Original Article

Assessing the Satisfaction Level of Rehabilitation Trainers and Students from the Clinical Internship Assessment Checklist

Masoume Hosseini Beidokhti[1], Negin Moradi[1*]

[1]Musculoskeletal Rehabilitation Research Center, Department of Speech Therapy, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

ARTICLE INFO

ABSTRACT

Background: Valid assessment and validation indices are very important to evaluate and teach students, especially in clinical education settings. Considering the fact that rehabilitation science fields have about 1200 h of clinical education, planning of clinical skills training and how to evaluate them is important to improve the quality of education. Due to the importance of clinical skills teaching, clinical logbooks are used in various medical sciences in the world and some of the fields of medical sciences in Iran. This study was conducted to design and evaluate a clinical logbook for rehabilitation fields.

Methods: Students [153] and trainers [43] surveys were conducted on how to evaluate clinical units. The clinical training logbooks of reputable rehabilitation universities of the world were studied and clinical activity logbooks for different rehabilitation fields were designed and administered in the clinical education and governance council meetings. Then, the level of satisfaction of trainers and students with the evaluation method was investigated using the logbook.

Results: The results of this research showed a significant increase in students' satisfaction with the assessment of internship and improvement of the quality of clinical education (above 80%) (P=0.02). Content validity results for the questionnaire were above 68% and Cronbach's coefficient alpha was 75%.

Conclusion: Given the similarity of internship courses throughout Iran, the logbook can be used in rehabilitation fields in the country by discipline to evaluate the clinical dimension of rehabilitation courses.

Introduction

Having specific, valid and uniform educational indicators for students and teaching, these indicators are especially important in clinical education. Student assessment is an important part of education and one of the most important activities in educational processes [1, 2]. Therefore, the design and application of a valid and efficient assessment model is of great importance. However, based on evidence, the most current assessment tools and methods used in educational institutions lack enough validity and reliability and there is instability and uncertainty over the assessment process of students [2, 3]. This has led to unintended consequences for professors and students.

Student quality assessment by professors in clinical environments, such as wards or clinics, has always been questioned and has attracted special attention in nursing literature [4]. Since rehabilitation sciences (including physiotherapy, speech therapy, audiology and occupational therapy) consist of 1200 clinical training hours, reducing the gap between theory and practice in education is a very important goal. Moreover, designing plans for teaching clinical skills and how to assess

Corresponding author: Negin Moradi, Musculoskeletal Rehabilitation Research Center, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran. **Tel:** +98 916 6312518
E-mail: neginmoradist@gmail.com

these plans to improve the education quality is of great importance since weak planning and evaluation can reduce the professional skills of graduates and thus lead to inefficiency of the education system and poor health-care treatments. Studies have shown that adopting an appropriate evaluation system to measure student's occupational performance is highly important and challenging. The multiplicity and diversity of tests and measurement and assessment tools have made choosing the prober tool or assessment method the most important challenges in the field of comprehensive assessment. Learner's assessment is a comprehensive decision-making process. Resolving these challenges is possible by adopting a systematic plan-oriented perspective towards student assessment [5].

In addition, ensuring clinical competency by students is one of the most important goals in the clinical education process. Clinical assessment is one of the main challenges in this process. Defining concepts relating to clinical assessment by clarifying strategic points reflects students' performance in a clinical setting and helps them achieve desired goals and skills and helps trainers to design a comprehensive assessment system accepted by students [6]. Literatures on clinical assessment show the importance of this issue in different ways.

Chapman claimed that overcoming subjective (non-objective) judgment in clinical assessment is difficult [6]. Some argue that clinical competency is a confusing term. Students participating in the qualitative study of Calman et al. (2002) argue that assessment tools hardly focus on functional skills and, therefore, students remain anxious and undecided about their ability to accomplish nursing key skills [4]. To resolve the challenge, some studies have proposed "competency-based education". Findings of various studies have shown that one of the crucial problems in clinical assessment is the lack of consistency in the review of clinical competence and uncertainty in the review process [7]. The review of the Handbook of Occupational Therapy Clinical Education at the McMaster School of Rehabilitation Sciences for students and faculty members of Occupational Therapy showed that the handbook provides general information, rules, and specific planning practices, resources which are relating to clinical education and its assessment [8]. At the University of Dublin, Department of Speech and Language Clinical Studies, the Clinical Education Handbook is used for students of speech and language clinical studies in two academic and professional areas from 2012-2013. This handbook is used to increase the awareness of therapists and speech and language students concerning the content, structure and process of clinical education programs, and had positive results in assessing the students' clinical education [9, 10]. Department of Rehabilitation and Movement Science, University of Vermont, uses a logbook or clinical education program that was reviewed in 2014. The review of this clinical education booklet showed that the program provided conditions for students to be exposed to clinical education and their experience in the clinical field has improved in different stages and throughout the curriculum [11]. In

