

Factors Responsible for Academic Stress in Physiotherapy Students and their Solutions during Post-COVID Transition to Traditional Learning

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Abstract

Background: The corona virus pandemic has led to the closure of educational institutions to limit gatherings and slow transmission. The transition from traditional learning to online learning can be a completely different experience. As the lockdown has ended, it will be difficult to return to traditional learning. We aimed to assess academic stress, the factors responsible for it, and solutions during the post-COVID-19 transition to traditional learning.

Methods: In total, 250 physiotherapy students were recruited for this study. After a proper explanation, voluntary consent was obtained, and participants were requested to fill out a self-reported questionnaire and the Perception of Academic Stress (PAS) scale. The questionnaire consisted of questions regarding the presence of academic stress, its factors, and solutions from the perspective of physiotherapy students.

Findings: The mean age of the students was 20.38 ± 1.30 years. According to the PAS, most of the students (n=165) experienced a low level of academic stress (66%). Factors such as the communicability and approachability of staff and difficulty in interacting with classmates were the most expressed by students. Practical sessions should be mandatory, and an increase in extra-curricular activities is the most common solution provided by the participants.

Conclusion: We identified various factors and solutions for the academic stress on physiotherapy students during post COVID transition to traditional learning. These solutions can be included in the academic curriculum of physiotherapy institutions to combat the academic stress-related problems faced by the students.

Keywords: Academic stressors, COVID-19 disease, Psychological stress

1. Introduction

The World Health Organization (WHO) labeled the current corona virus epidemic a public health emergency of worldwide concern on January 30, 2020. The WHO and the United States Centers for Disease Control and Prevention (CDC) have released safety recommendations for taking modest steps to limit viral exposure and transmission^[1,2]. The development of COVID-19 has triggered a global public health emergency. In India, emergency protocols were devised to contain the virus's spread, resulting in restrictions on all non-essential public movements^[3]. One of the most significant modifications was the

closure of educational institutes to limit gatherings and slow transmission^[4].

During the pandemic, E-learning tools were critical in assisting schools and universities in facilitating student learning during the shutdown of universities schools^[5]. While many skills are unique to specific professions (e.g., nurse, doctor, physiotherapist), the core concepts of clinical skill teaching and learning apply to all healthcare professions^[6]. Physical therapy education necessitates complete engagement in the physical therapy community of practice^[7]. During the COVID-19 epidemic, studies looking at stress among undergraduates and health care students, such as medical, dental, and nursing revealed that academics were a common source of stress. Such type of stress is known as Academic stress^[8].

Concerns regarding academic program modifications, preparedness for joining the workforce, and safety and risk of exposure in the clinical context were among the other stressors. Students also expressed dissatisfaction with the move to an online learning platform and had trouble concentrating on it. The COVID-19 epidemic has also been cited as a source of stress by students^[9-13]. Students used a variety of stress management techniques, with cognitive interpretation and reappraisal, the use of social support, and performance of the physical activity. Important stress modifiers associated with program teachers and peers have been found, to the ability to alleviate stress for students in both crisis and everyday situations^[14].

It will be difficult for us to make the transition back to traditional learning from online learning, now that the lockdown has ended and all educational institutions have resumed traditional teaching^[15]. Studies have investigated that academic stress leads to a negative impact on the academic performance of students. These studies have assessed the academic stress during the time of COVID lockdown but none of them investigated the stress in the current situation of transition from online to traditional learning. Thus, this study evaluates the academic stress of physiotherapy students, its factors, and suitable solutions. Remedies to prevent or reduce academic stress from students' points of view will help in making variations in the curriculum for the current situation.

2. Methodology

2.1 Participants

A total of 250 undergraduate and postgraduate students of physiotherapy of at least 18 years of age were included in the study who were willing to participate. Students who did not experience online learning as undergraduate or postgraduate were excluded from the study.

2.2 Intervention

The study was done in two phases. The first phase included the development and validation of the questionnaire and the second phase included the assessment of academic stress, its factors, and solution with the help of PAS and the Questionnaire.

