# ORIGINAL ARTICLE

## Comparing the Influence of Log book on the Scores of Practical Oral Medicine Course Gained by Students of General Dentistry

**Backgrounds:** one of the most difficult tasks carried out by educators in health plan field is educational program assessment and students' clinical evaluation. Logbook is an assessing tool that reduces the distance between the theory and practice; it could be definitely worthwhile for both the professors and the students to achieve the clinical and educational objectives. The purpose of this study was to determine the Comparing the Influence of Log book on the Scores of Practical Oral Medicine Course Gained by Students of General Dentistry

**Methods:** this is a descriptive- analytic study conducted on 36 dental students who have attended the oral medicine course. The students were divided in two groups including the control and case group, randomly. The control group were assessed in the usual method and the case group where assessed by logbook. Then, the average of the grade of oral medicine unit was analyzed in two categories. The data were analyzed by T-test and SPSS 17. The significance level was P<0.05.

**Results:** the average score of the case group was significantly higher than the control group. In the case group, the average score of practical oral medicine course was 16.54(1.47) and 14.92 (2.41) was for the control group that had a statistical significance (p=0.02).

**Conclusion:** the increase in student's scores can be a motivation for applying this method in clinical assessment of the students.

**Key words:** Assessment, Oral medicine, Logbook

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مقارنه تأثیرال log book علی العلامات النهائیه فی قسم امراض الفم عند طلاب کلیه طب الاسنان.

**التمهید و الهدف:** إن من اصعب وظائف المعلمین فی المجال الصحی هو تقییم البرامج التعلیمیه و کذلک تقییم السریری للطلاب احد وسائل التقییم هو الـ log book و یعتبر من الوسائل المفیده فی الوصول الی الاهداف التعلیمیه و السریریه إن الهدف من هذه الدراسه هو تعیین اثر الـ log book علی علامات القسم العملی فی امراض ال فم عند طلاب طب الاسنان .

**الأسلوب:** اجریت هذه الدراسه التوصیفیه – التحلیلیه علی ٣٦ طالب من طلاب طب الاسنان الذی انتخبوا القسم العلمی لامراض الفم. تم تقییم المجموعه الی فریقین (الف) فریق کنترل. (ب) فریق المورد. و تم تقییم بواسطه الـlog book . و من ثم تم دراسه معدل العلامات و قد اجریت التحالیل الإحصائیه بواسطه برنامج spss 17 و اعتبر(p<0.05).

**النتائج:** اشارت الدراسه الی أن معدل العلامات عند الفریق (ب) کان اعلی بشکل ملحوظ مقارنته مع فریق (الف )

**الإستنتاج:** إن وجود الفرق الواضح فی مستوی معدل العلامات یعتبر امر ذواهمیه الی اختیار هذا الأسلوب فی التقییم السریری لدی الطلاب .

**الکلمات الرئیسه :** تقییم ، امراض الفم. look book.

تاثیر کاربرد لاگ بوک بر آموزش واحد عملی بیماریهای دهان دانشجویان دندانپزشکی

**زمینه و هدف:** ارزشیابی برنامه آموزشی و ارزشیابی بالینی دانشجویان یکی از دشوارترین وظایف آموزش دهندگان برنامه های بهداشتی است. log book یکی از ابزارهای ارزیابی محسوب می شود و به دلیل کاهش فاصله بین نظر و بالین، می تواند به استاد و دانشجو در رسیدن به اهداف آموزشی و بالینی کمک کند. هدف از این مطالعه تعیین اثر log book بر نمرات پایان بخش واحد عملی بیماریهای دهان دانشجویان دندانپزشکی بود.

**روش:** این مطالعه توصیفی- تحلیلی بر روی ٣٦ دانشجوی دندانپزشکی که واحد عملی بیماریهای دهان را انتخاب نموده بودند انجام شد. دانشجویان به طور تصادفی به دو گروه مورد و کنترل تقسیم شدند. گروه کنترل به روش معمول و گروه مورد با استفاده از logbook ارزیابی شدند. سپس میانگین نمره عملی بیماریهای دهان در دو گروه بررسی گردید. داده ها با استفاده از آزمون آماری tبوسیله نرم افزار spss17 آنالیز شدند. P<0.05 معنی دار در نظر گرفته شد.