the study of Heidari et al. [12], the use of logbook by nursing and midwifery students led to the familiarization of students with learning goals and objectives, targeting of students effort to learn, goal-setting of teachers effort to educate students, creation of educational interaction between teacher and learner, and documenting students practical activity. According to another study, the use of logbook enabled nursing students to increase their scores in cognitive and skills areas [13]).

But it is clear that learning and assessment are inseparable and the evaluation of clinical competencies of medical students is an important and valuable activity. Assessment provides the information necessary to determine the effectiveness of the curriculum. According to researches, the results obtained from assessments are the main criterion for determining the success of a training program [14].

Today, different methods have been developed to assess the clinical skills of medical students [15]. One of the goals in designing curriculum for medical sciences is to build competency in knowledge, attitude and performance. The expected competencies need to be assessed using valid and reliable methods. In other words, measurement methods need to be consistent with the created competencies. In this respect, various methods have been developed, such as: clinical structural testing, managing patients as problems, main symptoms test, adaptation test, three-step jump test, short-term clinical assessment, direct observation of procedure skills, sampling from clinical work and 360-degree assessment in the field of clinical assessment. Unfortunately, these methods are not fully introduced in the Persian literature written on medical sciences in spite of being useful. Assessment methods in clinical education are mostly problem-oriented. A test needs to be capable of measuring the competencies of the learners with high accuracy [16]. Unfortunately, in practice, these tests are rarely used. It seems that one of the reasons for poor use of these methods is their inadequate introduction in the related literature written in Persian.

Meanwhile, at present, most colleges in medical science universities, including the present study environment, use self-made and holistic assessment forms to evaluate clinical performance of students. Forms which often do not fully cover learning objectives, are one-dimensional, and are only designed and completed based on the trainer's viewpoint on student performance. Based on valid medical literature, an assessment should be clear, unbiased, comply with the standards, evaluate performance in line with educational objectives, be constant, and provide feedback to students. Therefore, this study was conducted to investigate the viewpoints of trainers and rehabilitation students on the checklist designed for the assessment of clinical internship.

Methods

This is a descriptive-analytic study that evaluates the satisfaction of clinical trainers and rehabilitation students from clinical assessment checklist. The sampling

was administered using census method in which all students who passed at least one semester of internship or apprenticeship and all trainers who participated in clinical courses were included in the study. This study was conducted on 153 rehabilitation students and 43 trainers of internship and apprenticeship courses (Table 1).

Inclusion criteria for students were passing an internship course at the college's clinical centers and evaluating the course with the help of the Clinical Internship Assessment Checklist (Appendix 1) and the inclusion criteria for trainers were having direct training responsibilities in these courses and evaluating students using the checklist. The Clinical Internship Assessment Checklist was designed by faculty members and the Clinical Education Council and was used in clinical centers which are related to student internship. It was designed to provide a complete list of the educational and behavioral objectives of the internship courses based on the course syllabus approved by the High Council of Curriculum Planning. Subsequently, these objectives were examined by some experienced faculty members in theoretical and practical courses of rehabilitation and a few experienced trainers working in the clinical centers of the university. After discussing and weighting the assessment items, the final checklist was prepared. All items that can be of particular importance to student clinical education were identified by each of clinical trainers and faculty members. In total, 28 main items were collected from all trainers and faculty members. The final checklist was determined with a final review at the clinical council. The final checklist consists of 24 items categorized into 3 sections: occupational ethics and discipline, evaluation, and treatment. Occupational ethics and discipline section includes 9 items on general criteria such as punctuality, dress code, and adherence to clinic regulations. The evaluation section includes 5 items on how to correctly evaluate patients, and the treatment section includes 10 items on how to correctly apply the treatment procedures. Each item was scored from 0 to 4. The total score of the checklist was 14 out of 20 based on the formula of calculating the final score and the other 6 scores were determined in a different way.

