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Satisfaction Levels Regarding the Implementation and Evaluation of Internship Courses Logbooks in the Persian Medicine PhD Program

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ABSTRACT

Background and Objective: Clinical education is one of the main and essential components in the education of medical sciences students. According to the curriculum of the Persian Medicine PhD Program, students in this field are required to pass two internship courses during their education. The present study was conducted to investigate the satisfaction level of students and professors with the logbook of internship courses one and two in Persian Medicine PhD Program across the country.

Methods: After implementing the Logbook of Courses One and Two in the first and second semesters of 2021-2022 and the first semester of 2022-2023 in 3 consecutive semesters, this cross-sectional study was conducted among 15 professors and 50 students of universities with a Persian Medicine PhD Program. A Logbook evaluation questionnaire with 27 questions was provided to students and professors. In the Logbook evaluation questionnaire, questions 1-7 were specific to the necessity of implementation (score 7-35), questions 15-8 were specific to the evaluation of the Logbook content (score 8-40), and questions 16-27 were specific to the evaluation of the Logbook outcome (score 12-60).

Findings: In this study, 45 students with a mean age of 46.68±7.95 years and 35 professors participated. In a survey of students, the subject of familiarity with the evaluation score (3.4±1.15), the suitability of the mentioned skills with personal needs (3.4±1.07), and the effect of the logbook in documentation (3.4±1.13) received the highest scores. From the professors' perspective, the necessity of the logbook in examining the educational process (4.4±0.73), the application of professional ethics expectations (4.05±0.63), and the documentation of student activity (4.5±0.60) received the highest scores.

Conclusion: The results of the study showed that students' satisfaction with the implementation of the logbook was generally moderate with a score of 84, and professors' satisfaction was moderate to high with a score of 101.

Keywords: *Medical Education, Clinical Internship, Persian Medicine, Educational Measurement, Documentation.*

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Introduction

Clinical education is one of the main and essential components in the education of medical students. Clinical education is an activity that facilitates learning in a clinical environment, during which students gain experience by being present at the patient's bedside and apply the concepts learned in practice in interaction with the professor in the environment (1, 2). Clinical education provides an opportunity for students to transform their theoretical knowledge into the mental, psychological, and motor skills that are essential to possess. This type of education gives students the opportunity to apply their theoretical knowledge in real clinical environments and learn the necessary practical and communication skills. Clinical education serves as a bridge between theoretical and clinical practice and plays an important role in preparing students to enter the professional workplace (3).

The evaluation of clinical education is one of the major challenges in the field of medical education (4). These assessments should be designed to assess not only students' theoretical knowledge and skills, but also their practical abilities and skills (5). There are various methods, including practical tests, observation-based assessment, and the use of tools such as logbooks, for evaluating clinical education (6).

Logbook is an effective tool in clinical education which is used to record and track students' clinical activities (7). Logbooks are a widely used assessment method designed to facilitate, monitor, and guide the educational system through monitoring learning activities (8). By highlighting important clinical goals and providing opportunities for student feedback, logbooks guide medical students and help measure their learning. In addition, accurate logbook data can be used by educational programs to identify gaps in the curriculum and improve student education in various medical fields (9). Based on predetermined educational goals, logbooks expose students to the educational opportunities that are consistent with the specified goals and monitor them both visibly and subtly throughout the course so that they do not deviate from the set goals. They also provide appropriate feedback with the aim of correcting errors and compensating for shortcomings, and at the end of the course, they evaluate students and professors accurately using an appropriate tool (10).

