

Academic Stress Levels in Annual & Semester System: A Cross-Sectional Comparative Study on Students of Physiotherapy in Lahore, Pakistan

Salwa Atta^{1*}, Farrukh Murtaza², Anam Saeed², Amina Butt², Mubashra Arif¹, Zainab Naeem¹

¹Riphah College of Rehabilitation Sciences, Riphah International University, ²University Institute of Physical Therapy, University of Lahore

*Email: salwaatta4@gmail.com

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Abstract

Physical Therapy in Pakistan has not yet been considered amongst the reputed professions due to the lack of awareness among the public. This being the very reason of the higher stress among the students studying physiotherapy is kept under consideration in this study. The main purpose of this study was to determine if the students of Annual system endure stress levels higher than those of Semester system. Also the aim was to determine which assessment system was more conducive for an effective learning & to acknowledge the major stressors among the DPT students along with their coping strategies. This study was a Comparative Cross-Sectional Study conducted in duration of 8 months. Data was collected from both male and female students of DPT who had completed 50% of their credit hours of the curriculum. The sample size calculated was found to be 343 (n=343). Exposure assessment included the International Stress Questionnaire which is most commonly used instrument for the evaluation of stress levels among students. The International Stress Questionnaire was administered into a group of 70 students from Public and Private Institutes for validation purpose. Thus 560 questionnaires were distributed among students amongst which only 384 were fully completed and thus included for the statistical analysis. Mean age of the students was found to be 21 ± 1.34 years. Amongst 384 students, 292 were females and 92 were males. 190 students were from Annual system i.e. Pass/Fail system and 194 had GPA system as their assessment system. Interpretations were done according to the standard way i.e. a score of 4 or less was supposed to be mild, 5-13 was moderate and 14 or more was severe. Amongst those from Annual system, 17 had mild, 139 had moderate and 34 had severe stress. Amongst 194 students from GPA system, 122 had mild and 72 had moderate stress whereas none of those reported to fall in the category of severe stress. Independent t test was applied to identify if there were significant differences between the two groups and the p value was found to be 0.00 i.e. highly significant. A forum should be developed to register all the students enrolled in Doctor of Physiotherapy every year encompassing all Institutes to prevent the biasness due to non-probability sampling method used to recruit sample.

Keywords: Academic Stress Levels, Students of Physiotherapy, Assessment System.

Introduction

Since ages, stress had always been neglected and is never considered amongst the major issues of a regular routine, though realizing that it impacts our lives to a great extent. Stress maybe due to any academic load, personal distress, physical strains and social issues (Malik S, 2015). Stress refers to a situation in which an individual is unable to manage problems and as a result, faces physical and psychological morbidities (Bayram N, 2008). In Pakistan, the medical syllabus is regulated and standardized by the Higher Education Commission. The framework is regularly emended,

upgraded and enforced across the nation to maintain equality and is integrated among all educational institutions. The curriculum devised by the HEC is widely accepted by majority of the Institutes around the nation. Two widely accepted assessment methodologies are used for this curriculum. One employs a semester system with 6 monthly examinations, stratified with a 4 interval score average (GPA) tool, which is analogous to different grade tiered tutorial assessment systems. The opposite system is predicated on annual examinations, with the performance of scholars stratified as either pass or fail. In order to serve as professionals, the students of DPT are not only taught theoretically, a practical learning is highly appreciated by them too. They go through practical study to serve their profession ideally and have a satisfying patient-client disclosure (Sabih F, 2013). Extra skills, like downside resolution, research, social communication and learning are also taught to the PT students. These areas of theoretical and sensible study are all necessary for college students to perform as professionals in a very perpetually ever-changing international and native setting. Stress beyond limits can prove damaging and disrupts normal functioning of the students leading to psychological morbidities in some cases (Adewuya AO, 2006). A thorough literature review revealed that scanty research has been conducted to evaluate psychological morbidity in students of physiotherapy programme. However, many studies have explored the psychological problems of MBBS students, such studies are lacking in physiotherapy (DPT) students (Mayya S, 2004). Reasons behind the higher stress among students of PT may be associated with the enlargement of the profession in recent years, excessive work load, financial concerns, future uncertainties, competition for good grades, family pressure, disturbed health status and the responsibilities upon them. Due to these processes, extensive changes have been made to the PT curricula, forcing students to cope with a demanding study load, a greater diversity of subjects and a tight exam schedule in addition to the practicum module. Generally, academic stress inculcates a sense of competition and motivation among students and promotes learning. However, sometimes this stress produces anxiety and feelings of helplessness, leading to stress-related disorders and adversely affecting performance, academic and non-academic (Musch J, 1999). As a consequence of academic pressure, students have been reported to resort to academic misconduct and even substance abuse as a coping method. Some withdraw from their studies altogether, unable to cope with the stress, while others even attempt/commit suicide.

