1):103-11. Persian.
5. Mattern WD, Weinholtz D, Friedman CP. The Attending Physician as Teacher. N Engl J Med. 2010;308(19):1129-32.
6. Khaghanizadeh M, Ebadi A, Mohammadi A, Amiri F, Raeisifar A. Log

book; a method of evaluating education and feedback strategy in nursing archive of SID. Nurses Educ. 2010;3(1):41-5. Persian.

7. Asadi lari M, Moshfeghy Z, Shahpari M, Mohammad alian F. Midwifery Students' Satisfaction with Logbook as a Clinical Evaluation Tool in Shiraz University of Medical Sciences. Iran J Med Educ. 2015;15(24):170-80. Persian.

8. Azh N. Evaluation of midwifery students in labor and delivery training: comparing two methods of logbook and checklist. Iran J Med Educ. 2006;6(2):123-8.Persian.

9. Azizi M, Barati H, Khamse F, Alizadeh A. The effect of logbook design and implementation on students satisfaction and performance during a nursing internship course in military psychiatric hospital. Ebnesina- IRIAF Heal Adm. 2016;18(2):58-63. Persian.

10. Mohammadi A, Khaghanizade M, Ebadi A, Mohammadi A, Amiri F RA. Log book; A method of evaluating education and feedback strategy in nursing. Educ Strateg. 2010;3(1):41-5. Persian.

11. Ghanbari A, Monfared A. Survey of Clinical Evaluation Process Based on Logbook and Cognitive And Psychomotor Learning in Nursing Students. Res Med Educ. 2017;6(2):28-35. Persian.

12. Yaghobian M, Fakhri M. Assessment of the effect of log book on nursing and midwifery students ' clinical skills. Middle-East J Sci Res. 2011;7(6):896-902.

13. Yousefy A, Shayan S, Mosavi A. Developing a clinical performance logbook for nursing students receiving cardiac care field training. J Educ Health Promot. 2012;1(7):1-5.

14. Avizhgan M, Omid A, Dehghani M, Esmaeili A, Asilian A, Akhlaghi MR, et al. Determining Minimum Skill Achievements in Advanced Clinical Clerkship (Externship) in School of Medicine Using Logbooks. Iran J Med Educ. 2011;10(5):1-9. Persian.

15. Dolmans D, Schmidt A, Van Der Beek J, Beintema M, Gerver WJ. Does a student log provide a means to better structure clinical education? Med Educ. 1999;33(2):89-94.

16. Kelishadi R, Ardalan G, Gheiratmand R, Adeli K, Delavari A, Majdzadeh R. Paediatric metabolic syndrome and associated anthropometric indices: The CASPIAN study. Acta Paediatr Int J Paediatr. 2006;95(12):1625-34.

17. Mazareie E, Danaei SM, Hosseininezhad S, Nili M. Evaluating the effect of logbook as viewed by the juniors and seniors at Shiraz school of dentistry. Strides Dev Med Educ J Med Educ Dev Cent. 2016;13(4):395-402.

18. Najafi F, Kermansaravi F, Mirmortazavi M, Gheisaranpour H. The Efficacy of Logbook in Clinical Wards from the Viewpoints of Nursing Faculty Members and Students. Res Med Educ. 2017;9(3):64-55. Persian.

19. Coates WC, Gill AM. The emergency medicine subinternship - A standard experience for medical students? Acad Emerg Med. 2001;8(3):253-8.

20. Blake K. The daily grind - Use of log books and portfolios for documenting undergraduate activities. Med Educ. 2001;35(12):1097-8.

21. Asgari H, Ashoorion V, Ehsanpour S. Teaching and evaluation of field training course for health services management undergraduates: conventional and logbook methods. Iran J Med Educ. 2016;16(61):552-60. Persian.

22. Cornwall PL, Doubtfire A. The use of the Royal College of Psychiatrists' trainee's log book: a cross-sectional survey of trainees and trainers. Psychiatr Bull. 2002;25(6):234-6.

23. Khorashadizadeh F, Alavinia SM. Students' perception about logbooks: Advantages, limitation and recommendation- A qualitative study. J Pak Med Assoc. 2012;62(11):1184-6.

24. Rees CE, Sheard CE. The reliability of assessment criteria for undergraduate medical students' communication skills portfolios: the Nottingham experience. Med Educ. 2004;38(2):138-44.

25. Murray E, Alderman P, Coppola W, Grol R, Bouhuijs P, van der Vleuten C. What do students actually do on an internal medicine clerkship? A log diary study. Med Educ. 2001;35(12):1101-7.