Persian Medicine PhD Program has been offered in medical universities of Iran since 2007. According to the curriculum of the field, during their training period, students are required to complete 2 units of internship in this field: internship one, consisting of 2 units (136 hours), and internship two, consisting of 6 units (408 hours). In internships one and two, students are required to learn, practice, and perform independent work in providing lifestyle measures, diagnosing and treating diseases, prescribing medications, and manual interventions. According to the Persian Medicine PhD Program, graduates of this program must acquire the necessary skills in four areas: 1) taking a complete patient history, 2) complete examinations based on the patient's main problem, clinical temperament assessment, pulse examination, and tongue examination, 3) providing lifestyle measures and prescribing medication, and 4) manual interventions including: cupping, dry cupping, wet cupping, massage, and leech therapy. Given the importance of proper learning of the aforementioned skills in order to directly relate to maintaining and promoting the health of people and society, and also because the Persian Medicine PhD Program is new and emerging in universities across the country, a logbook related to the first and second internship periods of this field was designed and compiled. Since an appropriate and ideal evaluation tool must be applicable and acceptable to students and allow for the rapid and accurate collection of data related to educational objectives for timely analysis and feedback to professors and students, this study was conducted to implement and evaluate the internship logbook of Persian Medicine PhD students.

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Methods

After approval by the Ethics Committee of the National Agency for Strategic Research in Medical Education with the code IR.NASRME.REC.1400.321, this cross-sectional study was conducted in all universities that had Persian Medicine PhD Program, and was commissioned by the Persian and Complementary Medicine Department of the Ministry of Health and Medical Education of Iran in 2021. In this study, two logbooks that had been designed and developed for internship courses one and two in a separate study were implemented and evaluated. The logbooks for internship course one and internship course two were provided to students from the first semester of 2021-2022 to the first semester of 2022-2023 for three consecutive semesters. Simultaneous with the implementation of the design and completion of the logbooks by the students, a logbook evaluation questionnaire was jointly designed for both logbooks for professors and students, and its validity and reliability assessment steps were carried out. After the project was completed over three academic semesters, the questionnaire was completed by students and professors to evaluate the logbook and its effectiveness. Finally, data were collected and the necessary analysis was performed. The study was conducted in two stages: questionnaire design and questionnaire implementation.

Phase One: Designing a Logbook Assessment Questionnaire

1. Initial questionnaire preparation stage: First, by inviting Persian medicine experts who are faculty members of medical universities, specialized panel meetings were held, and by extracting and reviewing relevant articles, appropriate questionnaire questions were designed for each logbook item. Using relevant articles, the goals of preparing the logbook, and the opinions of Persian medicine faculty members, 53 initial items were designed with 5 Likert-scale response options including very high, high, medium, low, and very low. Each of the designed items was reviewed in the logbook working group meetings with the participation of 10 to 15 Persian medicine specialists, and the best writing style for the items was determined by summarizing the opinions. In this stage, 7 items with concepts similar to other items were eliminated, and finally the questionnaire with 46 items advanced to the next stages. In the face validity determination stage, face-to-face interviews were conducted with 7 Persian medicine PhD students who had completed the logbook. In this stage, 12 items were modified, and 8 items that were incomprehensible according to most students were eliminated. In the content validity determination stage, a questionnaire with 38 items was sent to 22 Persian medicine specialists and they were asked to comment on the necessity of the item and its appropriateness, to which 12 responded. CVR and CVI were calculated for each item, and based on the CVR calculation and the Lawshe table, seven items that had a score of less than 0.56 were eliminated. In the following, four items that had a score of less than 0.79 in the CVI stage were eliminated. The final questionnaire consisted of 27 items that assessed the views of students and professors in three areas: the necessity of using the logbook (7 questions), the content of the logbook (8 questions), and the outcome of implementing the logbook (12 questions). An open-ended question was also prepared regarding suggestions for improving the design and implementation.

2. Determining face validity: In this stage, a qualitative evaluation of the questionnaire questions was conducted with the participation of Persian medicine PhD students who had completed the logbook in their internship course and clinical professors of internship courses one and two. To carry out this stage, the opinions of students and professors about the ambiguity of the items, grammar, and the meaning of the words of each item, as well as their understanding of each item, were collected through interviews so that it did not conflict with the intended concept of the research team. This stage continued until data saturation.