Much stress always results in poor health of the students, lower academic grades, discontentment, attitude changes, and isolation from their families as well as change in normal circadian rhythms (eating, sleeping routines) (Zeidner M, 1998). Stress levels may be mild, moderate and high as per the demands imposed on the students and the routine activities they go through in their daily life. The higher stress levels can progressively lead to failure to pursue the profession and eventually may lead to suicidal incidences among students.

This is also verified by many that higher levels of stress and inefficiency to cope up with the stress causes psychological affliction among students (Aslam HD, 2012). Students also utilize different strategies to cope up with their stresses. The higher stress levels can progressively lead to failure to pursue the profession and eventually may lead to suicidal incidences among students. This is also verified by many that higher levels of stress and inefficiency to cope up with the stress causes psychological affliction among students. (Sansgirk SS, 2006).

Objective of the Study

The study was done in accord with the prevailing education system and the necessary reforms that are required to be made to implement a uniform assessment system among the Physiotherapy students in Lahore. The main objective of the study was to determine the differences that were present at student, faculty and administrative level of the Institutes.

Research Questions

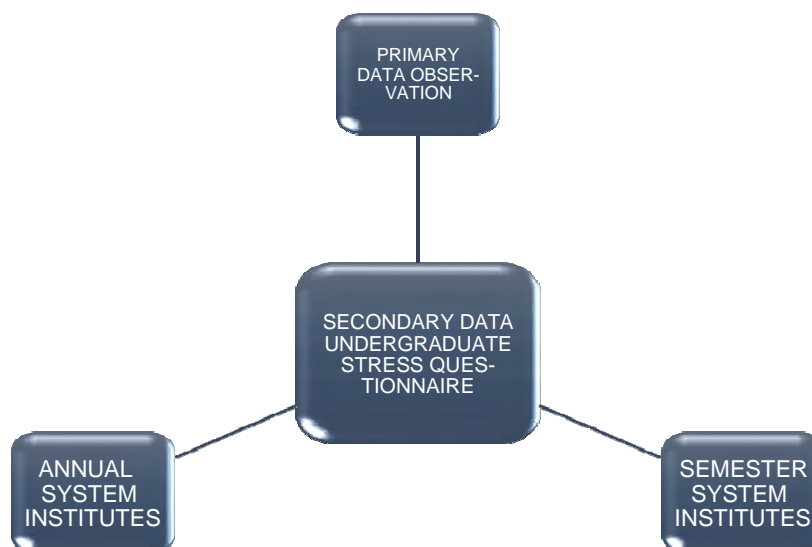
Is GPA system better than Pass/Fail system?

Is GPA system more conducive for learning than the Annual system?

Do the students of Annual system endure higher stress levels than those of the Semester system?

Scope of the study

The scope of the current study is broad as many of the issues related to the assessment system of students and their flaws have been reported by the students after they set their foot in to the profession. Initially when physical therapy began in Pakistan, it followed Annual system for assessment and it was a yearly program. With time, it has evolved as semester system in some of the Institutes which are regulated privately and are not included in the Government system.

Methodology**Research Design and Theoretical Framework****Data collection methods**

In the current study, data was collected by two means i.e. Primary and Secondary.

Primary data

Primary data was taken by interview. The students who were enrolled in DPT program for the past more than 2 years were reached and interviewed. They were asked questions related to their Institutes, faculty and their academic performance.

Secondary data

The International Stress questionnaire was used as a source of Data collection from the students. The questionnaire was distributed among students of both annual and system Institutes as hand-outs and collected back the same time to avoid any inconvenience.

