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Original Article

Rehabilitation Educators' Perceptions of Clinical Education Challenges in Iran: Is COVID-19 Having Redundant Effects?

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ABSTRACT

Background: Clinical education is a core component of the curriculum of undergraduate rehabilitation students. Nevertheless, this field more than any other field of education has many shortcomings that should be addressed.
Methods: The aim of this study was to explore the challenges of clinical education from the perspective of rehabilitation educators with particular focus on the new challenges created bythe COVID-19 outbreak. This qualitative study was conducted through purposeful sampling. Semi-structured interviews were conducted with 12 rehabilitation clinical educators of Ahvaz Jundishapur University of Medical Sciences, Iran. Data analysis was accomplished according to conventional content analysis. To prove the trustworthiness of the data, credibility, dependability, confirmability, and transferability were assessed.
Results: Through data analysis, 240 initial codes were extracted in three main categories and nine sub-categories, indicating redundant challenges imposed by COVID-19 comprising restricted clinical resources (inadequate patient number and diversity, inadequate equipment, limited clinical space, inadequate manpower), an inefficient clinical education system (poor management of clinical education programs, insufficient clinical evaluation), and personal and professional characteristics of the students (lack of students' practical knowledge, lack of motivation, fear).
Conclusion: The results of this study provide deeper insight into the perceptions and experiences of rehabilitation educators regarding clinical education challenges. At present, an accidental and unexpected problematic event (COVID-19 pandemic) has inflicted detrimental effects on various aspects of clinical rehabilitation sciences. It is necessary to implement changes in future plans which include adaptations for COVID-19.

Introduction

Considering the importance of the field of rehabilitation sciences and its crucial role in healthcare practices, clinical education and specialized training of the students in various fields of rehabilitation sciences are very essential. Clinical education is a core component of the undergraduate curriculum of rehabilitation students [1]. In fact, it acts as a facilitator to learning activities in the clinical environment [2]. In this environment, students can be offered an opportunity to translate their theoretical knowledge into clinical practice, skills, and competence

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and to develop professionally [3].

Despite the importance of clinical education, this field has more shortcomings than other fields of education should be addressed [4]. Quality of clinical education is a very reliable indicator for determining the quality of the entire education course [5]. Based on previous findings, what students learn theoretically is significantly different from what they do clinically [5, 6]. Pazokian et al. reported that clinical education is being transferred from patients' bedsides to the classrooms and conference halls of hospitals, and clinical educators devote 15-25% of the clinical education time at patients' bedsides [7]. Therefore, it is very important to pay more attention to clinical education problems.

Recently, a review study showed that clinical education in rehabilitation sciences is influenced by many factors, such as professional ethics, motivation, clinical competence, evidence-based practice, and environmental as well as individual factors [8]. Identifying the challenges of clinical education in order to eliminate or modify them is useful in providing more learning opportunities, improving the achievement of educational goals, promoting students' skills in meeting complex care needs, using theories in a clinical setting, and improving the quality of healthcare [9].

The recent COVID-19 outbreak has placed all rehabilitation students and educators directly or indirectly in contact with this disease, and this has had a critical impact on the education system, specifically clinical education [10]. The COVID-19 pandemic has resulted in widespread disruption of clinical assessment and management [10]. Given the importance of this issue and the fact that we need to be aware of redundant challenges and concerns regarding Covid-19, exploring the clinical educators' perceptions and experiences is essential.

Several studies have investigated the challenges involved in clinical education in rehabilitation sciences, but they have focused mostly on the students' perspectives [11-13]. Clinical educators, however, as experts who educate students in the clinical context, are well aware of the existing challenges; thus, using their perspective is one of the most important aspects of evaluating educational programs [8]. In addition, previous studies have often been conducted quantitatively [14, 15], while to understand the problems existing in clinical education, the perceptions and experiences of participants must be investigated qualitatively. To the best of our knowledge, no study to date has investigated the challenges of clinical education in various fields of rehabilitation simultaneously. Therefore, the first aim of the present study was to explore qualitatively the challenges facing clinical education in various fields of rehabilitation from the perspective of clinical educators. Although the internship courses were held in person at Ahvaz Jundishapur University of Medical Sciences, the COVID-19 pandemic has likely added new challenges in rehabilitation clinical education that should be explored.