**یافته ها:** میانگین نمره عملی واحد بیماریهای دهان در گروه مورد نسبت به گروه کنترل بطور معنی داری بالاتر بود.

**نتیجه گیری:** ارتقای میانگین نمره دانشجویان در گروه مورد می تواند مشوقی برای کاربرد این روش در سنجش و ارزیابی بالینی دانشجویان باشد.

**واژه های کلیدی:** ارزیابی، بیماریهای دهان، logbook

ڈینٹل طلباء کے نمبروں پر منہ کی بیماریوں کے شعبے میں عملی کارکردگی کے اثرات کا جائزہ ۔

**بیک گراونڈ:** نصاب کا جانچ پڑتال اور طلباء کی کلینیکل صلاحیتوں کا جائزہ لینا میڈیکل تعلیم کا ایک دشوار گذار مرحلہ ہے ۔ لاگ بک اس مقصد کے لئے نہایت مفید ذریعہ ہے اورچونکہ تھیوری اور عملی کار کردگي میں کوئی خاص فاصلہ نہیں ہوتا لہذا لاگ بک اساتذہ اور طلباء کو اپنے تعلیمی ابداف تک نزدیک کرنے میں کافی مدد گار ثابت ہوتی ہے۔ اس تحقیق کا مقصد منہ کی بیماریوں کے شعبے میں طلباء کی کارکردگی پر لاگ بک کے اثرات کا جائزہ لینا ہے ۔

**روش:** اس تحقیق میں چھتیس ڈینٹل طلباء شامل تھے جنہوں نے منہ کی بیماریوں کا موضوع چنا تھا۔ ان طلباء کو دو گروپوں میں تقسیم کیا گیا۔ ایک گروہ کو روایتی طور پر کام کرنے کو کہا گیا جبکہ دوسری گروہ کے لئے لاگ بک کا استعمال ضروری قرار دیا گیا۔ ڈانا کا تجزیہ ایس پی ایس ایس سترہ سافٹ ویر سے کیا گیا۔

**نتیجی:** جس گروہ نے لاگ بک کی استعمال کی تھی اس کے نمبر روایتی طور پر کام کرنے والے گروہ سے بہتر تھے۔

**سفارش:** لاگ بک کا استعمال بہتر کارکردگی کے لئے مفید ہے۔

**کلیدی الفاظ:** منہ کی بیماریاں، لاگ بک ۔

## INTRODUCTION

Assessing the educational program is part of the educational system. Reforming educational pattern, providing perspective to the students, and enhancing their cooperation on their own education, besides using the optimal methods, are the basic task of medical education in order to achieve the objectives. An attempt is made to use the new methods to enhance the influence of medical education (1).

Assessing educational program, students' clinical evaluation and their performance is one of the most demanding and difficult task of the educators of health programs (2).

Logbook is a very simple tool that provides a framework for the students to organize and register their different educational activities; moreover, it causes to save time (3). This assessing tool registers students' activities in different learning environment and assists them to concentrate on their major goals that should be achieved during a specific period of time (4).

The skills and abilities that should be gained by the students are written in a notebook (logbook), the students will have the logbook and after fulfilling each task they write down the date and their cooperation team performance. The professor scrutinizes the logbook and contributes the problems to the debate and finally confirms or settles them (5).

A study conducted by Pauline revealed that logbook is not only an influential tool in increasing the students' knowledge and self-confidence but also it is an appropriate tool to provide feedback to the learners (6).

Lotfi et al carried out another study in order to determine the influence of logbook on nursing students. The average score of the students, in ICU and CCU, who have used logbook, were higher than the control group (7).

Owning to the importance and necessity of an eligible method to assess practical competencies, particularly in dentistry, a logbook was provided so that we can assess learners' educational performance during oral medicine course. The overall impact of this method is determined according to students' final grade.