Research Questionnaire

The questionnaire was divided into three sections in accord with the type of questions it contained.

Section 1 contained demographical questions of age, gender, year/semester of DPT and name of the Institute.

Section 2 included the 25 stress scoring questions that evaluated the presence and level of stress.

Section 3 contained 2 open questions that were also asked in the interview but in order to keep a record were made written by the respondents. These were related to the stressors and the stress coping strategies that were administered by the students to overcome their stress.

Strength of Methodology

The data that was collected by the DPT students was supposed to present a factual view of the current situation i.e. the differences that are existent between the two assessment systems. The researchers have collected the data by face-to-face meetings with the students, hence being unbiased and misinterpreted. To check the validity of the tool, it was first administered to 70 students and the variables which were to vary among two were only added for the final research. The data of those students was not included in the final results of research. The questionnaire after being validated through pilot study conducted on 70 students was administered to 560 students of different Physiotherapy Institutes of Lahore. Out of these 560 questionnaires only 384 were fully completed and thus included for the statistical analysis.

Results

So, as to analyze the stress levels, we made a comparison between pass/fail and GPA system to assess which system students endured greater academic stress. An independent t test was also applied to analyze how significantly the two groups differed from each other. The p value was found to be 0.00 i.e. highly significant.

Table 1. Assessment system versus stress level

		Stress Level			Total
		MILD	MODERATE	SEVERE	
Assessment System	Pass/Fail	17	139	34	190
	GPA	122	72	0	194
Total		139	211	34	384

Table 2. Independent t-test for equality of variances

	Levene's Test for Equality of Variances		t-test for equality of means			
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference
Equal variances assumed	.191	.663	11.066	379	.000	2.33155
Equal variances not assumed			11.051	372.8	.000	2.3315

Table 3. Do you feel you have a lack of time to complete your daily tasks?

		LACK OF TIME STUDENTS FACED		Total
		NO	YES	
SYSTEM	ANNUAL	17	173	190
	SEMESTER	128	66	194
Total		145	239	

173/190 students belonging to the Annual system responded to feel a lack of time to complete their daily tasks whereas only 66 students from the Semester system responded to have lesser time. When asked about the reasons the Annual system students quoted about having a tougher routine. Majority of the students had joined private setups for internships after their university hours due to which they neither had enough time to complete their assigned tasks nor did they have any extra-curricular activities. Whereas the students of semester system had no such problem with their routines, had free slots between their classes to complete the assignments and prepare their quiz etc., got free earlier (no 8:00am – 4:00 pm routine).

Table 4. Do you feel you have a lack of confidence?

		LOWER CONFIDENCE LEVELS AMONG THE STUDENTS		Total
		NO	YES	
SYSTEM	ANNUAL	45	145	190
	SEMESTER	143	51	194
Total		188	196	384

In compliance to this question, most of the students from Annual system reported to feel that they have a lack of confidence. This was because of the regular basis presentations and quizzes that the students of semester system regularly participate in and the annual system students don't. The students of Annual system reported that they were not interacting with the faculty & their class members and were only asked to give written tests as per the format of their final Examinations that were to be conducted by some other Higher Institute i.e. University of Health Sciences.

Table 5. Do you feel you are overthinking or pre-occupied most of the time during the day?

		OVERTHINKING		Total
		NO	YES	
SYSTEM	ANNUAL	56	134	190
	SEMESTER	118	76	194
Total		174	210	384

134/190 students from the annual system narrated to be pre-occupied always even when relaxing however 118/194 from the semester system did not overthink and kept themselves relaxed when free. On asking the Annual system students, the reasons found were being pre-occupied with things that were left incomplete which made them frustrated and exhausted. On the other end, the semester system students did not overthink as they finished their daily tasks in time, never had things piled up, had limited syllabus and thus had no academic stress.

Table 6. Do you feel you are fatigued and exhausted?

