RESEARCH ARTICLE

Clinical learning evaluation among undergraduate physical therapy students during rotations in teaching hospitals of Sialkot and Lahore

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Abstract

Objective: To evaluate the clinical learning environment among undergraduate physical therapy students.

Method: The descriptive, cross-sectional study was conducted from January 23 to May 25, 2023, after approval from the ethics review committee of Imran Idrees Institute of Rehabilitation Sciences, Sialkot, Pakistan, and comprised undergraduate physical therapy students of either gender aged 19-26 years in their 3rd to 5th academic year studying in different institutions in Lahore and Sialkot. Data was collected using the clinical learning evaluation questionnaire. Data was analysed using SPSS 22.

Results: Of the 295 students, 269(91.2%) were females and 26(8.8%) were males. The overall mean age was 22.03±1.14 years. There were 210(71.2%) students enrolled in the semester system, while 85(28.8%) were part of the annual system. The overall mean score was 71.05±10.20. Supervision (76.02±11.80) and motivation (80.21±11.71) were the most satisfying part of clinical learning identified by the students.

Conclusion: The clinical learning environment demonstrated high satisfaction levels in supervision and motivation domains, while improvements were needed in the areas of cases, authenticity and organisation of doctor-patient encounters.

Keywords: Environment, Learning, Motivation, Physical therapy, Students, Supervision, Undergraduate.

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Introduction

Clinical education is described as the supervised development of job-readiness abilities and the provision of clinical potential for students to achieve competency at a level of a novice practitioner through utilising theoretical and evidence-based knowledge, abilities and characteristics developed in academic study, and building these competencies through dealing with clients and professionals.[1] It is a key element of all physiotherapy entry-level programmes.[2] Clinical learning environment (CLE)is the connection between the work environment and educational curriculum that focusses on gaining experience and improving clinical skills.[3] Clinical work, learning and environment are the three main components of CLEs.[4] Undergraduate medical students have the chance to become skilful during their clinical practice by working on their communication, patient intervention and statistical interpretation skills, as well as in terms of professional attitude and ethics.[5] The main purpose of a clinical rotation for undergraduate medical students is to transfer their skills and knowledge into practice[6] and to implement the learning of classrooms into the clinical setup.[7] Utilising efficient teaching and learning techniques during clinical placements is a requirement for high-quality clinical education. Many methods have been identified as essential to facilitating teaching and learning in therapeutic learning contexts, including demonstration, discussion, feedback, and formative evaluation.[8] Involving learners, instructors and the surroundings, educators can improve CLEs that concentrate on leadership abilities, medical principles, physicians, and supervision. CLE is essential for the academic growth of learners, and is helpful in implementing educational experiences.[9] The clinical workplace where students of health professions perform their clinical assignments as part of their education is known as the CLE.[10] The clinical setting is an important CLE factor.[11] CLE is essential in developing competence of undergraduate medical students. Sufficient supervision, feedback and assessment are necessary for optimal learning during clinical rotation.[12] Learning environments and clinical rotations are important for programme evaluation because they influence practitioners' and undergraduate medical students' experiences.[13] The integration of newly-acquired abilities in medical students' prior knowledge from their textbooks depends on their patient care training. However, since the 1960s, clinic-based education has shown several flaws, including inadequate learner supervision, a lack of discussion and feedback time, a lack of enough clinical cases, and improperly planned clinical rotations. For the development of high-quality education and positive patient outcomes, it is crucial to

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overcome these obstacles.[5] Undergraduate clinical training occurs in clinical settings for several related healthcare fields. Undergraduate students provide patient care in these settings while being supervised by healthcare professionals.[14] A 2019 study in Saudi Arabia evaluated the challenges faced by nursing students during their clinical rotations using the clinical learning environment questionnaire (CLEQ), and concluded that supervision and motivation had a good impact while the cases, organization, and authenticity factors needed to be improved.[15] The 5 factors that emerged from the study are frequently discussed in the literature as the variety of clinical cases, the authenticity of the clinical practice, the standard of direct observation and supervision, the arrangement of the clinical sessions, and the desire to learn. The effectiveness of these 5 areas may have a favourable impact on students' clinical education.[16]

The current study was planned to evaluate the CLE related to undergraduate physical therapy students.

Subjects and Methods

The descriptive, cross-sectional study was conducted from January 23 to May 25, 2023, after approval from the ethics review committee of Imran Idrees Institute of Rehabilitation Sciences, Sialkot, Pakistan, and comprised undergraduate physical therapy students of either gender aged 19-26 years in their 3rd to 5th academic year studying in different institutions in Lahore and Sialkot. The sample size was calculated using Epitool formula n=(Z2 x p x (1-p))/e2, with e (desired precision)=0.05, Z (desired confidence level)= 1.96 for 95% confidence interval (CI), and p (expected true proportion)=0.7066.[16] The sample was raised using non-probability convenient sampling technique. Permission was obtained from the heads of institutions and respective hospitals, while written informed consent was taken from the students who were willing to participate voluntarily. Students having attendance <75%, postgraduate students and undergraduate physical therapy students of 1st and 2nd years were excluded.

Other than gathering demographic and academic data, CLEQ was used which has high overall internal validity (0.88) and the reliability of its domains, as assessed by Cronbach's alpha, ranges from 0.60 to 0.86.[16] CLEQ is a 40-items 5-domain questionnaire that is scored on a 5-point Likert scale, ranging from strongly disagree to strongly agree.[16] The questionnaire was distributed among the participants who filled them out manually in 15-20 minutes.

Data was analysed using SPSS 22. Qualitative variables were presented as frequencies and percentages, whereas continuous data was presented as means±standard deviation. The raw score for each domain was deduced by calculating the mean of the sum of all the items of the domain, while the reduced score was deduced by calculating the mean of the average score of each domain. The percentage score was calculated by converting the raw score into percentage according to the maximum score of each domain. The maximum raw score for each domain was: cases (30), authenticity (45), supervision (35), organisation (55), and motivation (35). The total score was 200.