Phase 1: Development and validation of the questionnaire

Validation: Content validation was performed for the questionnaire. Five experts (experienced faculty in the area of Physiotherapy) were asked to rate the instrument items in terms of relevancy, clarity, and

appropriateness to assess the face and content validity with the help of a 4-point ordinal scale for relevancy and clarity Table 1 and 2-point ordinal (yes and no) for appropriateness.

Table 1: The Score for Validation of the Questionnaire

Relevancy	Clarity
1 – Not relevant	1 – Not clear
2 – The item needs some revision	2 – The item needs some revision
3 – Relevant but need minor revision	3 – Clear but need minor revision
4 – Very relevant	4 – Very clear

To obtain a content validity index for the relevancy and clarity of each item (I-CVIs), the number of those judging the item as relevant or clear (rating 3 or 4) was divided by the number of content experts. The I-CVI expresses the proportion of agreement on the relevancy of each item, which is between zero and one. If the I-CVI is higher than 0.79, the item will be appropriate. If it is between 0.7 and 0.79, it needs revision. If it is less than 0.7, it is eliminated. After the Validation, we collected the validation sheets from the experts, and data were entered into Excel for further analysis. After the analysis, two factors (Lack of knowledge of basics and Fear of the third wave of COVID) and one solution (Use of various ways of teaching like Audio-visual aids, Games, etc.) were eliminated from the questionnaire depending on the relevancy of I-CVI of less than 0.7. Two factors were modified depending on the scores of clarity by the experts. The questionnaire was also validated for the language by an English language expert.

Phase 2: Assessment of Academic stress, its factors, and solutions

Academic stress was assessed using PAS and a validated questionnaire was given to the participants. Participants were given proper instructions to fill out the questionnaire and PAS. Scale and questionnaire were collected from the participants and were analyzed.

2.3 Outcome measures

Perception of Academic Stress Scale (PAS)

It's an 18-item scale that assesses a person's perception of academic stress, with each item graded on a five-point scale from strongly agree to strongly disagree. The survey had 18 items: 13 positive and 5 negatives, and the overall score was calculated by adding all of the individual scores together. "Strongly Disagree" received the lowest score of 1 for positive things, while "Strongly Agree" received the highest score of 5. In the case of negative items, "Strongly agree" received the lowest score of 1, and "Strongly Disagree" received the highest score of 5. Academic stress was divided into two categories: high stress (53 and below) and low stress (54 and above). The PAS scale has three major subscales: (1) academic expectations (four items), (2) workload and examinations (eight items), and (3) students' academic self-perception (six items).

Self-reported Questionnaire

The questionnaire was divided into two sections. Section one consisted of socio-demographic details related to questions (age, gender, academic year, history of academic failure, and history of psychological

illness). Section two consisted of three questions the first question was regarding the presence or absence of academic stress during the transition to traditional learning, the second question was about the factors that caused academic stress and the third question was the solution for the factors of academic stress.

2.4 Data analysis

The data was statistically analyzed using Microsoft Excel. The frequency and percentage were determined for the data (age, gender, academic year, history of academic failure, and history of psychological illness).

3. Results

3.1 The flow of participants through the study

The mean age of the students was 20.38 + 1.30years. The demographic data from 250 respondents is shown in Table 2. The study enlisted the participation of 250 physiotherapy students. Female students made up 84.4 percent (211), while male students made up 15.6 percent (39) of the responses. The majority of students were from under graduation (n=237) consisting of 94.3% of the whole sample. More number of students answered the question regarding the presence of academic stress as “yes” (n=168) which constituted 67.2% of the whole sample. The mean score of PAS was 59.05 ± 10.93. According to PAS, the majority of the students (n=165) experienced a low level of academic stress (66%) as shown in Table 3.