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3. Content Validity Determination Stage: In this stage, the questionnaire extracted from the face validity stage was sent to the faculty members of the University of Medical Sciences who were instructors of the Persian Medicine Internship Course One and Two, and they were asked to write their opinion on the necessity and appropriateness of each item according to the prepared table. Two indices of Content Validity Ratio (CVR) and Content Validity Index (CVI) were calculated for each item in the questionnaire.

The content validity index (CVR) was used to assess the necessity of the item from the experts' point of view. This index was first developed by Lawshe. In this approach, a group of subject matter experts (SMEs) are asked to assess each indicator of the tool based on a three-part spectrum: "Essential," "Useful but not essential," and "Not essential". The content validity ratio values proposed by Lawshe were considered for retaining the items in the tool. In this regard, to calculate the CVR for each item, the percentage of people who had chosen the first option (essential) was calculated relative to the total number of people and a decision was made based on the Lawshe table to retain or eliminate the item. The Modified Kappa method was used to assess the content validity index. For this purpose, experts determine "relevance" with two options: relevant (2 points) and not relevant (1 point).

$$P_C = \left[\frac{N!}{A!(N-A)!}\right] \qquad K^* = \frac{ICV - P_C}{1 - P_C}$$

ICV= Individual CVI= I-CVI is the mean score of the evaluators for each item, N= number of evaluators, A= the relevant number.

The minimum acceptable value for the CVI index was considered to be 0.79, and if the CVI index was less than 0.79, that item was removed from the questionnaire.

Phase Two: Logbook Evaluation by Designed Questionnaire

At the end of each internship course one and two, the designed questionnaire was completed by students and professors in each academic semester. Finally, data were collected and analyzed.

SPSS version 27 was used for data analysis. The frequency percentage of responses to each question, median and IQR of responses for each question, and mean and standard deviation for each item and each range were calculated separately. Correlation tests were used to examine the relationship between questionnaire scores and age, year of entering the university, and their GPA.

Results

Out of 50 students in internship courses one and two, 45 participated in the study at the specified time points (Table 1). The age range of the participants was from 28 to 60 years, with a mean age of 46.68±7.95 years. 31 (68.9%) reported previous experience of using a logbook. The students' previous semester GPA ranged from 15 to 19.63 with a mean of 18.15±1.06. The student profiles are summarized in Table 2. There was no correlation between the participants' age and GPA with the questionnaire scores.

In the logbook evaluation questionnaire, questions 1-7 were specific to the necessity of implementation (score 7-35), questions 15-8 were specific to the evaluation of the logbook content (score 8-40), and questions 16-27 were specific to the evaluation of the logbook outcome (score 12-60). The range of scores, the three sections of the necessity of using the logbook, the content, and the outcome of implementing the logbook, achieved a moderate score. In the necessity area, question 1, on the topic of familiarizing students with the evaluation method, received the highest score (3.4±1.15). In the logbook content area, question 14, on the relevance of the mentioned skills with job needs, received the highest score (3.4±1.07). In the area of outcome of implementing the logbook, question 18, on the impact of the logbook in documenting students' activities, received the highest score (3.4±1.13) (Table 3).

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Table 1. List of universities and number of students

Name of the university	Number(%)
Iran	1(2.2)
Shahid Beheshti	4(8.9)
Mashhad	9(20)
Kermanshah	2(4.4)
Golestan	4(8)
Kerman	6(13.3)
Mazandaran	4(8.9)
Shahed	4(8.9)
Shiraz	1(2.2)
Fasa	2(4.4)
Hamedan	1(2.2)
Ardakan	1(2.2)
Sabzevar	1(2.2)
Qom	2(4.4)
Did not respond	3 people

Table 2. Profile of students participating in the study

Profile	Number(%) or Mean±SD	Min	Max
Year of entering university			
2019	1(2.2)		
2020	36(80)		
2021	8(17.8)		
Previous experience using a logbook			
Yes	31(68.9)		
No	14(30.1)		
Age	46.68±7.95	28	60
Semester GPA	18.15±1.06	15	19.63

