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Research Article

Comparison of Instructors' and Students' Satisfaction with Traditional and Logbook Evaluation Methods in Internship of Public Health

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Abstract

Background: Student evaluation is one of the most critical factors in learning. Instructors and students' satisfaction with the evaluation method leads to better learning.

Objectives: The present study was conducted to compare the satisfaction of instructors and students in the field of public health with the two methods of traditional evaluation and evaluation using the clinical skills registration book (logbook) method.

Methods: In this study, 20 public health students and 12 instructors were evaluated in two consecutive semesters of internship. Initially, the evaluation was done in the traditional way in the first semester, and in the next semester, the evaluation method was performed with a logbook. At the end of the semester, students and instructors' satisfaction was measured using a questionnaire. Data were coded and analyzed by SPSS version 19 software using paired t-test at a significance level of $\alpha = 5\%$.

Results: The mean age of students was 21.9 ± 0.6 years, and the mean age of instructors was 39.6 ± 8.4 years. The results showed that the mean total score of students' satisfaction with the traditional evaluation method was 29.6 ± 6.9, and that of the logbook evaluation method was 30.3 ± 5.6. There was no significant difference between the mean scores of students' satisfaction with the traditional and logbook evaluation methods (P = 0.6). The results also revealed that the instructors' satisfaction was significantly more with the logbook evaluation method than with the traditional evaluation method (P = 0.01). Instructors also showed greater satisfaction with the logbook evaluation method than students (P = 0.02).

Conclusions: According to the views of students and instructors, continuous monitoring and review of logbook content should be given. Furthermore, the logbook and traditional methods can complement each other to meet the needs of students and instructors.

Keywords: Instructor; Student; Satisfaction; Logbook; Training of Public Health

1. Background

Evaluating students' clinical competence is one of the most critical and challenging tasks of faculty members and health program instructors (1), so that the implementation of objective and accurate evaluation of students in the clinical education stage and how to make decisions have always been one of the most stressful activities for students and instructors (2). If it is not clear what is happening to the student's condition during the clinical education period, it would be impossible to correctly determine the distance between the current and desired situation (3).

The common and traditional evaluation in clinical settings usually usesa non-structured and tasteful method in which the instructors, without a pre-determined objective evaluation program, decide based on personal opinions, while the desired educational programs should be dynamic in nature and regularly reviewed and revised after environmental feedback (4, 5).

The review of various research found that in the common evaluation methods, the clinical skills were not usually accurately evaluated (1). Therefore, the implementation of such evaluation methods led to students' dissatisfaction. Also, the results showed that 62% of male students and 82% of female students believed that all skills could not be assessed through conventional assessment methods (6).This dissatisfaction could be a barrier to learners' learning. Kariman and Heidari reported that students showed less satisfaction with the common evaluation methods than with the new methods (7).

Evaluation is usually the last stage of educational ac-

tivities (8) which consists of judging the effectiveness of educational experiences through accurate measurement (9). A logbook is one of the most widely used and effective structured assessment tools focusing on learning experiences during the training period (10-13). A logbook is a simple tool and framework for learners to organize and record learning activities. They record information obtained from their observation and performance in the logbook. One of the unique features of a logbook is that students must perform a certain number of skills. This feature allows students to perform their tasks planned and purposefully. In addition, repeating, practicing, and receiving feedback prevent mistakes and increase learning in cognitive and skill areas (10, 14-16). It also leads to purposeful efforts of professors to educate students, create educational interaction between teacher and learner, control the instructor by the student, create a feedback environment for the evaluation of student activities, and document the practical activities of students. In addition, assessing the success of university departments is one of the benefits of using a logbook (17-24).

According to studies, logbooks also have some disadvantages, including increasing the registration of false information, heterogeneity of information collected from the logbook of each student, the measurement of quantity of collected data rather than the quality of them, the invalidity and reliability of some logbooks, impossibility of providing direct instructional feedback immediately after the execution of each instruction, and the student's dependence on the logbook and the concealment of many side issues that may arise depending on circumstances (25-27).

The internship of public health students is of special importance in teaching practical skills, empowering students, and improving the quality of education and health of individuals. In this internship, the student engages in integrated practice from all courses and prepares for real-world confrontation. Satisfaction is one of the critical factors in learning and acquiring skills and success of students (28) that reflects the effectiveness of educational areas in terms of science and practice (9).

Awareness of the level of satisfaction of students and instructors is a great help in achieving the university's educational goals (29).

2. Objectives

The present study was conducted to compare the satisfaction of instructors and students with the two methods of traditional evaluation and logbook evaluation (clinical skills registration booklet) in internships of public health students.

3. Methods

This study enrolled 20 undergraduate students of Birjand University of Medical Sciences (BUMS) in the academic year 2018 to 2019 who completed an internship with two and 12 instructors (related to students' internship). The students were evaluated in internship 1 by the traditional (common) method, and six months later, the same students who had internship 2 were evaluated using the logbook method. Also, the instructors were included in the study. In internship 1, which used the traditional or common method, there was no precise educational planning and evaluation. The instructors taught the students and finally evaluated them according to their educational experiences and the facilities available in the comprehensive health centers.