Table 2: Demographic Characteristics of the Participants

Variables	Frequency (n=250)	Percentage (%)
Gender		
Male	39	15.6
Female	211	84.4
Academic year		
2nd BPT	80	32
3rd BPT	85	34
4th BPT	72	28.8
1st MPT	9	3.6
2nd MPT	4	1.6
History of academic failure		
Present	33	13.2
Absent	217	86.8
Perception of academic stress		
Present	168	67.2
Absent	82	32.8
Continuous variable	Min/Max	Mean + SD
Age	18/25	20.38 + 1.30

Table 3: PAS score and level of stress among the participants

	Min/Max	Mean ± SD
PAS score	40/90	59.05 ± 10.93
	Frequency (n=250)	Percentage (%)
Level of stress		
High	85	34
Low	165	66

3.2 Factors for academic stress

As shown in Table 4, factors such as communicability and approachability of staff, difficulty in interacting with classmates, receiving criticism about work, and fear of being unable to catch up were expressed by the majority of the students in the questionnaire. Lack of confidence in decision-making and in treating patients, more time spent on social media, and feeling of losing some years due to COVID was the least expressed factors of academic stress by the participants.

Table 4: Frequency and Percentage of Factors of Academic Stress experienced by the Participants

Factors	Frequency (n=250)	Percentage (%)
Lack of confidence in decision-making and in treating patients	37	14.8
More time spent on social media	41	16.4
The feeling of losing some years due to COVID	43	17.2
Difficulty in concentrating during offline classes	70	28
Uncertainty about future or career	75	30
Difficulty in understanding lecture	86	34.4
Competition for grade	97	38.8
Fear of being unable to catch up	108	43.2
Receiving criticism about academic or clinical work	130	52
Difficulty in interacting with classmates	142	56.8
Communicability and approachability of staff	144	57.6

New factors described by the participants for academic stress are listed in Table 5 below. Factors expressed by a greater number of participants were less clinical exposure and difficulty in treating patients. Thinking about switching careers and uncertainty, getting fewer grades and continuous lectures were expressed by a smaller number of participants as factors of academic stress.

Table 5: Factors given by the participants for their academic stress

Factors	Frequency
Basics are not cleared	2
Short duration for completing the syllabus	2
Getting fewer grades in exams	1
Maybe continue 6 lectures	1

Unable to concentrate	4
Difficulty in treating patients	3
Less clinical exposure	4
Thinking about switching careers and uncertainty	1

3.3 Solutions for reduction of academic stress

The use of approaches like meditation, yoga, group activities, counseling, small tasks, and exams was expressed by the majority of participants as solutions for the factors of academic stress. The least expressed solutions increased in clinical hours, practical sessions, and hands-on- skills and use of workshops, seminars, and expert talks for knowledge of basics (Table 6).

Table 6: Frequency and percentage of the solutions for academic stress by the participants

Solutions	Frequency (n=250)	Percentage (%)
Increase clinical hours, practical sessions, and hands-on skill	79	31.6
Use of workshops, seminars, and expert talks for knowledge of basics	81	32.4
Use of practical examples during the explanation	101	40.4
Meditation, Yoga to increase concentration	132	52.8
Group activities and group seminars for the students	151	60.4
Interactive lectures	160	64
Counseling for students and parent	173	69.2
Use of small tasks or exams to encourage and motivate students	182	72.8

Practical sessions 3-4 times a week, syllabus completion, more culture, and sports activities, and modification of academic curriculum are the least expressed solutions by the participants. A greater number of participants gave solutions to reduce their academic stress such as part-time extra observation postings and the addition of lectures on sports as shown in Table 7.

