STRESS LEVEL IN UNDERGRADUATE PHYSIOTHERAPY STUDENTS: AN OBSERVATIONAL STUDY

NIVELUL DE STRESS LA STUDENŢII SPECIALIZĂRII KINETOTERAPIE: STUDIU OBSERVAŢIONAL

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Key words: stress level, undergraduate students, Hassels scale, Uplift scale.

Abstract
Objectives. 1. To determine the stress level in undergraduate physiotherapy students of KLE UNIVERSITY by using Hassles Scale.
2. To determine the stress level in undergraduate physiotherapy students of KLE UNIVERSITY by using Uplift Scale.
Methods. After obtaining ethical clearance from the institution, Based on eligibility criteria, participants were included by Lottery method and prior Informed consent forms were signed by each participant included. 15 participants from each class of B.P.T 1st year, 2nd year, 3rd year and 4th year were allocated into 4 Groups, Group A , Group B, Group C, Group D respectively. Brief explanation about the Hassels and Uplift Questionnaires was given to all the groups. Each of the 4 Groups were given Hassels Questionnaire and Uplift Questionnaire. Stress was analyzed by total number of Hassels and total number of Uplifts attempted and the Total number of severity points.
Results: Stress measured in both Hassels and Uplift scales for all the groups were highly significant with $P < .001$
Conclusion: Thus the study concludes measuring stress in undergraduate physiotherapy students by Hassels and Uplift scale with various severity grades.

Cuvinte cheie: nivel de stres, studenţi, scala Hassels, scala Uplift.

Rezumat
Obiective. 1. Determinarea nivelului de stress la studenţii specializării kinetoterapie din KLE UNIVERSITY, folosind scala Hassles.
2. Determinarea nivelului de la studenţii specializării fizioterapie din KLE UNIVERSITY, folosind scala Uplift.
Metode. După obţinerea aprobării de la comisia instituţionalăde etică, pe baza criteriilor de eligibilitate, participanţii au fost incluşi în studiu prim metoda Lottery. Fiecare participant şi-a dat consimţământul. 15 participanţi din fiecare an B.P.T I, anii 1-4 au fost împărţiţi în 4 Grupuri: Grup A , Grup B, Grup C, respective Grup D. S-au oferit tuturor participanţilor informaţii scurte despre chestionarele Hassels şi Uplift. Nivelul de stres s-a analizat pe baza scorurilor obţinute la Chestinarul Hassels şi Uplifts şi scorul total de severitate.
Rezultate. Nivelul de stress măsurat cu ajutorul celor două chestionare Hassels şi Uplift, pentru toate grupurile a fost semnificativ crescut $P < .001$
Concluzii. Din studiu reiese că nivelul de stress măsurat la studenţii specializării fizioterapie cu ajutorul scalelor Hassels şi Uplift este present în grade diferite.

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Introduction

Stress is simply the body's non-specific response to any demand made on it. Stress is not by definition synonymous with nervous tension or anxiety. Stress provides the means to express talents and energies and pursue happiness it can also cause exhaustion and illness, either physical or psychological and accidents. [1]

The important thing to remember about stress is that certain forms are normal and essential. Continual exposure lowers the body's ability to cope with additional forms of psychological or physiological stress. The results of continuing stress may cause disruption in one or more of the following areas of health, physical, emotional, spiritual and/or social. [1]

Adolescence is a stage of human development that occurs between childhood and adulthood. Although there are varying definitions of adolescence, adolescence is generally viewed as a stage where young people experience rapid growth of their body and mentality to full maturity during 12~25 years of age. In education system, adolescents are those receiving education in junior high schools, senior high schools, vocational high schools, colleges or universities. Due to fast physical changes and mental development at this stage, students may sometimes experience incompatibility of their mental development with their physical changes or with the social environment and thus suffer from problems arising from inadequate adaptations. These problems may further cause psychological troubles and even induce deviant behaviors. [2]

Students stress is an unavoidable phenomenon which is often seen in their lives. Undergraduate students are easily target of stress. Factors such as physical and mental, family, job, relationship and social are the main source of stress among the students. There is always a dilemma for the students regarding its performance in exam and to secure a good job. [1]