However, in the logbook evaluation method, before starting internship 2, the students and instructors were provided with a logbook in two sessions, and the researcher gave sufficient explanations on how to use the logbook. Finally, at the end of internship 2, the satisfaction of students and instructors was assessed using a questionnaire separately. After obtaining informed consent, the researcher explained the study's purpose to instructors and students.

The inclusion criteria included students of public health at Birjand University of Medical Sciences (BUMS) who passed internship 1 and was in the final evaluation stage of internship 2 and instructors who were in charge of internships 1 and 2 for public health students. The exclusion criteria included Those who were not willing to participate in the study, students who had spent only one semester of internship in the health field for various reasons such as visiting or transferring, and instructors who had undertaken only one semester of internship in the Faculty of Health.

The questionnaire was designed in the form of questions appropriate to the study's objectives separately for the two groups of students and instructors. This questionnaire consisted of two parts. The first part included demographic characteristics and interest in the field (including five questions), and the second part included questions on satisfaction with the two methods of traditional and logbook assessment of students. The second part of the questionnaire comprised nine areas (17 questions) in two separate columns. Each area of fairness, compliance with educational goals, appropriateness, the required time, the possibility of implementation, stressfulness, and objectivity had one question. In contrast, the area of skills development had eight questions, and the area of interest in using the method had two questions.

The total score was divided by the number of questions. All domains had a minimum score of 1 and a maximum of 5. Hence, the minimum and maximum total satisfaction scores were 9 and 45. The items were set on a five-point Likert scale (from completely disagree with a score of 1 to completely agree with a score of 5). The validity of the questionnaire was confirmed by 11 experts and professors of the Faculty of Health using the study of Hoseini et al. (30). The reliability of the questionnaire was > 0.74 using Cranach's alpha in all domains.

The logbook used in this study was compiled after three

years of study and review by the researcher and with the opinion of the instructors and professors of the Faculty of Health in 2016. It was then sent to the EDC of the BUMS for evaluation. After the approval of the EDC, it was presented to students and instructors for internship.

Collected and coded data were entered into the computer and analyzed by SPSS version 19 at a significance level of $\alpha = 5\%$. Descriptive statistics (mean, standard deviation, and frequency) and Kolmogorov-Smirnov test were used to analyze the data to determine the normality of the variables, respectively. Also, paired t-test, Wilcoxon and t-test were used to compare two evaluation methods. The ethical considerations in the current study were obtaining an introduction letter from the university, registering the research ethics code (ir.bums.REC.1396.291), the confidentiality of the collected information, and the freedom to participate in the study.

4. Results

The mean age of students was 21.9 ± 0.6 years, and the mean age of instructors was 39.6 ±8.4 years. The mean work experience of instructors was 7.4 ± 14.9 years. The results revealed that the mean total score of students' satisfaction with the traditional evaluation method was 29.6 ± 6.9, and that of the logbook evaluation method was 30.3 ± 5.6.

There was no significant difference between the mean score of students' satisfaction with the traditional and logbook evaluation methods (P = 0.6) (Table 1). Also, the results showed no significant relationship between the level of interest in the field and the level of satisfaction with the two evaluation methods. However, there was a significant difference between the mean scores of instructors' satisfaction with the two evaluation methods. The trainers showed more satisfaction with the logbook evaluation method (P = 0.01) (Table 2).

Table 1. Mean Scores of Different Areas of Students' Satisfaction with Two Evaluation Methods

Areas	Traditional Evaluation	Logbook Evaluation	P Value
Fairness a	0.8 ± 3.55	1.2 ± 3.35	0.45
Compliance with educational goals a	1.1 ± 3.35	1 ± 3.35	0.22
Appropriateness b	1.2 ± 3.25	1.3 ± 3	0. 56
The required time a	0.9 ± 3.55	1.2 ± 3.45	0.66
Possibility of implantation b	1 ± 3.35	0.6 ± 3.7	0.08
Objectivity b	1.1 ± 3.35	0.8 ± 3.55	0.42
Skills development a	0.9 ± 3.13	0.6 ± 3.35	0.16
Stressfulness a	1.1 ± 2.75	1.1 ± 3.05	0.4
Interest in using the method a	0.8 ± 3.5	0.9 ± 3.35	0. 4
Total satisfaction score a	6.9 ± 29.68	5.6 ± 30.3	0.6

[a] Nonparametric Wilcoxon test.
[b] Parametric paired t test.