## METHODS

This descriptive- analytic study was confirmed by the Ethics Committee of the University, firstly. 36 students, who have entered at the university in 2013 and have signed up for the practical oral medicine course, participated in this study. None of the students have passed any courses about oral disease and had no clinical background about it.

The students were divided into two groups based on the grade they attained in their theoretical course of oral medicine in the previous term. In the beginning, the students' names were written in a list based on their grades (from smallest to the largest); each student had a code number from 1 to 36. The odd codes were selected as the control group and the even codes were the case group (fairly random). For the control group the usual clinical education was provided. In this method, each professor thought according to the course objectives, his/her educational experience, facilities and the clinical issues. Logbooks were provided for the case group and adequate explanation was offered to the students. During the course, each student wrote about the lesson in the logbook and the professor provided feedbacks.

The logbook was designed by an oral medicine expert. The validity of the logbook was determined by the experts of the field and was finally conducted. The logbook was designed according to the educational curriculum of oral medicine including the objective and educational status of logbook, how to complete logbook, recommendations and regulations, educational objectives of the course, minimum training, the rules of the department, research resources, the skills that the students should learn during the course and how to calculate the grade of the practical course. Eventually, the results of the final exam (OSCE) were compared in two groups.

SPSS (17) and T-test were used to compare the average of the grades in the groups.

## RESULTS

36 students of dentistry that attended the practical oral medicine course for the first time participated in the study. There were 16 males (44/4 %) and 20 females (55/6 %). There was no statistical difference between the two groups in the theoretical course of oral medicine and the average of scores. The final exam results of practical course were scrutinized, the average of the case group was higher, that is statistically significant.

The results of the scores comparison are presented in table 1.

In the case group there were 8 males and 10 females, their grades were 16 (1.88) and 16.98 (0.94), respectively, which has no statistical significance (p = 0.17).

| Table 1. Comparison of the students' score of theoretical and practical oral medicine course and the overall average of both groups (Inside the parentheses show standard deviation) | | | |
|---|---|---|---|
| | case group mean(SD) | Control group mean(SD) | p value |
| Theoretical oral medicine course | 13.25(1.36) | 13.44(1.56) | 0.693 |
| Practical oral medicine course | 16.54(1.47) | 14.92(2.41) | 0.02 |
| Average | 16.08(0.89) | 15.51(0.93) | 0.07 |

## DISCUSSION

The results of the study revealed that using logbook leads to students' grade improvement in the practical oral medicine course; this increase has statistical significance

No similar research related to this field has been conducted in dentistry, unfortunately. However, Lotfi et al carried out a study among nursing students in 2010. There was an upgrade in the average of the students who have used logbook (7).

Moghaddasian et al conducted another study on 26 nursing students in department of surgery, two groups were selected. The results showed that the sample group who have used logbook have received better grade than the control group (8).

A study carried out by Pauline indicated that logbook is not only an effective tool in the increase of knowledge and students' self-confidence, but also is a useful educational tool to provide feedback to the learners (6).

All of the researches reveal the positive influence of logbook on the students' grade enhancement.

Murray and his colleges said that since the students are not in the same educational environment in a specific time, we can provide similar training with logbook for all of them (9). Denton states that an ideal logbook should be cheap, practical and acceptable to students. Moreover, it should let the students to collect the data, related to the course objectives, very fast so that they can analyze and provide feedbacks to the students (10). Sullivan's study presents that the use of logbook increases students' awareness of the educational objectives which has an influential factor on the quality of education.

As logbook is very importanr in assessing students, it should be revised and up to date by the professors. In the future research, the students' perspective about logbook is going to be assessed in order to solve its problems and pay attention to students' ideas. Moreover, since there are lack of research and studies about this arena in dentistry, the further researches should have a larger sample.

## CONCLUSION

This study revealed that logbook boosts the students' score of practical oral medicine course, therefore, it could be profitable to use this method in assessment and clinical evaluation of the students.

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