There are some other factors such as behavioral, psychological and psychosomatic which contribute to the stress. Disturbed relationship and alcohol use show highest and lowest percentage of behavioral factors. Anger, low self esteem, low satisfactions, depression and anxiety are some of the important psychological factors which are observed among students. [1]

On the other hand there are different psychosomatic factors such as headache, sleep problems involved. These factors contribute to the stress among the undergraduate students. Headache, anxiety, back pain, neck pain, appetite are more predominately observed among females. On other hand poor sleeping patterns, hair falls, erratic moods and depressions are found to be more often in males. [1]

Studies have shown that stress plays a important role in every undergraduate student's life, regarding his/her academics, behavior, relationships, family, social aspects of life. It can lead to a positive result and also negative result, therefore it is important that we measure stress in the undergraduate students so as to provide the student a measure of his/her stress level so that they can keep a check on their daily hasseles and uplifts.

In India, limited studies are done on students and need for a study on stress with the varying conditions and environment factors, system, pattern of academics and other varying conditions arises.

Therefore, this study was undertaken to determine the stress level in undergraduate physiotherapy students of KLE UNIVERSITY. Main objective was to determine stress level in undergraduate physiotherapy students by Hassel's scale and Uplifts scale.

Materials and methods

This study was conducted at KLEU Institute Of Physiotherapy College, JNMC Campus, Nehru Nagar, Belgaum. Study design is observational study. 60 Participants.15 Participants from each of 1st, 2nd, 3rd, 4th years were included by lottery method. Students included were both male and female undergraduate students willing to participate in the study, in the age Group 18 to 25 years, who were able to understand the components in the scales and rate them. Students who were above 25 years of age and who had undergone any psychological treatment for stress 3 months prior to the study were excluded.

Ethical clearance was obtained from the ethical committee of the institution prior to the commencement of the study. Based on eligibility criteria participants were included and prior informed consent forms were signed by every participant included. The participants were allocated in 4 groups. Group A: 1st year, Group B: 2nd year, Group C: 3rd year, Group D: 4th year.

All the participants were explained about need for the study, confidentiality of the documentation, Brief explanation of Hassels & Uplift scale and instructions on how to score each component in these scales. Group A, Group B, Group C and Group D received Hassels questionnaire and Uplifts questionnaire. Scores were calculated and rated as minimal, average, moderate, and severe and the data was computed and analyzed using SPSS (Statistical Package for Social Science) software version 16, for Distribution of Severity of Grades in Hassels and Uplift Scale. Test of Significance namely Fisher Exact Test was used to compare the data.

Results

In the distribution of severity grades, most of the students were in the Moderate severity grade of both the scales Hassels and Uplifts scale, **Figure 1.**

In group A (n=15) 9 students scored minimal, 4 students scored average, 2 students scored moderate severity grades in the Hassels scale. In group B(n=15) 1 students scored minimal, 2 students scored average, 7 students scored moderate, 5 students scored severe severity grades in the Hassels scale. In group C (n=15) 3 students scored minimal, 1 students scored average, 7 students scored moderate, 4 students scored severe severity grades in the Hassels scale. In group D(n=15) 4 students scored minimal, 2 students scored average, 6 students scored moderate, 3 students scored severe severity grades in the Hassels scale, **Figure 2.**

In group A(n=15) 7 students scored minimal, 7 students scored moderate, 1 students scored severe severity grades in Uplifts scale. In group B(n=15) 11 students scored moderate, 4 students scored severe severity grades in Uplifts scale. In group C(n=15) 12 students scored moderate, 3 students scored severe severity grades in Uplifts scale. In group D(n=15) 1 students scored minimal, 8 students scored moderate, 6 students scored severe severity grades in Uplifts scale, **Figure 3.**
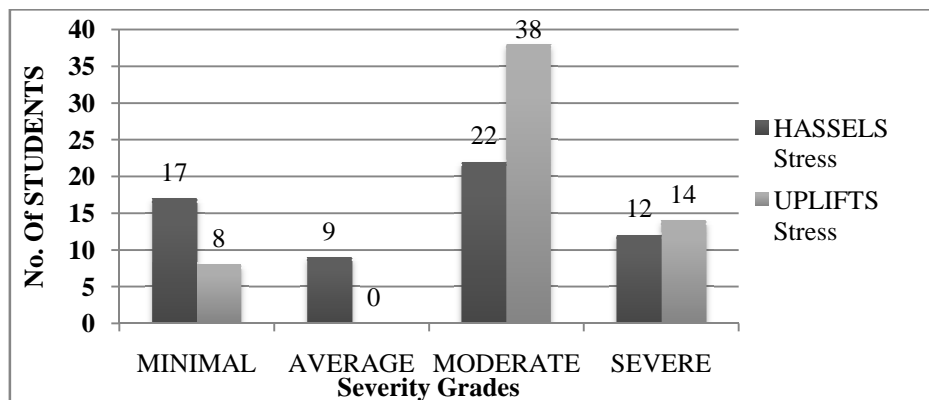