Table 3. Logbook evaluation questionnaire completed by students and the frequency percentage of items selected by students

Row	Question	Very low N(%)	Low N(%)	Moderate N(%)	High N(%)	Very high N(%)	Median and IQR*	Mean±SD
1	How essential is a logbook for students to familiarize themselves with the evaluation and grading methods in the internship unit?	3(6.7)	7(15.6)	11(24.4)	16(35.6)	8(17.8)	4 (3-4)	3.4±1.15
2	How essential is a logbook to review the educational process?	4(8.9)	5(11.1)	19(42.2)	9(20)	8(17.8)	3 (3-4)	3.2±1.15

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3	How essential is it to use a logbook to evaluate an internship unit?	4(8.9)	10(22.2)	15(33.3)	10(22.2)	6(13.3)	3 (2-4)	3.1±1.16
4	How essential is the use of logbooks in creating educational uniformity among students in a faculty or group?	4(8.9)	7(15.6)	12(26.7)	14(31.1)	8(17.8)	3 (2.5-4)	3.3±1.20
5	How essential is the existence of a logbook as a roadmap for students and professors?	4(8.9)	10(22.2)	9(20)	14(31.1)	8(17.8)	3 (2-4)	3.2±1.25
6	How essential is it for professors to review, sign, and provide daily feedback on the logbook?	5(11.1)	9(20)	12(26.7)	15(33.3)	4(8.9)	3 (2-4)	3.1±1.16
7	To what extent is it possible to complete the logbook daily?	9(20)	11(24.4)	14(31.1)	9(20)	2(4.4)	3 (2-3.5)	2.6±1.15
	Necessity of implementation (Questions 1 to 7)						23 (27-16)	22.11±6.71
8	How informative are the items related to professional ethics expectations in the logbook?	4(8.9)	9(20)	21(46.7)	8(17.8)	3(6.7)	3 (2-3.5)	3±1.00
9	How useful are the items related to professional ethics expectations in the logbook?	4(8.9)	9(20)	20(44.4)	9(20)	3(6.7)	3 (2-4)	3±1.02
10	To what extent are the items related to practical skills (diagnostic-therapeutic measures) in the logbook informative?	2(4.4)	11(24.4)	16(35.6)	13(28.9)	3(6.7)	3 (2-4)	3.1±0.99
11	How useful are the items related to practical skills (diagnostic-therapeutic measures) in the logbook?	5(11.1)	11(24.4)	12(26.7)	14(31.1)	3(6.7)	3 (2-4)	3±1.13
12	What is the level of points assigned to practical skills (diagnostic-therapeutic measures) in the logbook?	1(2.2)	9(20)	18(40)	14(31.1)	3(6.7)	3 (3-4)	3.2±0.91
13	How relevant are the types of practical skills	4(8.9)	11(24.4)	19(42.2)	9(20)	2(4.4)	3 (2-3.5)	2.8±0.99