Methods

Study Design

In this descriptive qualitative study, clinical experiences and perceptions regarding the problems of clinical education were collected from the clinical educators of the School of Rehabilitation Sciences, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran (Table 1). Qualitative descriptive studies aim to provide a comprehensive summary of every day events. These studies are less interpretive than other qualitative approaches, such as ones based on phenomenological or grounded theory [10]. As there is no emphasis on scale or statistical estimation in qualitative research, sampling was performed non-randomly and purposefully using the known cases method [12]. Participants selected had at least one year of clinical experience and expressed an interest in participating in the study. Because of variation in the characteristics of participants in factors such as age, gender, years of clinical experience, and field, maximum variation was considered during sampling. In addition, failure to complete the interview led to exclusion from the study.

Data Collection

Data was collected through semi-structured interviews conducted by the first researcher from October 2020 to May 2021. Each interview lasted approximately 45 minutes (30-90 minutes). The interviews continued until data was fully saturated, i.e. no new data was received. In this study, the time and place of the interview were determined by the participants. Most interviews were conducted at the participants' workplace in the School of Ahvaz Rehabilitation Sciences. Data was saturated

Table 1: Demographic characteristics of the study participants

Number	Experiences (year)	Sex	Age	Field	Grade
1	9	Male	42	Physiotherapy	PhD
2	3	Female	36	Physiotherapy	PhD
3	4	Male	36	Physiotherapy	PhD
4	3	Female	36	Audiology	PhD
5	12	Female	40	Occupational therapy	PhD
6	5	Male	29	Speech therapy	PhD
7	7	Female	34	Audiology	PhD
8	10	Female	43	Occupational therapy	PhD
9	12	Male	47	Occupational therapy	MSc
10	7	Male	35	Audiology	PhD
11	4	Female	32	Occupational therapy	PhD
12	12	Female	43	Speech therapy	MSc

after nine interviews, but interviews were continued with the other three participants for greater assurance. Each interview started with broad questions: "What is your perception and experience regarding barriers to clinical education?" and "Has COVID-19 added new challenges to this field?" The researcher tried to use exploratory questions such as "Can you explain more?" and "What do you mean?" to clarify and clear up ambiguities and deepen the answers.

Data Analysis

Qualitative content analysis was used to analyze the data. The study process was continued, and concurrent analyses were undertaken. First, recorded interviews were transcribed verbatim. Second, before coding, the transcribed text was read several times to determine the meaning units. Then the meaning units were abstracted through condensation to create codes; the codes were listed, reviewed, and compared for similarities and differences within the interviews. Then codes were categorized through reduction [16]. This study employed confirmability, credibility, dependability, and transferability to achieve the various aspects of rigor indicated by Guba [17]. To enhance confirmability and facilitate the audit, detailed information was explicitly expressed for different stages of data gathering, analysis, and inference. To ensure credibility, information was approved by peer debriefing and reviews of the data, codes, subcategories, and categories. The extracted codes and results were retrieved and shared with the participants to validate the congruency of the codes with their experiences. Dependability was achieved by engaging more than one researcher in data analysis. Reporting the different demographic characteristics of the participants as well as all steps of data collection, encoding, and categorization enhanced the transferability of the findings.

The present study was approved by the Ethics Committee of Ahvaz Jundishapur University of Medical Sciences (Ethical code: IR.AJUMS.REC.1398.866). Written informed consent was provided by all participants. Other ethical considerations were also considered, such as protecting the material and intellectual rights of the collaborators in the project, the researcher's commitment to confidentiality and non-disclosure of all participant information, and reporting all research results.

Results

Twelve clinical educators (7 females and 5 males) with a mean age of 38 years and mean clinical experience of 7 years participated in the study (Table 1). By data analysis, 240 initial codes were extracted. Three main categories and nine sub-categories were revealed (Table 2). These categories are described in detail below:

Restricted Clinical Resources

Based on the participants' perceived experiences, clinical education is affected by restrictions in four important clinical resources, namely patient number and diversity, equipment, clinical space, and manpower.

Participants stated that inadequate patient number and diversity resulted from some factors that were related to patients or were related to organization policies. In this regard, one of the clinical educators said: "In many cases, patients are not aware that rehabilitation services exist and prefer medication or surgery over rehabilitation treatment. Also, because in Iran, patients are referred to rehabilitation centers by specialized physicians indirectly, in most cases, referrals are not done properly or in a timely manner."

Participants also pointed out the effects of COVID-19 on reducing the number of patients referring to healthcare centers. One educator shared the following issue: "At present, the number of patients referring to healthcare centers has greatly decreased. Patients prefer to postpone their treatment or go to private centers from fear of getting COVID-19."