To assess the content validity of the questionnaire, 10 faculty members of all rehabilitation fields who participated in the clinical education of students were consulted. A questionnaire was prepared which included general questions about the suitability of items of the questionnaire in relation to the goals set. The questionnaire was provided to the respondents with the questionnaire assessment form. The respondents answered the assessment-related items as: Necessary (2), Not bad (1), and Not needed (0). Moreover, they were asked to leave their comments to improve the test quality. Then, the content validity ratio (CVR) was calculated for each item of the questionnaire [5]. CVR was calculated for each item of the questionnaire [17].

After determining and calculating CVR, content validity index (CVI) was calculated. To calculate CVI, the experts commented on each item based on 3-part LIKERT spectrum with respect to three criteria relating to being specific, simplicity, fluency, and clearance. First, the criteria were scored based on 4-point Likert scale and then, it was calculated using CVI formula. Drawing upon the CVR results, the content validity results for all items were above 0.68 and based on the results of CVI, the values of each questionnaire item were calculated from 0.80 to 0.100. Based on the minimum value of content validity ratio, this value of content validity is a good and acceptable validity [11]. Cronbach's coefficient alpha is 75% for reviewing internal validity of the questionnaire which shows that its internal validity is satisfactory [18].

Before handing out the checklist, usage and scoring in the method were separately explained to trainers in the center and professors in a briefing. The checklist was distributed in written form to examiners (trainers) and the examinees (the students). All students participating in the study were evaluated using this checklist during and at the end of each internship semester. After the completion of the internship, the views of trainers and students about the clinical assessment method using a checklist were assessed with a researcher-made questionnaire. The questionnaire for the trainers included 10 items and for the students, there were 8 items with a five-point scale ranging from "I totally disagreed" (score 1) to "fully agree" (score 5). In addition, a few open-questions were asked about the strengths and weaknesses of the assessment method. Due to the difference in the number of questionnaire items for the professors and students, to compare the scores of the two groups, the average score of each questionnaire was calculated and used in percentage terms. Respondents' answers to the open-questions were categorized and analyzed. They were also asked to rate their satisfaction with this assessment method at a visual 0-10 points scale, with a score of 0-3 indicating dissatisfaction, a score of 4-6, a moderate satisfaction, and a score of 7-10 as the indication of satisfaction.

To control the impact of course scores on student feedback, the questionnaires were completed when the students were not yet informed of their final score. Also,

Table 1: Demographic features of participant

Field of study	Total	Semester	Gender
Audiology	41	Semester 5: 22 Semester 7: 21	Female: 32 Male: 9
Speech therapy	36	Semester 5: 17 Semester 7: 19	Female: 26 Male: 10
Occupational therapy	28	Semester 5: 15 Semester 7: 13	Female: 20 Male: 8
Physiotherapy	45	Semester 5: 17 Semester 7: 28	Female: 28 Male: 17

in order to observe the research ethics, before the start of the study, the purpose of the project was explained to the respondents and it was noted that the completion of the questionnaires was optional and their opinion would not have any effect on their score.

Results

Before conducting this study and preparing logbook, students satisfaction level with how their clinical performance was assessed and evaluated, was studied. Using a 12 items valid and reliable questionnaire, the satisfaction level of rehabilitation students from different clinical education fields was studied. Rehabilitation student's satisfaction level with their clinical evaluation was reported at 55%.

Independent t-test revealed that there is no significant relationship between gender (P=0.4) and educational level (P=0.5) with satisfaction level from the clinical internship assessment checklist. Independent t-scores revealed that there was no significant relationship between students' satisfaction level with the clinical internship assessment checklist and the semester they

pass (P=0.5) and their study field (P=0.5). The results of the student survey revealed that over 80% of the students and over 90% of the trainers were satisfied with the total clinical records. The comparison of students satisfaction with internship trainers using Mann-Whitney test revealed that there was no significant difference between the satisfaction level of the trainers and students from the clinical record (P=0.1) (Tables 1 and 2).