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	mentioned in the logbook compared to what is done in the health center?							
14	To what extent do the skills listed in the logbook match the skills required for the student's future career?	1(2.2)	10(22.2)	10(22.2)	17(37.8)	7(15.6)	4 (2.5-4)	3.4±1.07
15	How well do the grades given correspond to the activities recorded in the logbook in general?	3(6.7)	5(11.1)	24(53.3)	12(26.7)	1(2.2)	3 (3-3)	3.06±0.86
	Content (8 to 15)						24 (20.5-29.5)	24.51±6.28
16	How effective is implementing a logbook in student targeted learning?	6(13.3)	10(22.2)	12(26.7)	11(24.4)	3(13.3)	3 (2-4)	3.02±1.25
17	How effective is implementing a logbook in collaboration between professors and students?	5(11.1)	10(22.2)	14(31.1)	9(20)	7(15.6)	3 (2-4)	3.06±1.23
18	How effective is implementing a logbook in documenting student activities?	1(2.2)	11(24.4)	9(20)	15(33.3)	9(20)	4 (2-4)	3.4±1.13
19	How effective is the implementation of a logbook in students' follow-up of clinical education programs?	2(4.4)	11(24.4)	15(33.3)	11(24.4)	6(13.3)	3 (2-4)	3.17±1.09
20	How effective is implementing a logbook in creating order in clinical education activities?	3(6.7)	10(22.2)	10(22.2)	16(35.6)	6(13.3)	3 (2-4)	3.2±1.16
21	How effective is the logbook in evaluating clinical education activities?	1(2.2)	11(24.4)	17(37.8)	10(22.2)	6(13.3)	3 (2-4)	3.2±1.03
22	How effective is implementing a logbook in standardizing minimum clinical training activities across different departments and faculties?	3(6.7)	9(20)	11(24.4)	19(42.2)	3(6.7)	3 (2-4)	3.2±1.06
23	How effective is implementing a logbook in targeting students'	3(6.7)	14(31.1)	18(40)	6(13.3)	4(8.9)	3 (2-3)	2.8±1.03

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	attendance hours in clinical departments?							
24	How effective is implementing a logbook in identifying weaknesses in clinical training?	2(4.4)	12(26.7)	14(31.1)	10(22.2)	7(15.6)	3 (2-4)	3.1±1.13
25	How effective is implementing a logbook in empowering students to perform clinical skills?	4(8.9)	15(33.3)	11(24.4)	10(22.2)	5(11.1)	3 (2-4)	3±1.17
26	How effective is implementing a logbook in informing students about the goals of clinical education?	3(6.7)	7(15.6)	12(26.7)	16(35.6)	7(15.6)	4 (3-4)	3.3±1.13
27	What is the impact of implementing a logbook in creating fairness in evaluation?	3(6.7)	12(26.7)	18(40)	9(20)	3(6.7)	3 (2-4)	2.9±1.00
	Outcome (16 to 27)						39 (29-45)	37.68±10.89
Total questionnaire	Questions 1 to 27						85 (69-102)	84.31±22.19

*IQR=Interquartile Range

Based on the obtained results, students entering in 2020 had higher scores than students entering in 2021 in all three areas of necessity, content, and outcome of implementing the logbook, which indicates a high level of satisfaction among students entering in 2020 (Table 4).

Table 4. Summary of the logbook evaluation questionnaire completed by students based on year of entering the university

Area	year of entering the university	Number	Mean±SD
Necessity	2019	1	16.00±0
	2020	36	23.83±5.94
	2021	8	15.12±5.46
	Total	45	22.11±6.71
Content	2019	1	23.00±0
	2020	36	25.58±0.1
	2021	8	19.87±6.08
	Total	45	24.51±6.28
Outcome	2019	1	30.00±0
	2020	36	40.33±9.80
	2021	8	26.75±9.20
	Total	45	37.68±10.89

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After implementing the logbook in each academic semester, the logbook evaluation questionnaire was completed by 35 professors with more than 5 years of teaching experience. The determined score range, the necessity of implementing the logbook section, received a medium score. In this area, question 2, on the necessity of having a logbook in examining the educational process, had the highest score (4.4±0.73). The content section received a medium to high score, and question 9, on the application of professional ethics expectations, had the highest score (4.05±0.63). The section of logbook implementation outcome received a high score. In the aforementioned area, question 18, on the effect of the logbook in documenting student activity, received the highest score (4.5±0.60). Overall, the logbook evaluation questionnaire for professors received a medium to high score (Table 5).

