



Assessment of perceived stress and coping behaviour strategies among physiotherapy interns: A cross sectional study

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Abstract

Background and Purpose: Stress is major problem among university and specifically, health care students, as it may influence academic performance and psychological wellbeing negatively. Physiotherapy interns suffer from high level stress related to clinical skills training. Coping mechanism help the students deal with the challenges arising from stress. so the purpose of this study is to assess perceived stress and coping behaviour strategies among physiotherapy interns.

Methodology: A survey study was conducted by a random sampling method from different colleges of Surat city. A total of 72 participants, both male and female, in the age group 21–24 years participated in this study. Participants were asked to fill in a proforma containing the Perceived Stress Scale-10 (PSS-10) and the Coping Behaviour Inventory (CBI). Descriptive statistics were used to express the level of perceived stress and for the demographic data the Pearson correlation coefficient was used to correlate between the PSS-10 and CBI respectively.

Results: Of the study population, 72% respondent reported Moderate level of stress, 22% reported low level stress and 6% reported high perceived stress. The greatest prevalent coping mechanism utilized by the interns is Problem Solving accompanied by Stay-Optimistic. There exists a significant positive correlation between the PSS-10 and CBI ($p=0.05$).

Conclusion: The results of this study showed that Perceived stress of Physiotherapy Interns was moderate during internship. The most common coping behaviour adapted by physiotherapy interns was problem solving during their internship period.

Keywords: behaviour, coping, physiotherapy, stress, students

Introduction

Stress is considered to be a physiological reaction of an organism where diverse defence mechanism comes into play in order to confront a situation which is perceived as threatening or of increased demand [1, 2]. Student at the university level experience high level of stress related to worry about success, availability of time, engagement in patient care [3]. Stress occurs when an individual confronts a situation i.e., perceived as overwhelming and which they cannot cope [4].

Situational stressors include inordinate hours, sleep deprivation, excessive workload, multiple assignments, and exposure to a new setting administrative responsibility, dealing with a large number of patients. Personal stressors include family, friend, and relationship issues. Professional stressors include responsibility for patient care, supervision of more junior residents and students, difficult patient and career planning [3, 5].

Allostasis is the process of how the body responds to stress, whether it is acute or chronic. The best-known acute stress response (short term response) is the “fight or flight” reaction that happens when you feel threatened. In this case, the stress response causes the body to release several stress hormones (e.g., cortisol and adrenalin) into the bloodstream. These hormones intensify your concentration, ability to react, and strength. After you have dealt with the short-term stress, your body returns to normal [6]. Stress affection on memory is highly dependent on the time of exposure to the stressful stimulus. In terms of the timing of the imposed

stress, memory can be either better or worse [7]. Stress can affect function of the immune system by modulating processes in the central nervous system and neuroendocrine system. Medical students suffer anxiety disorder because stress has a strong relationship to emotional and behavioural problem [8].

Coping refers to the person’s cognitive and behavioural efforts to manage the internal and external demands of the person’s environment and its transaction that is appraised as exceeding the person’s resources [9]. An early study of stress among students in bachelor’s and master’s degree physiotherapy programs found that these students rated their perceived stress higher than did college students in other fields. Reason for the relatively high level of stress among Physiotherapy students may be related to the expansion of the profession in recent years, the increase in the rate of study and in amount of new knowledge acquired, the changes in health needs and services, and the increased range of responsibilities borne by the Physical therapist [10]. Stress is very common at young age (especially among medical students) and it affects students physical and intellectual health problem such as depression, unable to take decision. Physiotherapy Students faces some difficulties and stress during their internship. Few studies showed that Physiotherapy Students have both personal and academic stress during internship [6]. However, stress information among students in Physiotherapy is insufficient. Therefore, our study aims to examine the stress perceived by Physiotherapy interns and coping behaviour strategies adapted during their clinical training.