		FATIGUE AMONG THE STUDENTS		Total
		NO	YES	
SYSTEM	ANNUAL	77	113	190
	SEMESTER	116	78	194
Total		193	191	384

113/190 students from the annual system responded to feel fatigued throughout the entire day due to the sleep deprivation, and engaged minds even at rest. A study conducted among medical students witnesses reduced sleep in the Annual system students. Whereas 116/194 students from the Semester system responded to feel no fatigue and felt relaxed mentally and fulfilled their responsibilities with very ease and no exhaustion likewise the Pass/fail system students. The GPA system students were found to be healthier, lively and much active as compared to those of the Annual system.

Table 7. Do you feel a change in your appetite and eating habits?

		CHANGES IN APPETITE & EATING HABITS		Total
		NO	YES	
SYSTEM	ANNUAL	63	127	190
	SEMESTER	110	84	194
Total		173	211	384

127/190 respondents of annual system have loss of appetite and were found to skip their meals due to the consecutive lectures they had, shorter breaks, meal skips and having smaller portions of food when hungry (because of the adaptation their body makes in response to the longer hunger span in which they feel hungry but cannot have their meal because of the lectures). Whereas 110/194 respondent of the GPA system had their meals regularly and never felt a loss of their appetite. Students of Annual system also responded to have indigestion problems and also complained to have a change in their skin tones due to the GIT problems they had. Stress also induces stomach instability that can cause ulcer.

Table 8. Do you feel you have low moods throughout the day?

		LOW MOODS AMONG THE STUDENTS		Total
		NO	YES	
SYSTEM	ANNUAL	87	103	190
	SEMESTER	133	61	194
Total		220	164	384

103/194 respondents of annual system reported to have low moods all the day due to a routine which did not vary throughout weeks and months. Due to longer fasting hours, the students had symptoms of Hypoglycemia i.e. Tension Headache that lasts throughout the day. The link between stress and headaches is a well-established fact, stress being a precipitating factor for both acute and chronic episodes of headaches. In one study, approximately 90% of study participants attributed headaches as directly related to sources of stress in their respective lives. Nausea due to locked and overcrowded lecture halls, fatigue due to prolonged stationary position and thus leading to irritability (Akram M, 2012). Previous studies also reported of higher nausea in the students of Annual system. Only 61/194 respondents from the semester system reported having lower moods. On discussing, we came to know that these students had free slots in between their lectures to complete their tasks and to relieve their saturation whereas the Annual system students remained saturated for the entire day.

Table 9. Do you have usually suffer from muscular pains in your body?

		MUSCULAR PAINS AMONG THE STUDENTS		Total
		NO	YES	
SYSTEM	ANNUAL	71	119	190
	SEMESTER	166	28	194
Total		237	146	383

119/ 190 respondents of the annual system reported having muscular aches in upper back and neck which progressively led to round shoulders and kyphosis which indirectly were found to be related to the sleep deprivation. Some of these also complained of suffering from low back pain due to sacral sitting which chronically led to coccydria and other SI joint dysfunctions because of the ergonomical issues. The cumulative release of cortisol pulses in a state of physical and psychological stress is a major cause of the sensation of aches and pain all over the body.³ Whereas 166/194 respondents of semester system had no postural imbalances and no pain and remained composed & active.

Table 10. Do you feel that your academic performance now is poor as compared to the earlier?

		POOR ACADEMIC PERFORMANCE		TOTAL
		NO	YES	
SYSTEM	ANNUAL	90	100	190
	SEMESTER	97	96	193
Total		194	189	383

The students of annual system were found to have a poor academic performance as compared to their performances before. This was due to inability to manage and cope up with their syllabus and attempt the examinations the way they used to. Students were found not to be satisfied with their current academic performances.

Table 11. Are you caffeine/nicotine dependent?