Inadequate specialized or educational (e.g., specialized devices and tools, translated and validated culture-based questionnaires, and teaching aides) and non-specialized or welfare (e.g., telephone and computer system for registering and accepting the patients) equipment was another problem related to restricted clinical resources. In this regard, one of the audiology clinical educators said: "We need a device of hearing aids called RAM. We do not have it, or for example, we want a device called a sound level meter. We have to work with this in practice, but we do not have this equipment." Another participant stated: "We do not have a telephone in our educational center to coordinate with our patients, so we have difficulty when we want to cancel or change a treatment session."

Based on clinical educator's experiences, there was the lack of clinical space, including a lack of university-affiliated hospitals, inadequate specialized centers, and limited clinical space considering student numbers. In this regard, a participant explained: "The number of specialized centers and university-affiliated hospitals is low. For this reason, patients are often referred to private hospitals.

In addition, the withdrawal of cooperation between some healthcare centers and the university because of the COVID-19 pandemic and the consequent non-acceptance of the presence of students in some hospitals were new challenges for clinical education. In this context, a participant said: "Because of the COVID-19 pandemic, many healthcare centers have dedicated all wards to infected patients. This has reduced the number of training centers."

Manpower, including clinical educators as well as ward staff and secretaries, were other resources affecting clinical education; however, their roles and positions were very different. Participants expressed that an inadequate number of clinical educators, and especially the lack of experienced clinical educators, disrupts the process of clinical learning and skill transfer to the students. In this regard, one clinical educator said: "An inadequate number of clinical educators leads to the use of newly graduated students. Most of them do not have enough clinical knowledge or skills to educate in this field."

Table 2: Sub-sub categories, subcategories, categories

Sub-sub-categories	Sub-categories	Categories
Challenges related to patients: Patient's inability to pay for treatment Patient's opinion about ineffectiveness of rehabilitation services Fear of getting COVID 19	Inadequate patient number and diversity	Restricted clinical resources
Challenges related to organization policies: Poor referral system between different levels of health care Insufficient identification of clinical education centers to the community		
Inadequate specialized equipment: Inadequate specialized rehabilitation devices (e.g. RAM device, LASER) Insufficient culture based questionnaires Inadequate teaching aides (e.g. translated and validated culture based questionnaires)	Inadequate equipment	
Lack of non-specialized equipment: Lack of common instruments (e.g. telephone, computer system) Lack of ventilation system (especially during the corona virus outbreak)		
Inadequate university-affiliated clinical centers Inadequate specialized centers (e.g. cardio rehabilitation center) Limited clinical space in comparison of student's number Not accepting the presence of students by some hospital staff members due to COVID 19 pandemic	Limited clinical space	
Inadequate clinical educators number Inadequate experienced clinical educators Inadequate ward staff and secretary	Inadequate manpower	Inefficient clinical education system
Gap between theoretical knowledge and clinical training Lack of specific curriculum for clinical teaching Shortness of clinical courses for rehabilitation students Lack of interactive clinical education (e.g. Students receive information and do not participate in learning actively Failure to train some techniques due to social distance and subsequently the use of alternative techniques.	Poor management of clinical education programs	
Lack of planning to use different clinical exam during the internship courses (e.g. mini clinical exam, 360 degrees) Lack of clinical educators' attention to the importance of clinical evaluation	Insufficient clinical evaluation	Professional characteristics of students
Insufficient theoretical knowledge Inadequate practical skill Lack of experience	Lack of students practical knowledge	
Inconsistency of field with individual abilities Lack of interest in field of study Failure to obtain the expected income in future Uncertainty about future job Early entry into the labor market	Lack of motivation	
Fear of criticism by clinical educators Fear of doing the wrong procedure Fear of getting infected with COVID 19	Fear	

Inefficient Clinical Education System

Inefficient clinical education system was another category that emerged from the experiences of the participants. This category refers to various challenges related to the management of training programs and evaluation of students' clinical competency. The gap between theoretical knowledge and clinical training, a lack of specific curriculum for clinical teaching, the short duration of clinical courses for rehabilitation students, and the absence of interactive clinical education were mentioned by participants as factors in the poor management of training programs. In this context, a clinical educator stated: "There is no program in clinical education to make interactive education. Students receive information and do not participate actively in learning." Another participant noted: "The main problem is the lack of clinical curriculum. Because of this, the basis of clinical education is premised on patients who refer to the training center, and as a result, the educational content of different centers is dissimilar."