Materials and methods

A cross-sectional study was carried out on physiotherapy interns from different colleges of Surat having age 21-24 years through simple random sampling. The survey was carried out in the months of November and December 2019. 72 interns of physiotherapy were invited and explained about the purpose and objectives of study. Their responses to screening-cum-assessment form were recorded after receiving signed informed consent. The interns not willing to take part and who had any chronic medical or any psychological and emotional problems were not included. The assessment form included basic demographic details and outcome measures relevant to the primary and secondary outcomes of interest. For evaluation of stress levels, Perceived Stress Scale was used whereas, for coping strategies, Behavioural Coping Inventory was used [11, 12]. Perceived stress scale contains 10 questions each of which shall be rated from 0-4 in which 0-never, 1-almost never, 2-sometimes, 3-fairly often, 4-very often. The score ranges from 0 to 40. The level of stress were arbitrarily divided as: low perceived stress: 0-13, moderate perceived stress: 14-26, high perceived stress: 27-40 [11]. The CBI involves 19 items with fivepoint Likert scale categorized into: Avoidance (6 items), Problem Solving (6 items), Stay Optimistic (4 items) and Transference (3 items) each of which is rated from 0-4 in which 0-never, 1-infrequently, 2-sometime, 3-frequently,4-always [12].

Data analysis and results

The collected data was analysed by using SPSS 20.0 software for Windows. Normality of the data was measured by using the Kolmogorov-Smirnov test. As the data followed a normal distribution, descriptive statics were expressed as mean ± standard deviation. The level of stress and forms of stress were expressed as percentages. Correlation between the perceived stress and coping behaviour strategies were measured by using Pearson’s correlation coefficient test.

The mean age of interns is 22.05 ± 0.67 years, with a range of 21-24 years. Table-1 shows that majority of the participants were females (n=63, 87%) and were from age group of 22-23 years (n=58, 80.5%).

Table 1: Demographic Characteristics (n=72)

Characteristic	Categories	Frequency (n)	Frequency (%)
Age (years)	21	12	16.7
	22-23	58	80.5
	24	2	2.8
Gender	Female	63	87
	Male	9	13

As shown in table- 2, scores of Perceived Stress Scale suggest that 72% respondent had moderate level stress (13.3 ± 8.7), 22% respondent had low stress (2.11 ± 4.43) and 6% respondent had reported high perceived stress (1.5 ± 6.23).

Table 2: Scores of Perceived Stress Scale (n=72)

Perceived stress level	Range	No. of Participants (n)	Percentage (%)	Mean	SD
Low	0-13	16	22	2.11	4.43
Moderate Stress	14-26	52	72	13.3	8.7
High	27-40	4	6	1.5	6.23

The participants responded differently to the questions related to stress and their reactions to the stressful situations. Table-3 shows frequencies of respondents’ perception of stress and their feelings related to those conditions as well as their ability to cope with certain situations. Over 25% participants often felt stress and 44.4% sometime felt stressed, 51.4% often felt confident in dealing with perceived stress, whereas 13.9% and 36.1% reported that they often and sometimes could not cope. 41.7% respondents were often able to control their feelings of irritation, wherein 44.4% reported that they sometime felt angered.

Table 3: Participants’ Responses to the Perceived Stressful Situation (n=72)

Sr. No.	Response to Perceived Stress	Frequency n (%)				
		Never	Almost never	Sometime	Fairly often	Very often
1	Upset on unexpected	12 (16.7)	15 (20.8)	30 (41.7)	7 (9.72)	8 (11.1)
2	Unable to control	18 (25)	15 (20.8)	30 (41.7)	5 (6.9)	4 (5.5)
3	Felt stressed	11 (15.3)	11 (15.3)	32 (44.4)	11 (15.3)	7 (9.7)
4	Felt confident	9 (12.5)	10 (13.8)	16 (22.2)	20 (27.8)	17 (23.6)
5	Going your way	7 (9.7)	11 (15.3)	27 (37.5)	18 (25)	9 (12.5)
6	Could not cope	15 (20.8)	21 (29.2)	26 (36.1)	7 (9.7)	3 (4.2)
7	Able to control	3 (4.2)	15 (20.8)	24 (33.3)	18 (25)	12 (16.7)
8	On top of things	5 (6.9)	16 (22.2)	34 (47.2)	9 (12.5)	8 (11.1)
9	Angered	9 (12.5)	19 (26.4)	32 (44.4)	6 (8.3)	6 (8.3)
10	Difficulties pilling	15 (20.8)	27 (37.5)	21 (29.2)	6 (8.3)	3 (4.2)

The total score of CBI for the sample was 37.8 ± 10.9. The Greatest prevalent coping method utilized as reported by participants is problem solving 14.3±6.16, followed by

staying optimistic (9.8 ± 3.05), transference of the stress (6.93 ± 2.83) and avoidance of situation (6.82 ± 4.34). (Table-4)