Results

Of the 295 students, 269(91.2%) were females and 26(8.8%) were males. The overall mean age was 22.03±1.14 years. There were 210(71.2%) students enrolled in the semester system, while 85(28.8%) were part of the annual system. There were 187(63.4%) students from Lahore, while 108(36.6%) were from Sialkot. The average rotation hours per week were 6.08±3.34, with the number of cases per day being 3.45±1.89 (Table 1).

The overall mean score was 71.05±10.20 (Figure). Supervision (76.02±11.80) and motivation (80.21±11.71) were the most satisfying part of clinical learning identified by the students (Table 2).

Table-1: Characteristics of the participants.

Variables	n (%)
Gender	
Male	26 (8.8)
Female	269 (91.2)
Enrollment	
Annual System	85 (28.8)
Semester System	210 (71.2)
Faculty Level/ Academic Year	
5-6 semester/ 3rd year	77 (26.1)
7-8 semester/ 4th year	87 (29.5)
9-10 semester/ 5th year	131 (44.4)
Mean Rotation hours per week	6.08±3.34
Mean number of cases per day	3.45±1.89
Mean Age (years)	22.03±1.14

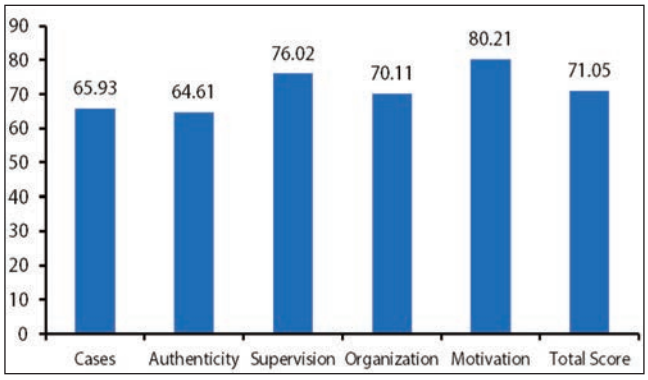

Figure: The percentage score of clinical learning evaluation questionnaire (CLEQ) domains.

Table-2: Mean total raw score, reduced score and percentage score of items of CLEQ.

CLEQ items	No. of Items	Total Raw		Reduced Score		Percentage Score	
		Score Max.	Mean±SD	Max.	Mean±SD	Max.	Mean±SD (%)
Cases Score	6	30	19.77±4.53	5	3.29±0.75	100	65.93±15.10
Authenticity Score	9	45	29.07±6.82	5	3.23±0.75	100	64.61±15.16
Supervision Score	7	35	26.61±4.13	5	3.80±0.59	100	76.02±11.80
Organization Score	11	55	38.56±7.45	5	3.50±0.67	100	70.11±13.56
Motivation Score	7	35	28.07±4.10	5	4.01±0.58	100	80.21±11.71
Total Score	40	200	142.10±20.41	5	3.55±0.51	100	71.05±10.20

Max. The maximum raw score; CLEQ: Vlinical learning evaluation questionnaire, SD: Standard deviation.

Discussion

The current study found that the students were more satisfied with the supervision and motivation aspects than the remaining three domains of cases, organisation of doctor-patient encounters, and authenticity. The results were similar to those of a study which concluded that the CLE needed to be improved by using new interventional techniques and that the goal should be to use current knowledge into practice in an efficient way.[3] The current findings were similar to another study which showed that most participants were females, and those in the same age group expressed more satisfaction.[17]

The current study found that the majority of students agreed that they were actively involved in patient care, had an opportunity to communicate with the patients and their families, and had first-contact experience with the patients. As stated by a study, the foundation of the student's learning is a mutually beneficial relationship between the students and the patients and their families.[18]

The majority of the current students were satisfied with the supervision and motivation factors of CLEQ. The majority of nursing students in an earlier study were satisfied during clinical rotations with supervision and motivation. They generally had excellent experiences with the clinical learning setting in terms of the educational environment, the ward manager's leadership style, the nursing facilities, the supervisory relationship, and the roles of the nurse preceptor and nurse instructor.[19] Despite the variation in the study population, the results revealed that CLE plays an important role in the development of clinical skills.

Similarly, another study stated that it is essential for students to have a good relationship with the supervisors because it prepares the students for clinical practice, in having a healthy working relationship, and generating a sense of shared responsibility.[20] One study found that the participants were not satisfied with clinical supervision and support during clinical learning hours, and suggested that there was a need to improve that aspect.[21]

In the current study, students generally did not have sufficient number of clinical cases, especially with respect to interesting and unusual clinical cases. It is the responsibility of academic institutions to provide adequate exposure during clinical hours so that the students may learn from these cases. The variety of patient exposure/cases in medical learning is an essential component and provides an opportunity to practice clinical skills.[22]

The current study has limitations as there were more female students. Also, due to limited number of studies on the learning environment of physical therapy undergraduates, comparison was literature was difficult and failed to establish and comparison the three academic levels individually. Future studies should compare date related to academic year, gender and public private institutions to improve the quality of evidence about CLE and its related factors.

Conclusion

The students were fund to be more satisfied with supervision and motivation than the other three aspects of CLEQ, indicating the need to further improve and modify clinical exposure to enhance the skills of students.

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Author Contribution:

GA: Concept and design, literature search, collection and assembly of data.

ZS: Data analysis, interpretation and revision.

RA: Data analysis, interpretation, drafting, collection and assembly of intellectual data.

QY: Data analysis and interpretation, revision, drafting, final approval, statistical expertise.