Satisfaction with Two Evaluation Methods

Table 2. Mean Scores of Different Areas of Instructors'

Areas	Traditional Evaluation	Logbook Evaluation	P Value
Fairness a	1.16 ± 2.9	0.5 ± 4.41	< 0. 001*
Compliance with educational goals a	1.2 ± 3.33	0.5 ± 4.5	0. 004*
appropriateness b	1.2 ± 3	0.9 ± 4.41	0. 014*
the required time a	1.3 ± 3.5	1.1 ± 3.75	0.7
Possibility of implantation a	0.9 ± 3.83	0.8 ± 4.25	0.2
Objectivity a	1.11 ± 3.16	0.51 ± 4.58	0. 001*
skills development b	0.9 ± 3.37	0.6 ± 4.17	0. 018*
stressfulness b	1.02 ± 2.83	1.5 ± 2.58	0. 68
Interest in using the method b	1.11 ± 3.45	0.33 ± 2.20	0. 005*
Total satisfaction score b	5.81 ± 29.5	4.36 ± 34.96	0. 015*

[a] Nonparametric Wilcoxon test.
[b] Parametric paired t test.

According to Table 2, the average score of instructors' satisfaction was significantly higher with the logbook evaluation method than with the traditional method. Also, in the areas of fairness, compliance with educational goals, appropriateness, objectivity, and skills development, the instructors showed more satisfaction with the logbook evaluation method than with the traditional method. However, in the area of interest in using

the method, the score of satisfaction with the traditional method was higher among instructors.

According to Table 3, the mean score of instructors' satisfaction with the logbook evaluation method was significantly higher than the mean score of students' satisfaction with the logbook evaluation method (P = 0.02), and there was a significant difference between the two methods.

Table 3. Mean Total Score of Students' and Instructors' Satisfaction with the Two Evaluation Methods

Variables	Total Score of Satisfaction [a]		t-test	
	Students	Instructors	P	T
Logbook Evaluation	5.6 ± 30.3	4.3 ± 34.9	0. 02*	-2.4
Traditional Evaluation	6.9 ± 29.6	5.8 ± 29.5	0. 9	0.07

[a] Values are expressed as mean ± SD.

5. Discussion

The objective of the current study was to compare the satisfaction of instructors and students with the two methods of traditional evaluation and evaluation with a clinical skills record book (log book). The findings revealed that despite the high score of students' satisfaction with the logbook, there was no significant difference between the level of students' satisfaction with the two evaluation methods. The findings of some studies indicated that logbook evaluation is more effective than the traditional evaluation method (31-35).

In Karampourian's study, most students were satisfied with the designed logbooks due to their simplicity, objectivity, and usability, with no special equipment and facilities (36). Also, Asgari et al. reported that although logbooks motivated and increased student satisfaction, all learning goals were not achieved (11). In agreement with our findings, some studies reported that students were dissatisfied with logbook evaluation due to weakness in assessment and improvement of clinical skills, reducing the student's accuracy in answering questions, measuring the quantity of collected data rather than the quality of them, lack of receiving proper feedback from the instructors, recording false information, and lack of achieving the required goals of learning (3, 11, 14, 25, 26, 30).

In the present study, the instructors' satisfaction with the logbook evaluation method was significantly more, which may be due to having a certain way to organize and record student activities and better interaction with students, which agrees with Hoseini et al. and Lotfi et al. (30, 37). Based on the findings of the present study, in the areas of fairness, compliance with educational goals, appropriateness, objectivity, and skills development, instructors showed more satisfaction with the logbook evaluation method than with the traditional method. However, in the area of interest in using the method, the score of satisfaction with the traditional method was higher among instructors, which was perhaps caused by instructors' lack of experience in using logbooks compared to the traditional method.

The present study demonstrated that the mean score of instructors 'satisfaction with the logbook evaluation method was significantly higher than that of students' satisfaction with the same method (P = 0.02). However, there was no significant difference between the two groups regarding satisfaction. Zarifnejad and Najafiet al. reported that the attitude of instructors towards the logbook was more positive than that of students (14, 38).

Based on the findings of the present study, the difference between the mean score of satisfaction of instructors and students with the two evaluation methods can be due to the following reasons:

- Lack of complete familiarity of students with how to complete the logbook and the lack of sufficient time for instructors to introduce logbook evaluation method to students.
- Lack of receiving students' feedback on logbook assessment.
- Inadequate validity and reliability of the questionnaire and logbook.
- Lack of cooperation or involvement of students in compiling logbook content.

Due to changes in educational content and students' needs, continuous monitoring, review, and updating of logbook content are necessary to meet the needs of students, so more supervision on the compilation of logbooks based on the student needs and continuous updating of logbook content are recommended.

5.1. Limitations

One of the limitations of the present study was the small sample size of instructors and students. Also, the study was conducted in one faculty, so interventional studies with a larger sample size in more faculties are necessary.

5.2. Conclusions

Practically, the logbook could not meet the ever-changing learning needs in the internship environment, and students were less satisfied with the logbook than the instructors. Therefore, the logbook should be re-examined, and its content should be revised. Also, due to changes in educational content and students' needs, continuous monitoring, review, and updating logbook content are mandatory. Traditional methods can be used as a complement to eliminate the shortcomings of the logbook method.

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