		DEPENDANCY ON CAFFEINE/NICOTINE/ DRUGS		Total
		NO	YES	
SYSTEM	ANNUAL	75	115	190
	SEMESTER	119	75	194
Total		194	190	384

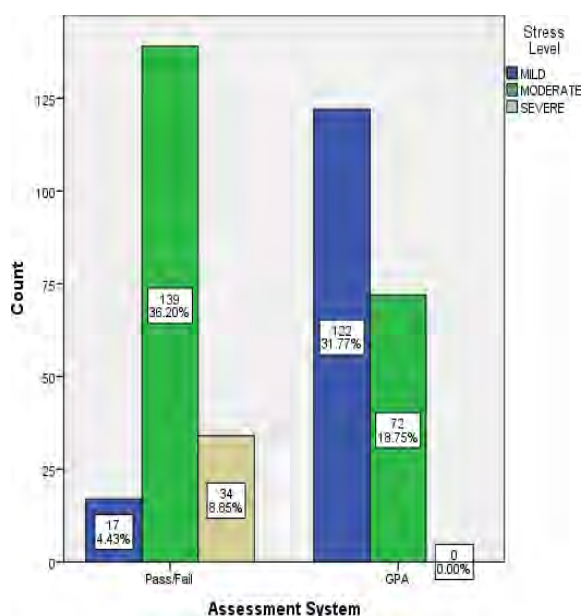
Amongst the Annual System students 115/190 reported to feel a higher dependency upon caffeine and nicotine with an intention to relieve their stresses and keep them focused and had an excessive intake specifically during their examinations. While on the other hand majority of the Semester students reported that they do not feel any dependency or addiction to tea or coffee.

Table 12. Do you have enough time for your hobby or other leisure activities?

		TIME FOR HOBBIES & OTHER LEISURE ACTIVITIES		Total
		NO	YES	
SYSTEM	ANNUAL	35	155	190
	SEMESTER	104	90	194
Total		139	245	384

155/190 respondents from the Pass/Fail system upon asking, reported to have no hobbies, no leisure time (outdoor activity, recreation, family gatherings) and had no time to look over themselves. The reasons they gave us were that they had syllabus overload and had to keep themselves indulged into many books to get over a single topic. Whereas 104 respondents from the Semester system had much time for all their ADL's

Academic assessment system versus levels of stress

**Figure 1. Assessment system versus stress levels**

According to the stress questionnaire, the stress was categorized into low, moderate and severe. Statistical analysis demonstrated that amongst 190 students from the annual system, 17 had low stress, 139 had moderate stress and 34 had severe stress (both boys and girls) whilst amongst those of semester system, none of those had severe stress. Hence, the students who had annual system endured higher stress levels than those who were enrolled in Institutes having Semester system as their assessment system. The reasons found were the non-cooperative faculty, a lengthy stay at university, being at hostel away from their families and heaps of syllabus which they keep on ignoring for the whole year and get back to books once their datasheets are announced.

Stress levels among students of DPT in institutes of Lahore

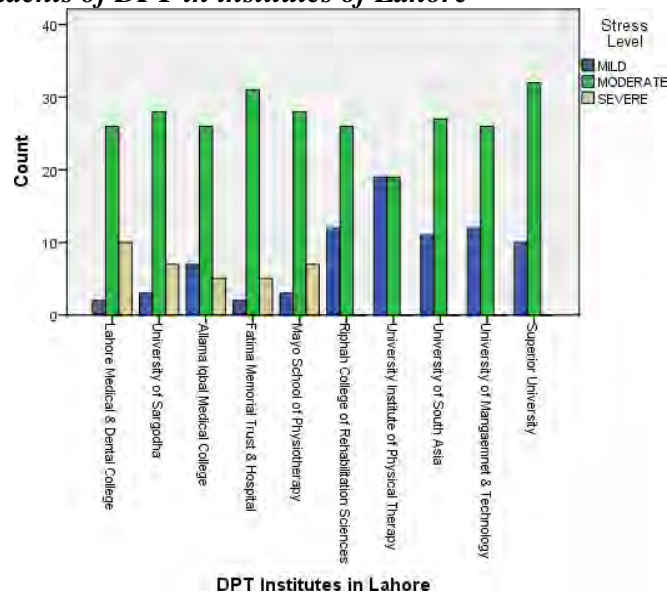


Figure 2. Stress levels in students of Physiotherapy

A comparison was made between the institutes to determine which Institute had the lowest number of students stressed out and which of those had the highest. The institutes following annual system were mostly Government Institutes where students in Physiotherapy were enrolled on merit basis which means that they were the high caliber students belonging to a comparatively lower socio-economic class in comparison to those who get enrolled in the Private institutes (self-supported). Students belonging to lower socio-economical families are always under a social pressure of establishing their families after they get

Graduated. The future uncertainties in the students of Physiotherapy related to jobs and service structure lead to the stress they endure during the study period.