Failure to train some techniques due to social distancing and the subsequent use of alternative techniques was a newly added challenge. In this respect, a physiotherapy clinical educator said: "In some cases, in order to maintain social distancing, instead of performing special techniques on the patient, we taught him/her to use active movements. Obviously, this affects the student's learning of different techniques."

Insufficient clinical evaluation is another challenge in this category. Lack of planning for the use of different exams during the internship to assess students' clinical skills and emphasizing the end-of-semester test as well as the lack of clinical educators' attention to the importance of clinical evaluation and consequently providing feedback for students were mentioned as challenges by the participants. In this respect, one participant said: "There are various methods for evaluating clinical education in the world, such as mini-clinical exams or 360 degrees. In our university, however, no test is used; we only have one final exam, and the student is not evaluated during the semester."

Personal and Professional Characteristics of Students

From the viewpoint of the clinical educators participating in the study, personal and professional characteristics of the students influenced their perceived experiences of clinical education challenge. In this regard, some participants mentioned the lack of students'

practical knowledge. It seems that insufficient theoretical knowledge, practical skill, and the lack of experience were factors affecting the students' practical knowledge. One participant said: "Upon entering the internship, students have forgotten much of the theoretical content that underlies clinical work. This sometimes causes the instructor to spend a lot of time re-teaching the theory."

Lack of student motivation was a major subcategory related to personal characteristics of students. Inconsistency of the field with individual abilities, incompetence, low income, and uncertainty about future employment were issues stated by the participants. To clarify the lack of motivation in students, one educator shared the following issue: "One of the reasons for the lack of motivation of students, especially undergraduate students in the final year of their course, is their worry about securing future employment. The price of very expensive equipment reduces the possibility that they can set up a clinic, so they must work as a partner in other clinics, which often does not include a good salary."

Early student entry into the workplace has been identified as another issue affecting student motivation. Based on the viewpoint of participants, early student entry into the workplace can result from a poor family economy, the desire to gain financial independence and experience, the non-allocation of salaries to students during their internship, and the employment of students by private centers as affordable, low-cost manpower. However, these factors can lead to students' fatigue and reduce their motivation for clinical learning. In this context, a participant noted: "Many students work in private clinics in the afternoon. They expend a lot of time and energy for a small amount of money. For this reason, they are often tired and unmotivated in internships."

Fear was another personal characteristic of students that participants felt can affect clinical education. Fear of being criticized by clinical educators or doing the procedure and technique incorrectly were stated as important issues related to personal characteristics of students. Fear can reduce a student's concentration and impair the learning process. Recently, the fear of being infected and consequently quarantined have become new challenges to clinical education. In this regard, one participant stated: "Students do not engage in clinical work out of fear of contracting COVID 19; sometimes they do not approach the patient at all, or they perform an incomplete evaluation and treatment of patients."

Discussion

The current study aimed to explore and describe the challenges of clinical education from the perspective of rehabilitation educators. The findings revealed redundant effects of COVID-19 experienced by clinical educators in all main categories. As perceived by educators, restrictions in clinical resources comprise part of the problems facing clinical education. In this regard, participants believed that inadequacies in patient numbers and diversity, clinical space, and manpower as well as the lack of specialized and non-specialized equipment were important challenges affecting clinical education. Based on previous studies, an optimal training environment consists of having the appropriate space, adequate medical equipment, and a wide variety of patients [11, 18]. The provision and existence of educational facilities noted as necessary for clinical education are considered among the important responsibilities of clinical managers [16], and the lack or deterioration of equipment directly impacts students' motivation in the learning environment [19]. Abdi et al. demonstrated that the lack of educational equipment and clinical space are main reasons for choosing traditional methods of clinical education to compensate for the drawbacks this lack creates [20].

In addition to equipment and clinical space, which are known as very effective factors for clinical education [21], patients and manpower (e.g., clinical educators and sedentary employees) are also two essential sources of clinical education. In fact, the role of the patient and his/her position in the student clinical experience has been pointed out as a key element of clinical education [22]. Inadequate teaching manpower was also mentioned as a reason for ineffective clinical training [22]. Clinical educators are generally responsible for facilitating the students' acquisition of profession-specific skills during practical sessions and on-field training [23]. Employing adequate capable and experienced educators can improve the learning experience of the students [24].