Table 5. Frequency of responses to the logbook evaluation questionnaire completed by professors

Row	Question	Very low N(%)	Low N(%)	Moderate N(%)	High N(%)	Very high N(%)	Median and IQR	Mean±SD
1	How essential is a logbook for students to familiarize themselves with the evaluation and grading methods in the internship unit?			4(11.4)	14(40)	17 (48.6)	4 (4-5)	3.4±0.68
2	How essential is a logbook to review the educational process?			5(14.3)	11(31.4)	19 (54.3)	5 (4-5)	4.4±0.73
3	How essential is it to use a logbook to evaluate an internship unit?			8(22.9)	15(42.9)	12(34.3)	4 (4-5)	1.4±0.75
4	How essential is the use of logbooks in creating educational uniformity among students in a faculty or group?	10(28.6)	13(37.1)	5(14.3)	4(11.4)	3(8.6)	2 (1-3)	2.3±1.25
5	How essential is the existence of a logbook as a roadmap for students and professors?	7(20)	11(31.4)	8(22.9)	6(17.1)	3(8.6)	2 (2-4)	2.6±1.04
6	How essential is it for professors to review, sign, and provide daily feedback on the logbook?		4(11.4)	14(40)	11(31.4)	6(17.1)	3 (3-4)	3.5±0.91
7	To what extent is it possible to complete the logbook daily?		2(5.7)	17(48.6)	10(28.6)	6(17.1)	3 (3-4)	3.5±0.91
	Necessity of implementation (Questions 1 to 7)						24 (22-27)	24.97±4.74
8	How informative are the items related to professional ethics expectations in the logbook?		6(17.1)	17(48.6)	8(22.9)	4(11.4)	3 (3-4)	3.2±0.89

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9	How useful are the items related to professional ethics expectations in the logbook?			6(17.1)	21(60)	8(22.9)	4 (4-4)	4.05±0.63
10	To what extent are the items related to practical skills (diagnostic-therapeutic measures) in the logbook informative?			10(28.6)	18(51.4)	7(20)	4 (3-4)	4±0.70
11	How useful are the items related to practical skills (diagnostic-therapeutic measures) in the logbook?			20(57.1)	8(22.9)	7(20)	3 (3-4)	3.6±0.80
12	What is the level of points assigned to practical skills (diagnostic-therapeutic measures) in the logbook?	1(2.9)	3(8.6)	5(14.3)	17(48.6)	9(25.7)	4 (3-5)	3.8±1.00
13	How relevant are the types of practical skills mentioned in the logbook compared to what is done in the health center?		5(14.3)	16(45.7)	10(28.6)	4(11.4)	3 (3-4)	3.43±0.87
14	To what extent do the skills listed in the logbook match the skills required for the student's future career?		4(11.4)	15(42.9)	12(34.3)	4(11.4)	3 (3-4)	3.4±0.85
15	How well do the grades given correspond to the activities recorded in the logbook in general?	2(5.7)	2(5.7)	11(31.4)	13(37.1)	7(20)	4 (3-4)	3.6±1.06
	Content (8 to 15)						29 (25-32)	29.17±4.86
16	How effective is implementing a logbook in student targeted learning?		1(2.9)	13(37.1)	15(42.9)	6(17.1)	4 (3-4)	3.7±0.78
17	How effective is implementing a logbook in collaboration between professors and students?		3(8.6)	4(11.4)	18(51.4)	10(28.6)	4 (4-5)	4±0.87
18	How effective is implementing a logbook in documenting student activities?			2(5.7)	11(31.4)	22(62.9)	5 (4-5)	4.5±0.60
19	How effective is the implementation of a logbook in students' follow-up of clinical education programs?			2(5.7)	18(51.4)	15(42.9)	4 (4-5)	3.4±0.59