Table 7: Solutions given by the participants for their academic stress

Solutions	Frequency
Decrease the lecture duration	1
Addition of lecture on sports	3
On field studies	2
Part-time extra observation posting	4
A practical session should be mandatory 3-4 times a week	2
Completion of syllabus	2
Cultural and sports activities needed to relieve stress	2
Require proper management for academic's curriculum	2

4. Discussion

To our knowledge, several studies have explored academic stress among university students during the COVID-19 pandemic. Our study found 34% of participants had a high level of stress which is in contrast with a study done on academic stress and have used the same scale PAS for the assessment of the level of stress among college students. In that study, there was 80.88% of participants were included in the category of high level of stress^[16]. The method of interpreting the PAS in that study was different from our interpretation in the sense that they had considered more scores on PAS as an indicator of high stress and vice versa, which was not the case in our study. We considered a higher score as an indicator of a low level of academic stress among the participants. A study has found a high amount of stress in 33% of its participants which is like our study which has 34% of study participants with a high level of stress^[17]. Academic stress among physiotherapy students was found to be more prevalent than in other courses such as nursing and pharmacy^[18,19].

The current study showed various factors such as uncertainty about career or future and lack of clinical exposure to the students during the COVID-19 lockdown, which followed a qualitative study done on veterinary students that showed similar factors leading to academic stress in the students. A survey described the extent of distraction as a factor of academic stress, which is like our factor of more time spent on social media leading to distraction and less concentration during the studies^[17]. This is, to our knowledge, the first study to look at the factors that influence academic stress in students who are transitioning from online to traditional schooling. Students made little or no progress while learning at home, and losses are likely to be greater in countries with poor infrastructure or longer school or college closures, leading to some of our factors such as fear of losing years due to COVID and inability to catch up during the post-COVID transition to traditional learning^[20].

Owing to the absence of contact between classmates and between students and faculties due to the online learning mode, factors such as difficulty communicating with classmates and the communicability and approachability of staff arose. These factors have widened the gap between people who were once close enough to get to know one another and aid one another through difficult times. Various factors were mentioned by the participants, including unclear knowledge of the basics, difficulty in treating patients, and receiving lower grades in exams as a result of the online mode of learning, which has reduced or closed the clinical exposure of students, making it difficult to know how to treat a patient in clinical settings. Students struggled to cope with the new online learning environment, which delayed their learning and led to initial difficulties in acquiring basic knowledge about the linked topics during lectures. This, in turn, has had an impact on the student's exam grades in several ways.

The COVID scenario has had a psychological impact on the students, therefore to combat the stress, they have proposed a variety of treatments such as Counselling, meditation, and yoga, among others. These will assist the students in maintaining their mental as well as physical health. A study indicated that yoga or meditation-based therapies had moderately positive impacts on symptoms of sadness, anxiety, and stress among students^[21].

One of the most common problems among physiotherapy students is a lack of clinical and hands-on skills, which can be addressed by increasing clinical hours, practical sessions, group activities, and

other activities that enable them to apply practical skills in clinical settings. Seminars and workshops should be used to review topics covered during online lectures to improve knowledge of the fundamentals. During this post-COVID transition phase, a major challenge was concentrating and understanding lectures; this can be addressed by using more practical examples during lectures and using diverse forms of teaching that improve students' interest in learning that topic.

According to students, reducing the duration of a lecture, adding outdoor studies or sports lectures once a week, completing the syllabus in its entirety, and taking time off on weekends are some of the methods for reducing academic stress. These actions may be beneficial in reducing stress levels among students since they provide time for relaxation and stress relief. All these options will help children feel less stressed, which will improve their academic scores and achievement.

One of the limitations was time, as the study was a cross-sectional one, which means that additional inferences could not be drawn, to know more about the topic qualitative studies should be done in the future. Second, because the sample size was so small, the findings could not be generalized to the entire population of physiotherapy students. Furthermore, because this study was conducted at only one institution, it could not be applied to other institutions. Future studies should explore the academic stress in the post-COVID transition phase in various areas of society with a large sample size and explore the factors responsible and solutions for the same. Future studies should explore the academic stress in the post-COVID transition phase in various areas of society with a large sample size and also explore the factors responsible and solutions for the same.

The study's recommendations can be incorporated into the academic curricula of physiotherapy colleges to address the issues with academic stress that students are already experiencing or may experience in the future. These strategies can also be used by other educational institutions to assist students in coping with academic stress and associated health issues.

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