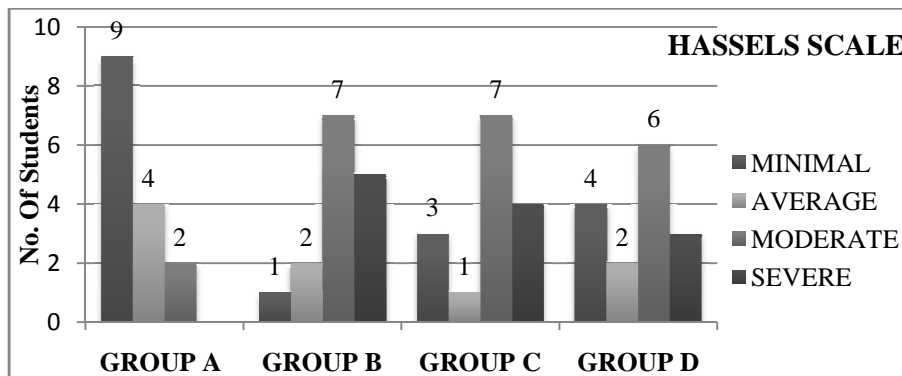*Figure 1: Distribution of Severity Grades for Hassels and Uplift Scale*

Figure 2: Students of groups A, B, C, D categorized based on the hassels severity grades
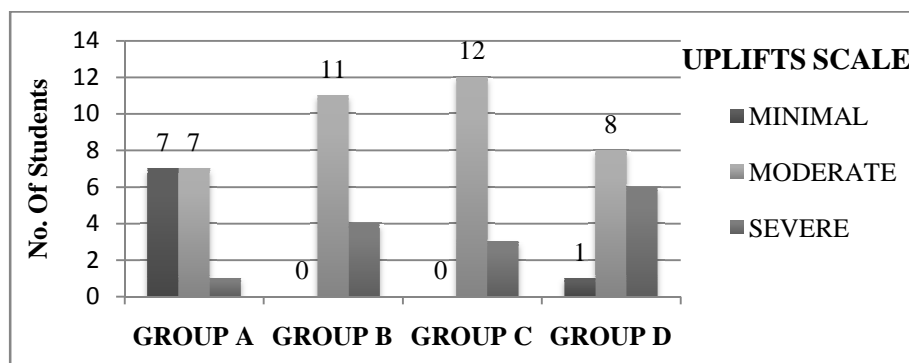

Figure 3: Students of groups A, B, C, D categorized based on the uplifts severity grades

In the distribution of the total number of hassels attempted in all the 4 groups and their severity scores, all the groups were significant between the number of hassels attempted and their severity grades (F=7.236, P<.001 and F=6.336, P<.001 respectively), group B was the most statistically significant out of the 4 groups with P<.001. **Table 1**.

In the distribution of total number of uplifts attempted in all the 4 groups and their severity scores, all the groups were significant between the number of uplifts attempted and their severity grades (F=13.683, P<.001 and F=11.683, P<.001 respectively), group C was the most statistically significant out the 4 groups with P<.001. **Table 2**.