Discussion

The results of this study revealed that a high percentage of students and clinical trainers were satisfied with the clinical records in general. They evaluated this profile as a correct tool for measuring the students' clinical performance. They acknowledged that the new assessment profile has the necessary qualifications for evaluating the behavior and occupational performance and the academic and practical skills of the students. The results of this study are in agreement with the findings of Heidari and Roushangar [12, 19] on the use of logbooks in clinical education of nursing and midwifery courses. The results of these studies revealed that logbook as an

Table 2: Student survey results

Items	I quite agree	I agree	No idea	I disagree	I totally disagree
1. The new evaluation profile has the ability to accurately assess the students' knowledge and academic level.	87%	8%	2%	3%	-
2. The new evaluation profile has the ability to accurately assess the students' academic skills.	81%	6%	4%	9%	-
3. New assessment profile can properly evaluate the behavior and occupational performance of the students (ethical code, rules and discipline, proper communication, etc.)	89%	8%	3%	-	-
4. A new evaluation profile can correctly distinguish students with different clinical performance levels.	86%	4%	5%	5%	-
5. The results of the assessment of a student's performance by multiple trainers using new assessment profile will be constant and similar (assessment will not be influenced by the trainers' personal views).	83%	5%	2%	5%	-
6. The new assessment profile can evaluate all the necessary targets and capable related to the students' clinical performance.	90%	5%	3%	2%	-
7. The items listed in the new assessment profile are sufficiently clear and explicit.	91%	3%	4%	2%	-
8. In general, a valid assessment profile is appropriate for evaluating the students' clinical performance.	89%	8%	3%	-	-

Table 3: The result of the survey with the trainers.

Items	I quite agree	I agree	No idea	I disagree	I totally disagree
1. The new assessment profile can accurately assess the students' knowledge and academic level.	94%	3%	-	3%	-
2. The new assessment profile can accurately assess the students' academic skills.	96%	2%	2%	-	-
3. New assessment profile can properly evaluate the behavior and occupational performance of the students (ethical code, rules and discipline, proper communication, etc.)	94%	3%	2%	1%	-
4. A new evaluation profile can correctly distinguish the students with different clinical performance levels.	91%	4%	3%	2%	-
5. The results of the assessment of a student's performance by multiple trainers using new assessment profile will be constant and similar (assessment will not be influenced by the trainers' personal views).	89%	3%	5%	3%	-
6. The new assessment profile can evaluate all the necessary targets and capabilities relating to the students' clinical performance.	97%	2%	1%	-	-
7. The items listed in the new assessment profile are sufficiently clear and explicit.	91%	3%	4%	2%	-
8. In general, a valid assessment profile is appropriate for evaluating the students' clinical performance.	93%	2%	4%	1%	-

effective tool for increasing students' knowledge and self-confidence, is also an appropriate tool for providing feedback to learners. By creating similar educational opportunities in line with clinical education objectives, the clinical record logbook can provide clinical education goals for students. In this method, the evaluation of the skills that a student must learn during a clinical course is collected in a booklet and provided to the student. Clinical logbook makes the educational goals more systematic and logical and it defines the objectives of clinical departments and programs to be clear and close to the conditions and facilities of clinics and clinical environments as possible.

Conclusion

When the duties of professors and students are identified and shared objectives created, a booklet can streamline the training activities and ultimately facilitates the final evaluation of students' course. The use of a clinical logbook enhances professor-student interaction and develops the evaluation process, as one of the basic principles of optimal learning. Given the similarity of internship syllabuses to rehabilitation courses in Iran, it is suggested that this checklist can be used for all disciplines of rehabilitation science across the country.

Acknowledgement

Conflict of interest: None declared.