The recent COVID-19 pandemic has had a critical impact on the education system and has added recurring challenges to previous problems. It seems to have been very detrimental on clinical resources. For example, not referring patients to medical centers because of a fear of contracting COVID-19 affects the number and diversity of patients. Furthermore, the allocation of some hospital wards to the treatment of infected patients has reduced the number of centers for clinical education. However, in available centers, the lack of a proper ventilation system is a new challenge of inadequate equipment. Consistent with these perceived experiences, recent studies have indicated that the lack of clinical resources, such as inadequate personal protective equipment and clinical centers, is a new problem of clinical education [25, 26].

Another result of this study was the adverse effects of an inefficient clinical education system on clinical education. Participants believed that the inefficient clinical education system may have resulted from poor management of clinical education programs and inappropriate clinical evaluation. Executing the internship courses in traditional ways may be an affective factor for these problems. Recently, with the paradigm shift in education, planning for changes in clinical education strategies and using of affective methods could be helpful for optimizing clinical learning [23]. The disregard of these factors may have detrimental and disruptive impacts on the quality of the education system [23].

Based on the participants' perceived experiences, different factors, including the gap between theoretical knowledge and clinical training, the lack of a specific curriculum for clinical teaching, the short duration of clinical courses for rehabilitation students, and the lack of an interactive clinical education, are main problems related to the poor management of clinical education

programs. Consistent with previous studies, participants in the current research expressed that the gap between theoretical knowledge and clinical training is one of the ongoing clinical problems [5, 6]. Students are often unable to connect what they have learned theoretically with needs in clinical learning environments. However, theoretical and clinical training are related, and a combination of them is necessary for achieving the knowledge, skills, and attitudes for providing optimum care [27]. The inability to combine theoretical and clinical training can lead to stress in students and subsequently disrupt the learning process [27]. Previous studies have reported that the lack of a specific curriculum in clinical training often results in personalized and dissimilar training patterns in clinical centers [11, 23], which can be improved by a specified education curriculum. An active relationship between the clinical educator and the student is also an important characteristic of experienced educators which plays an essential role in the success of clinical training programs [28]. An ineffective relationship reduces the motivation of students to learn and pursue an education [28].

Today, with the prevalence of COVID-19, another challenge related to the poor management of a clinical program is the failure to train some techniques due to social distancing and, subsequently, the use of alternative techniques, while direct observation of procedures performed by an educator is important for the development of practical skills and knowledge [29].

Insufficient clinical evaluation was identified as another challenge in an inefficient clinical education system. About this issue, participants expressed the lack of planning for the use of effective and appropriate evaluation methods and educators' disregard of the importance of clinical evaluation as problems. They further believed that evaluations were performed mostly using traditional and personalized methods, and this may discourage students from taking internships and weaken their participation [20]. Evaluation is one of the most important stages of education [30]. In fact, clinical performance evaluation is a useful tool to assess the quality of an educational program and to motivate students to learn and guide them to what they need to learn [23]. An effective clinical evaluation should be continuous and provide the necessary feedback to the student [30]. It ensures educators about the students' achievement of the competence necessary to perform properly in the real environment [31].

Similar to past studies, personal and professional characteristics of students were perceived as problems by participants of this study [5, 23]. Challenges such as the students' lack of practical knowledge, lack of motivation, and fear were some of the student-related problems raised by some clinical educators' experience. Participants declared that a lack of motivation can result from a student′s inability, lack of interest, uncertainty about future employment and income, and especially the early entry of students into the labor market. Student motivation is an important factor in their learning and performance [32]. A lack of motivation is a major barrier to learning in the clinical environment [32]. Various studies have shown that a lack of motivation can influence the effort, learning, and interest of student [33].

Fear of criticism by clinical educators and doing the wrong procedure were other challenges related to the personal and professional characteristics of students experienced by participants. This is supported by previous studies [24, 28]. Fear is the most common psychological problem in the clinical experience of students. Currently, fear of contracting COVID-19 has caused concern among students in the clinical environment. This fear can also result in difficulties in concentrating and learning [26].

The strength of this study was its exploration of the clinical experiences of educators in various fields of rehabilitation sciences. Furthermore, this study is one of the first ever conducted on clinical challenges to rehabilitation sciences posed by Covid-19. Despite these strengths, this study was limited by a lack of access to educators due to social distancing.

Conclusion

This study determined that based on the perceptions of rehabilitation educators, restricted clinical resources, an inefficient clinical education system, and personal and professional characteristics of students are main challenges in clinical education. At present, the accidental and unexpected problematic event (COVID-19 pandemic) has added new problems to various aspects of clinical rehabilitation science. It is necessary to implement changes in future plans that include adaptations for COVID-19.

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