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20	How effective is implementing a logbook in creating order in clinical education activities?		2(5.7)	5(14.3)	15(42.9)	13(37.1)	4 (4-5)	4.1±0.86
21	How effective is the logbook in evaluating clinical education activities?		3(8.6)	6(17.1)	16(45.7)	10(28.6)	4 (3-5)	4±0.90
22	How effective is implementing a logbook in standardizing minimum clinical training activities across different departments and faculties?		2(5.7)	1(2.9)	15(42.9)	17(48.6)	4 (4-5)	4.3±0.80
23	How effective is implementing a logbook in targeting students' attendance hours in clinical departments?	1(2.9)	2(5.7)	10(28.6)	11(31.4)	11(31.4)	4 (3-5)	3.8±1.05
24	How effective is implementing a logbook in identifying weaknesses in clinical training?		1(2.9)	11(31.4)	13(37.1)	10(28.6)	4 (3-5)	4±0.83
25	How effective is implementing a logbook in empowering students to perform clinical skills?		1(2.9)	1(2.9)	21(60)	12(34.3)	4 (4-5)	4.2±0.66
26	How effective is implementing a logbook in informing students about the goals of clinical education?	6(17.1)	3(8.6)	8(22.9)	11(31.4)	7(20)	4 (2-4)	3.2±1.36
27	What is the impact of implementing a logbook in creating fairness in evaluation?	5(14.3)	2(5.7)	12(34.3)	8(22.9)	8(22.9)	3 (3-4)	3.3±1.30
	Outcome (16 to 27)						47 (43-56)	47.71±7.99
Total questionnaire	Questions 1 to 27						100 (92-111)	101.85±15.84

Discussion

Analysis of the results of completed questionnaires showed that students' satisfaction with the implementation of the logbook was generally moderate and that of professors was moderate to high. These results are consistent with the results of a study by Najafi et al., which showed that 87.5% of professors and 44% of students considered the use of the logbook to be necessary in their practical courses (10). This study, consistent with other studies, showed that professors' views on the implementation of the logbook were

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more positive than students' views. Some previous studies have addressed the importance of using the logbook in the clinical activities of medical students as an effective evaluation tool. The results of the present study are consistent with the findings of other studies, including the study by Valizadeh Haghi et al., which reported a moderate level of student satisfaction with the use of the logbook (11).

In the present study, there was a significant difference in the score given to the logbook between the students who entered the university in 2020 and 2021. Thus, the 2020 students, who were more involved in internship courses than the 2021 students, gave more points to most of the questionnaire items. The reason for this difference should be examined from various aspects. In this regard, more clinical experience of the 2020 students and, subsequently, the sense of standardizing the training with the aim of improving the academic level of the students is of particular importance.

The results of the study reported moderate satisfaction of students and professors in the section on the necessity of implementing a logbook. Given that in previous studies, the necessity of implementing educational logbooks was not evaluated and on the other hand, the necessity of implementing a logbook was approved by some students and a few professors, the results of this study can emphasize the necessity of implementing a logbook by students and professors.

The mean scores in the logbook content section indicate moderate satisfaction of students and moderate to high satisfaction of professors, which indicates relative satisfaction of students and high satisfaction of professors with the logbook content. Thus, the specified frameworks in the clinical education of students and the number of practical trainings and skills related to them can be considered sufficient to meet the current educational needs of students. It is recommended that before designing the next edition of the logbook, suggestions from students and professors be considered by conducting documented studies to add new content or reduce existing content.

The results of the present study showed that the level of satisfaction of students and professors regarding the outcome of implementing the logbook is moderate and high, respectively. These findings are consistent with the results of other similar studies. Lotfi et al. reported in their study that the use of clinical guidelines leads to an increase in the learning score in the cognitive and skill areas of students (8). Furthermore, Offergeld et al., who conducted a two-stage evaluation of the logbook in all nationally registered Otorhinolaryngology (ORL) departments in Germany, reported that the logbook used is approved by professors and students throughout Germany (12).

Dos Santos et al. showed that the use of logbooks in nursing management courses makes teaching objectives and the process of achieving professional performance clear to students (13). The aforementioned findings are consistent with the reports of students and professors in the evaluation of the logbook in the present study in the area of outcome of implementing the logbook, especially in the field of the effect of the logbook in informing students about the goals of clinical education.

Similar studies show that the use of logbooks creates motivation and increases student satisfaction, but the possibility of achieving all learning objectives and needs with this method is not fully realized (14, 15). The results of these studies show that the logbook is a systematic and feasible method, but reasons such as the difficulty of completing the logbook for students reduce their satisfaction with this method (16, 17).

