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Research Article

Comparison of level of mental stress between exercising and non-exercising undergraduate physical therapy students of LUMHS, Jamshoro

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Abstract

Objective: To Compare the Level of Mental Stress among Exercising and Non-Exercising under graduate Physiotherapy Students of LUMHS, Jamshoro.

Methodology: A cross sectional survey was conducted from October to December 2019, and the data was collected from the undergraduates students of Institute of Physiotherapy & Rehabilitation Sciences, Liaquat University of Medical and Health Science Jamshoro, Pakistan. The Perceived Stress Scale (PSS) was used among 194 undergraduate physiotherapy students. Apart from the demographics (age, gender, education & locality) the PSS questionnaire consist of 10 questions. The Statistical Package for Social Sciences (SPSS) version 22 was used to interpret the data.

Result: The majority (n=101, 51.7%) were from the age group of 18 to 21 years and (n=127, 65.1%) were female. Mostly (n=49, 25.1%) were the students of 1st year Doctor of Physical Therapy and (n=116, 59.4%) of the students were the residents of urban area. Among the non-exercising group of students majority (n=66,68%) were suffering from low level of mental stress, (n=33,34%) were suffering from moderate level of mental stress and (n=24,24.7%) were suffering from severe level of mental stress followed by the exercise group, in which (n=40,41.2%) were suffering from low level of mental stress, (n=21,21.6%) were suffering from moderate level of mental stress and (n=10,10.%) were suffering from severe level of mental stress.

Conclusion: The study finalized that the exercising group of students had lower level of mental stress as compare to the non-exercising group of students. However both groups have the individuals with mental stress but the exercising students group had low number of those individuals.

Introduction

The individual's body's response to physical, mental, or emotional pressure is known as stress. Stress causes chemical changes in the body that can raise blood pressure, heart rate, and blood sugar levels. It may also lead to feelings of frustration, anxiety, anger, or depression. Stress is inescapable

normal requirement of being alive. It covers all the aspect like physical, mental and emotional burden in life. Stress is an experience that happens when an individual is not able to cope up with the situations under available resources. If in excess, it hinders a person to work or function usually and effectively [1]. The mental health is the core to bio-psychosocial model. The Psychologically healthy people ensures clear aims



and progressive academic future. Although the Stress is a concerned problem because it has a strong association with poor decision making and educational skills of an individual. Not only this but stress also leads to poor concentration and shows attention deficit with hindrance of student's ability to deal with patients. Student experienced decline in academic performance as well as their health outcomes due to stressful environment [2]. The University life is captivating as well as stressful. A sufficient level of stress amplifies learning while excessive stress is claimed to be lethal to do work efficiently [3]. However the Academics pressure if taken positively can improve performance of a student to remain in competition but when taken as a negative image it effects a person physical and mental health. Stress markedly influences the level of learning of students and their memory. So when it comes to the life a medical student also influences the health of their patient and community [4-6].

Exercise is beneficial to reduce mental stress as compare to other stress reliving technique that might be difficult for an individual to perform on daily basis, so the exercise is the modest and easiest way to relieve stress. Exercise helps out to engage in routine activities and ensure optimize functioning. However, it has been clearly declared that mental health is directly affected by physical activity by inducing some positive benefits of exercise that are improve self-esteem, depressive mood and cope up with anxiety reduction. Exercise has directly proportional link to reduce stress and as well as to improve self-esteem this triad relationship has double the influence of exercise [7-9].

Material and methods

Study design, settings and duration

A cross sectional descriptive study was conducted from October to December 2019, and data was collected from the undergraduates students of Institute of Physiotherapy & Rehabilitation Sciences, Liaquat University of medical and health science Jamshoro, Pakistan.

Sampling

Convenient Non-Probability Sampling Technique was used among the 194 undergraduate physiotherapy students of Liaquat University of Medical and Health Science Jamshoro, Pakistan. The students were equally distributed into two group (exercising group & non-exercising group). Each group have 97 participants. In exercising group all selected who were exercising regularly since last month, whereas in non-exercising group all those were included who did not use to performed exercises on regular intervals and didn't performed in the previous month As well. However the pattern of exercise was not specified. Participants with both genders (male & female) physiotherapy students, having the age between 18 to 24 years and willing to participate were included in the study. While, participant above the age of 24 years, student with musculoskeletal, neurological, cardiovascular or respiratory disorder which may affect the outcome of the study and not willing to sign inform consent were excluded.

Data collection tool

Perceived stress scale was used to assess the level of mental stress perceived by the participants. A questionnaire was given, which had 10 questions apart from the demographics and the participants had to circle the number to indicate how often they felt or thought a certain way [10].

The numbers were

0=Never

1=Almost never

2=Sometimes

3=fairly often

4=Very often

The total score was given out of 40. Score was interpreted as following

0-13: Low mental stress

14-26: Moderate mental stress

27-40: High mental stress

Data collection procedure

The participants were asked to fill the questionnaire on the spot, only the minor help were given upon the request of participants in order to understand the questionnaire.

Data analysis procedure

Descriptive statistics; categorical variables were measured as frequency and percentage. The Data was analyzed by using Statistical Package for Social Sciences (SPSS) version 22.

Ethical concern

As the Ethical approval was taken from the Review Committee of Institute of Physiotherapy & Rehabilitation Sciences, Liaquat University of Medical and Health Science. Informed consent was taken from the participants prior to the data collection that their participation is voluntary, information of their responses will be kept confidential and they can leave the study anytime they want.