Table 4: Scores of Coping Behaviour Inventory

Stress Factor	Mean	SD	Factor ranking
CBI Total	37.8	10.9	-
Avoidance	6.82	4.34	4
Problem solving	14.3	6.16	1
Stay-optimistic	9.80	3.05	2
Transference	6.93	2.83	3

Significantly strong negative correlation of low stress levels with avoidance; and positive correlation with problem solving and optimism was demonstrated at the 0.05 level (2-tailed). Moderate level stress showed positive correlation

with avoidance and negative correlation with problem solving as well as with optimism and transference. High level stress demonstrated positive correlation with avoidance. (Table-5)

Table 5: Correlation between Stress and Coping Behaviour

Stress level	CBI Factors				
	Significance	Avoidance	Problem solving	Stay Optimistic	Transference
Low level stress	p <0.05 (2-tailed)	-0.329**	0.384**	0.283*	0.205
Moderate stress		0.335**	-0.373**	-0.259*	-0.058
High stress		0.319**	0.028	-0.069	-0.197

*suggests moderate correlation**suggests strong correlation

Discussion

This study aims to assess the perceived stress and coping behaviour strategies among physiotherapy interns. The study group of this research, which uses the relational survey model, consisted of 72 interns of different college of Surat. There is significant positive correlation between the PSS with the CBI (p=0.05). Our study result shows that 72% of interns have reported moderate level stress, 22% has reported low level stress and 6% has reported high perceived stress. Also over 25% interns often felt stress, 44.4% sometime felt stress, 51.4% often felt confident about their ability to handle their personal problems, 13.9% interns often found that they could not cope with things that they had to do, 36.1% interns sometime found that they could not cope with things they had to do, 41.7% interns often have been able to control irritations in their life, 33.3% 30 sometime able to control irritations, 16.6% interns often have been angered because of things that happened that were outside of their control and 44.4% sometime angered. Findings suggested that most common strategies used by interns are Problem solving followed by Stay-optimistic. Avoidance is least used by the interns to cope with stress. Interns who reported low level stress, highly use problem solving and stay-optimistic as coping strategies. Interns with moderate level stress has highly used avoidance as coping strategies. Interns with high perceived stress, most common strategies adapted by them is avoidance.

According to Emad et.al (2018) the level of stress was moderate. Moreover, the moderate level of stress was caused by assignments and workload, teachers and nursing staff, peer and daily life, and finally stress from taking care of patients. A low-level stress was caused by lack of professional knowledge and skill and stress from the environment. The students used problem solving to cope with stress as the highest used mechanism and lowest used mechanism was avoidance. Taking care of patient was one of the main common stress source [3].

Ahmed Ayed et.al. (2020) suggested that PT students were unfamiliar with clinical environment, which consist of patient care, several assignments in addition to condition of clinical practice, such as lack of professional knowledge. In view of results, the teaching methods and workload of the assessment should be revised. The PT educators before assigning the students to direct care with real patients might take stress reduction training or training by high fidelity simulation which gave them a chance to interact with patients without harm in a controlled, safe environment [13].

Sheu et.al (2002) showed that the stress faced by nursing students in their initial period of clinical practice, came mainly from lack of professional knowledge and skills as

well as the actual experience of caregiving, stressors from assignments, workload, teachers, nursing staff, clinical environment, peers, or daily life. Students experienced stress from being unable to help patients with physio psycho-social problems during the initial period of clinical practice [12].

One of the limitations of our study is the sample size used in this study was small. Also, the study was conducted among physiotherapy interns of different college of Surat only. It can be done on students of different fields also.

There are practical steps you can take to cut back on stress. Regular, moderate exercise improves thought process and mood. So are relaxing, getting a good night’s sleep, and seeking emotional support from family and friends. You can also reduce the long-term effect of chronic stress by eating a healthy, low fat diet and avoiding smoking and drinking too much alcohol. Meditation can also reduce stress.

Conclusion

The level of stress among physiotherapy interns during their internship has been established in this study. This study confirms that stress perceived by physiotherapy interns was moderate. There is significant positive correlation between PSS and CBI. Most common strategies adapted by interns is problem solving.

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