In the area of necessity of implementing a logbook, students considered the existence of a logbook to be necessary for familiarizing themselves with the evaluation and grading methods in the internship unit compared to other areas. In addition, completing the logbook on a daily basis is less necessary in their opinion. In the area of content of implementing the logbook, students considered the skills mentioned in the logbook to be appropriate for the skills needed for their future careers, but the appropriateness of the skills mentioned in the logbook received a lower score compared to the training provided in health centers. In this regard, it is suggested that the monitoring systems of Persian medicine education, including the Persian

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medicine office and especially the specialized board of Persian Medicine, increase their continuous monitoring of the performance of theoretical and clinical training in Persian medicine groups. In the area of implementation outcome, students considered the effect of implementing a logbook to document students' activities to be more important, but the effect of implementing a logbook on targeting students' attendance hours in clinical departments received the lowest score.

The evaluation of the questionnaire completed by the professors showed that the highest score in the area of the necessity of implementation was given to the existence of a logbook to monitor the educational process. In addition, in the aforementioned area, the lowest score was given to the necessity of implementing a logbook to standardize education among students in the faculty or group. Considering that one of the goals of the logbook is to standardize the level of education among students, it is recommended to examine the views of the professors who gave a low score to this issue in future studies. It seems that the low score of the professors in this area is related to the quality of education, which is the main goal of adjusting the logbooks in the field of clinical education with a focus on the quality of education. Further investigation of the causes of low score of the professors in this regard requires qualitative studies in this area. In the area of the content of implementing a logbook, the highest score by the professors belongs to the applicability of items related to professional ethics and the lowest to the clarity of items related to professional ethics expectations. In this regard, it seems that professors are expected to provide full explanations related to the clarity of items related to professional ethics, which, like the previous case, are generally outside the usual scope of the logbook. In this regard, it is suggested that if, based on future studies, instructors of related courses insist on including more explanations regarding the quality and method of training, as well as mentioning items related to professional ethics, the aforementioned items must be added to the next edition of the logbook. In the area of the outcome of implementing the logbook, professors gave the highest score to the effect of the logbook in documenting students' activities and the lowest score to the effect of implementing the logbook in informing students of the goals of clinical education. The low score for the aforementioned item is completely consistent with the contents mentioned in the logbook because the importance of clinical education is already considered by the students and the logbook is designed solely to organize and promote the aforementioned education. In this regard, it seems that this question did not have an important place in the logbook evaluation questionnaire. It is suggested that the aforementioned item be considered for modification or revision in future editions of the questionnaire.

The use of logbooks is globally used to monitor and evaluate the clinical education of students in medical and other related fields. In the field of Persian medicine, there has not been a single tool to record and evaluate the clinical activities of students, and this study is the first implementation of logbooks for internships one and two in universities across the country that offer this field. It is also the first study to evaluate the views and satisfaction of Persian medicine PhD students and professors regarding the implementation of logbooks for internships one and two, which can be considered a strength of the study.

It is suggested that by making the necessary corrections to Logbooks 1 and 2 and related questionnaires based on the opinions of the target group (professors and students), and changing the format of presenting logbooks electronically and placing them in the Ministry's Tabib system and related systems in universities, as well as providing sufficient training on the goals and outcomes of the logbook, clinical training in the field of Persian medicine should be provided in a more favorable manner with the aim of improving the capabilities and skills of graduates of this field in providing clinical services to patients.

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Based on the results of the present study, the aforementioned logbook was moderately approved by students and moderately to highly approved by professors. Currently, the established logbook can be effective in continuously guiding the clinical education of Persian medicine students and as a comprehensive guide in improving the quality of clinical education. Considering the details specified in the strengths and weaknesses of the logbook, and based on the present evaluation, compiling the next edition of the logbook and correcting the weaknesses will make the use of the logbook more efficient.

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