Results

Demographic characteristics

Demographic Characteristics are described in Table 1, which shows that majority (n=101, 51.7%) belongs to age group of 8 to 21 years, and (n=127, 65.1%). were female. After checking the educational status of patients majority (n=49, 25.1%) were the students of 1st professional doctor of physical therapy and (n=116, 59.4%) were from basically from urban areas

Perceived stress scale status

Perceived stress scale status is described in Table 2, which states that majority (n=66) responded that they fairly often upset because of something that happened unexpectedly,



(n=51) responded that they were unable to control their important things in their life. Furthermore the majority (n=61) never felt nervous during the last month, (n=73) fairly often confident about their ability to handle their personal problems. However (n=63) agreed that sometimes they feel that the things were going smoothly through the way. The (n=48) fairly often agreed that during the last month they found that they could not cope with all the things that they had to do. The (n=61) sometimes agreed that they been able to control irritations in their life. The (n=73) fairly often agreed that In the last month, they felt that they were on top of things. The (n=48) fairly often agreed that they have been angered because of things that were outside of their control. The (n=56) agreed that they never felt difficulties were piling up so high that they could not overcome them.

Frequency and percentage of low, moderate and severe mental stress level

Frequency and percentage of level of mental stress are described in Table 3, which shows that majority (n=106, 54.6%) were suffering from low level of mental stress followed by (n=54, 27.8%) moderate mental stress level.

Frequency and percentage of low, moderate and severe mental stress level among the exercising & non-exercising group of students

Frequency and percentage of level of mental stress among the exercising and non-exercising group of students are described in table 4, which shows that the students from non-exercising group were having the high level of mental stress as compare to the students who were not exercising at regular intervals. However among the non-exercising group of students the majority (n=66, 68%) were in the state of low stress level, (n=33, 34%) In moderate stress level and (n=24, 24.7) were in the high mental stress level followed by the exercising group of students.

Table 1: Demographic Characteristics.

Characteristics	Frequency	Percentage
Age		
18 to 21	101	51.7
22 to 24	94	48.2
Gender		
Male	68	34.8
Female	127	65.1
Education		
1 professional	49	25.1
2 nd professional	46	23.5
3 rd professional	36	18.4
4 th professional	41	21
5 th professional	23	11.7
Locality		
Urban	116	59.4
Rural	79	40.5

Table 2: Perceived stress scale status.

Characteristic	Never	Almost Never	Sometimes	Fairly Often	Very Often
In the last month, how often have you been upset because of something that happened unexpectedly?	30	32	41	66	25
In the last month, how often have you felt that you were unable to control the important things in your life	36	39	26	51	42
In the last month, how often have you felt nervous and "stressed"	61	31	52	21	29
In the last month, how often have you felt confident about your ability to handle your personal problems?	11	23	31	73	56
In the last month, how often have you felt that things were going your way	45	56	63	21	09
In the last month, how often have you found that you could not cope with all the things that you had to do	36	39	29	48	42
In the last month, how often have you been able to control irritations in your life?	09	56	61	23	45
In the last month, how often have you felt that you were on top of things?	11	23	31	73	56
In the last month, how often have you been angered because of things that were outside of your control?	36	35	33	48	42
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	45	56	63	18	12

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

Table 3: Frequency and percentage of low, moderate and severe mental stress level.

Variable	n=194(%)
Low mental stress	106(54.6)
Moderate mental stress	54(27.8)
High mental stress	34(17.5)

Table 4: Frequency and percentage of level of mental stress among the exercising and non-exercising group.

Variable	Exercising group n=97(%)	Non-exercising group n=97(%)
Low mental stress	40(41.2)	66(68)
Moderate mental stress	21(21.6)	33(34)
High mental stress	10(10.3)	24(24.7)

Discussion

The study finalized that the participants who were doing exercise on regular intervals had lower level of anxiety as compare to the non-exercising group of students. The different studies were conducted in different parts of the world by Priyanka Sharma et al & Taylor CB, et al. were in line with the current study and concluded that the higher physical fitness is directly proportional to the level of mental stress and that also reflects that a person who have a lower level of mental stress can perform the activities of daily living in a very good manner and they have good decision power as well [11,12]. Exercise is one of the integral component of physical activity that reduces mental stress among individuals. The positive outcomes of exercise are like anxiety reduction, improving self-esteem, minimize depressive moods and increases the decision making power [13]. Stress is detrimental to physical functioning and risk for obesity as well that ultimately leads towards cardiovascular diseases [14,15]. Hence optimizing



stress helps out to optimize cardiovascular functioning by help of physical exercise and this help them to deal with the load on their body systems. It was also suggested that Stressful events of life are found to be related with decline of health states both physical and psychological aspect of life. Stress assessment is therefore important due to the fact that it helps out to predict the intervention outcomes and to act as monitoring of treatment [14,16].

However, Sami R checkcrowd et al, pointed out that more heavy exercises are not always good for health, it depends upon duration, frequency and intensity of exercise that predicts the health outcomes [17-19], specially based on our finding by the help of perceived stress scale (PSS), we estimated that students who were engaged in any sort of exercise showed a decline in the level of mental stress as compared to those students who did not participate in physical exercise thus it is concluded to add exercise as a part of daily living. The relationship of exercise as an entity of physical activity is better strategy to deal with upcoming challenges as stresses of life [16,20].

Therefore, it showed that sound body is strongly associated to sound mind. So for the better academic achievements students must be encouraged to engage themselves in physical exercise to have a decline in mental stress so that they assure better health outcomes and improvement in their future performances thus they can show significant contribution to society [11,21].

Conclusion

The study concluded that the participants who use to do the exercise regularly have low level of mental stress as compare to non-exercising group of students.

Limitations

The study was conducted among the undergraduate physical therapy students of IPRS, LUMHS, Jamshoro.

Recommendation

In future, the study should be conducted in the other disciplines and universities as well.

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