References

1. Harden RM. Outcome-based education: the future is today. Medical teacher. 2007;29(7):625-9.
2. Faux D. The Assessment Of Learning Outcomes For The Competent And Reflective Physician:: Amee Guide No. 25. Education for Primary Care. 2004;15(2):275.
3. Komeili G, Rezai G. Methods of student assessment used by faculty members of basic medical sciences in Medical University of Zahedan. 2002.
4. Calman L, Watson R, Norman I, Redfern S, Murrells T. Assessing practice of student nurses: methods, preparation of assessors and student views. Journal of Advanced Nursing. 2002;38(5):516-23.
5. Van Der Vleuten CP, Schuwirth LW. Assessing professional competence: from methods to programmes. Medical education. 2005;39(3):309-17.
6. Milligan F. Defining and assessing competence: the distraction of outcomes and the importance of educational process. Nurse education today. 1998;18(4):273-80.
7. Alavi M, Irajpour AR, Abedi HA. Some concepts in the evaluation of clinical education: a qualitative study on the experiences of nursing students and clinical teachers. Strides in development of Medical Education. 2007;4(1):10-8.
8. Bennett S, Bennett JW. The process of evidence-based practice in occupational therapy: Informing clinical decisions. Australian Occupational Therapy Journal. 2000;47(4):171-80.
9. Mok CK, Dodd B, Whitehill TL. Speech-language pathology students' approaches to learning in a problem-based learning curriculum. International journal of speech-language pathology. 2009;11(6):472-81.
10. Malchiodi CA. Handbook of art therapy: Guilford Press; 2011.
11. Raghoebar-Krieger H, Sleijfer D, Bender W, Stewart R, Popping R. The reliability of logbook data of medical students: an estimation of interobserver agreement, sensitivity and specificity. Medical Education-Oxford-. 2001;35(7):624-31.
12. Heidari H, Akbari N. Developing and Implementing Log Book in Teaching Principles and Techniques to Nursing and Midwifery Students: Mixed Method Study. Future of Medical Education Journal. 2017;7(1):14-8.
13. Lotfi M, Zamanzadeh V, Abdollahzadeh F, Seyyed RA, Jabbarzadeh F. The effect of using logbook on nursing students learning in gynecology wards. Iranian Journal of Medical Education 2010.
14. Tucker PD, Stronge JH. Linking teacher evaluation and student learning: ASCD; 2005.
15. Norcini JJ, McKinley DW. Assessment methods in medical education. Teaching and teacher education. 2007;23(3):239-50.
16. Hinchy J, Farmer E. Assessing general practice clinical decision making skills: the key features approach. Australian family physician. 2005;34(12):1059.
17. Beaton DE, Bombardier C, Guillemin F, Ferraz MB. Guidelines for the process of cross-cultural adaptation of self-report measures. Spine. 2000;25(24):3186-91.
18. Moradi N, Pourshahbaz A, Soltani M, Javadipour S, Hashemi H, Soltaninejad N. Cross-cultural equivalence and evaluation of psychometric properties of voice handicap index into Persian. Journal of Voice. 2013;27(2):258. e15-. e22.
19. Roshangar F, Lotfi M, Abdollahzadeh F, Davoodi A. The effect of using logbook on nursing students' learning. Iranian journal of medical education. 2010;10(1):64-70.

Appendix 1:
Students evaluation checklist

Area	Clinical actions	Score	Considerations
Observing professional ethics and discipline	1. It keeps records of the file well, does not expose them to the public and does not remove them from clinical environment.		
	2. The patient file is completed in each session and is prepared for supervision by the supervisor		
	3. At the time of client's presence in the clinic, he/she is present in the treatment room		
	4. He/She preserves the treatment room layout and the location of the educational tools and supplies.		
	5. Takes the start and end time of the treatment session.		
	6. At all meetings, it complies with health regulations.		
	7. In dealing with the clients and their companions and colleagues, adheres to professionalism and respect (including the use of white coats).		
	8. Timely presentation at the clinic. Avoid absenteeism without coordination with the supervisor and previously informs patients of his absence.		
	9. Carries out and delivers the assigned affairs by the head of the clinic on time.		
Evaluating	1. Execute the tests correctly and fill in the sheets for them.		
	2. Records the tests in an appropriate manner.		
	3. Analyzes the tests.		
	4. The results of the evaluation are recorded in a clear and complete manner using specialized terms.		
	5. Regarding the disorder of each referral, he/she will perform all the specific and complementary evaluation and record the result.		
Treatment	1. The long-term and short-term goals of the treatment are determined correctly.		
	2. Plan a daily treatment schedule tailored to short-term goals.		
	3. Chooses the treatment appropriately.		
	4. Executes the chosen method correctly and arranges its steps.		
	5. Executes the practical and theoretical foundations of the therapeutic approach.		
	6. Select and use the treatment tools correctly.		
	7. Provides advice to the client or his companions properly.		
	8. Shares client's parents or companions in his treatment.		
	9. Manages the duration of the session in an appropriate form for treatment and counseling.		