Table 1: Distribution of Total no. Hassels attempted and their severity scores among the groups

	Total No. of Hassels	Hassels Score
Group A	19.6 ± 8.68	32.2 ± 18.2
Group B	52.8 ± 26.62	99.2 ± 89.89
Group C	49.3 ± 2.84	89.4 ± 51.49
Group D	41.1 ± 21.58	68.4 ± 43.04
	F= 7.236 **P< .001**	F= 6.336 **P< .001**

Table 2: Distribution of Total no. Uplifts attempted and their severity scores among the groups

	Total No. of Uplifts	*Uplifts Score*
Group A	35.1 ± 22.54	57.5 ± 38.83
Group B	68.6 ± 2.38	130.9 ± 53.36
Group C	89.2 ± 16.06	162.3 ± 31.64
Group D	76.5 ± 32.05	137.4 ± 69.89
	F= 13.683 **P < .001**	F=11.683 **P < .001**

Mean standard deviation of the severity grades minimal, average, moderate, severe for the Hassels scale and the mean standards of the score are explained in **Table 3**. (F=33.339, P<.001 and F=47.105, P<.001 respectively)

Mean standard deviation of the severity grades minimal, moderate, severe for the Uplifts scale and the mean standards of the score are explained in **Table 4**. (F=28.166, P<.001 and F=34.761, P<.001 respectively)

Table 3: Distribution Of severity grades and their Mean SD in Hassels Scale

	Total No. of Hassels	Mean SD	Hassels Score	Mean SD
MINIMAL	16 ± 4.85	7-24	23.8 ± 8.91	8-41
AVERAGE	27.2 ± 1.48	25 – 29	48.7 ± 10.37	33-70
MODERATE	50.8 ± 21.75	30-108	80.9 ± 37.56	42-190
SEVERE	68.1 ± 15.64	40-90	145.2 ± 33.75	88-191
	F = 33.339 **P < .001**		F = 47.105 **P < .001**	

Table 4: Distribution Of severity grades and their Mean SD in Uplifts Scale

	Total No. of Uplifts	Mean SD	Uplifts Score	Mean SD
MINIMAL	15.2 ± 7.81	4-27	24.2 ± 11.34	4-40
MODERATE	70.6 ± 23.31	32-116	120.1 ± 44.83	50-215
SEVERE	88.2 ± 24.85	45-124	183.2 ± 48.38	102-253
	F = 28.166 **P < .001**		F = 34.761 **P < .001**	

Discussion

To the best of our knowledge, there is no study determining the stress level in undergraduate physiotherapy students. Limited literature is available which have used Hassels and uplift scale as a assessment tool to measure stress. However a study by Allen D. Kanner et al found that the assessment of daily hassels and uplifts are better approach to the prediction of adaptational outcomes than the usual life events approach.

Lewinsohn et al constructed a 320-item measure of daily unpleasant events and found low to moderate relationship between events aversiveness and depression as measured by Minnesota Multiphasic Personality Inventory (MMPI) and the Beck Depression Inventory. This study has measured stress in the undergraduate physiotherapy students using a better assessment tool which focuses on the major life events that take place in every undergraduate student life.

The statistical analysis showed the stress level to be more in the Moderate severity grade in both Hassels and Uplifts scale for all the groups. In the Hassels scale group B scored highest for the Moderate and severe severity grades than the other groups explaining Stress measured by Hassels scale was the maximum was in group B and then the Group C and Group D. In the group A, most of the students out of 15 scored maximum for the minimal severity grade of the hassels scale suggesting the stress level being minimal in these students.

In the uplifts scale none of the students scored average severity grade suggesting either the stress level was in minimal or moderate to severe. Group C scored highest for the severe severity grade than the other groups explaining stress measured by uplifts scale was the maximum in group C, and then in group B and group D. For the severe severity grade in uplifts scale the group D scored maximum then the group B and then the group C and A suggesting that the severe stress encountered in uplift scale was disperse in all the students. Except 1 student in group D there was no student who scored minimal severity grade in uplift scale after group A explaining that all the undergraduate students after their 1st year are having some amount of stress above the minimal level.

Thus the study concludes measuring stress in undergraduate physiotherapy students with varying severity grades in Hassels and Uplifts scale.

Future studies are recommended with a larger sample size including all the undergraduate physiotherapy students, comparative studies on pre exam and during exam stress level assessments, providing a intervention to reduce the stress in the moderate and severe grades students.

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