Major stressors affecting the students of DPT

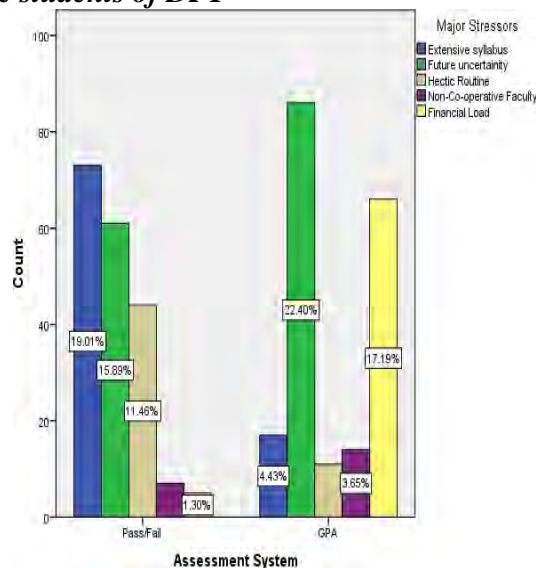


Figure 3. Major stressors identified among students of Physiotherapy

Section 3 of the Questionnaire had two questions. One of those was related to the major stressors that affected the students. The students of annual system responded to have extensive syllabus as the most profound stressor followed by future uncertainties whereas the students of semester system had future uncertainties and financial load as stressors. Hectic routines and non-cooperative faculty were also found to be contributing factor to the stress.

Coping strategies executed by the students

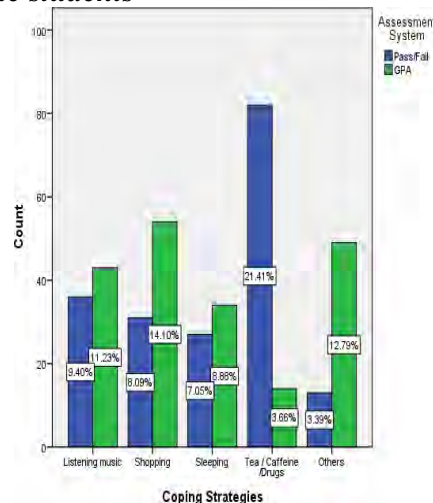


Figure 4. Coping strategies executed by Physiotherapy Students

Students were also asked about the coping strategies they executed to lessen their stress during academic routine. Students of annual system were found to be caffeine/nicotine dependent mostly as caffeine is known to relax the mind and body. Students of semester system relieved their stress by shopping and listening music. Sleeping, traveling and watching entertainment programs were also encountered by some of the students.

Conclusion

In Pakistan the Physical Therapy education systems need to be reassessed and reformed. The standards should be set in favor of the students to create productive and mechanical students. Higher stress among the Annual system students lead to lower academic performance whereas the semester system students were found to be intellectual and get better jobs because of their higher CGPA's. On the other end the students of Annual system were found to be highly learned and were more motivated and satisfied having no future insecurities. Thus a single assessment system should be selected and implemented to obtain victorious results likewise worldwide. The study revealed that GPA system i.e. Semester system encourages students to take classes and allow the educational system to offer a more challenging academic platform which compels the students to compete with each other. Both the education systems have their pros and cons. However, the annual system gives an opportunity to develop from first to last concepts and in profundity study of texts. In this system students get sufficient time to command and control over the subjects. Smooth running of the semester system means being careful about timeframe and restraints of concepts that can be comprehended in a brief manner. It trains the students through a process of analysis, separation and evaluation. For cognitive learning semester system moves to the higher level of learning and students is evaluated on both intellectual and behavioral basis. Check and balance system can assist the learners with the full benefit of the system. Teacher training can help both the semester and annual system to assure quality. This difference should be a major concern of the teachers, students and the administrators. They should

regulate the education system and in order to attain better and productive results; the Institutes should all have a single assessment system, same syllabus should be allotted to be covered in a specific duration, the credit hours should be same and the students should be enlisted at a single forum so better future results can be conducted.

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