

**ASSESSMENT OF STRESS AMONG PHARMACY STUDENTS - A
CROSS SECTIONAL SURVEY**

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ABSTRACT

Background: Health care students, specifically pharmacy students are known to experience higher stress levels when compared to their age-matched university peers. **Aim:** The study was conducted with an aim to assess the stress and stress relieving practices of students of a pharmacy college. **Methodology:** The prospective observational study was conducted at JSS College of Pharmacy, Mysuru during the academic year 2016-17. Perceived stress scale (PSS), a self-report measure of stress was used among the pharmacy students to assess their stress. **Results:** Out of 405 students surveyed, the research scholars were reported to have lower stress levels where as the outgoing students of various courses experienced high stress levels with a mean PSS score of 18.03. The statistically significant difference in the

stress levels was not observed among the students of various courses. **Discussion:** Introduction of mentorship program thought to have an impact in the reduction of stress among the first years students of B. Pharm and Pharm D. Students selected their course by self are found to have a decreased stress level when compared to the students chose their course by others. All students are managing their stress by adopting various methods ranging from meditation to use of internet facilities. **Conclusion:** Stress is an individual perception, it is necessary to understand the boundary of stress where it progress to the physical disabilities and negative life events. Understanding and managing the stress is essential during the college days for the successful future of the young buds of the society.

KEYWORDS: Stress, Pharmacy students, Perceived stress scale, PSS Score.

BACKGROUND

Health care students, specifically pharmacy students are known to experience higher stress levels when compared to their age-matched university peers.^[1,2] The pharmacy students undergo stress as they study an intense curriculum which demands their utmost dedication in order to keep themselves in the ever-changing health care field.^[2]

Stress can interfere in student's physical health, mental health, academic success and even on every part of life unless they discover to cope with it appropriately in correct time.^[2] Transition of students from pre-university environment to university environment could cause a psychological, academic and social shock to them, since this educational system has huge difference: the student will face new method of teaching, new academic requirements, new atmosphere, changes in lifestyle, increased workload, new tasks like assignments, seminars, projects, new type of relations between students and faculties, new relation among students themselves and lot more other things. Stress is one of the major facets of our contemporary life, resulted from the swift changes and modernity in human beings, so period of college life is called as the the age of stress.^[2] College students turning adulthood, are expected to be the elites in the society. Thus, they should enhance their stress management abilities so as to live a healthy life after entering the society.^[3] Students in Semester system experiences a more stress due to several factors like academic commitments, financial pressures and lack of time management skills.^[4,5]

If managed well at correct time, stress can be bring a positive element in our lives. Stress can even felt in positive situations also. A healthy or moderate level of stress can be motivational which helps to develop skills and fulfills one's potentials. Stress is not just part of the university, it is a part of life; early recognition and successfully management is an important in life. Unmanaged stress can lead to physical, emotional and social problems.^[5] The effect of stress is in unequal distribution among different individual and lead to illness and negative experiences.^[6] Effective management of time is the best coping strategy to relieve stress among university students.^[7]

Many studies have done to compare the stress among medical, dental and Pharmacy students and found that the student group more stressed were pharmacy students.

AIM

The study was conducted with an aim to assess the stress and stress relieving practices of students of a pharmacy college.

METHODOLOGY

The prospective observational study was conducted at JSS College of Pharmacy, Mysuru during the academic year 2016-17 and the study was approved by institutional ethical committee. The study was done among the students studying various courses at the college after taking the informed consent. Perceived stress scale (PSS), a self-report measure of stress^[8] was used for the survey along with the data collection form which was used to collect the general information and various stress relieving practices by the students. The statistical significance of the findings were performed by using one way ANOVA and independent t' tests.

Scoring of PSS Scale: The total score of the PSS is calculated by finding the sum of 10 items in the scale. Each item is rated on a 5-point scale ranging from never (0) to almost always (4). PSS scores ranges from zero to forty. Positively worded items (item number 4,5,7,and 8) are reverse scored, and the ratings are summed, with higher scores indicating more perceived stress. Scores around 13 are considered average and scores more than 20 are considered high stress.^[8]

RESULTS

General information on the study population

A total of 405 students studying different courses were enrolled for the cross sectional study. Out them, 60.98% were studying B.Pharm followed by Pharm.D (20%) and M. Pharm (10.37%). Females (244) students were more than males (161). 98% of the enrolled students were Indian citizens. More than half of the enrolled students (57.3%) were from an urban residential area. Very few students (12.8%) were from Joint family and the remaining were from nuclear families. Hostel inmates in the study population were 72.34% and 56 students were staying in the Paying guest facility near the college campus. Students studied the state syllabus for their pre university courses were more (64.44%) in our study when compared to central board of secondary education (29.38%) and other (4.197%) syllabuses. Majority of the students (98.27%) cleared all subjects in the previous year of course. Self-selection of the course was described by 75.3% of the students whereas the remaining chose the courses

under study by chance. Half of the students were opting for higher studies after the course and the remaining were chose to search for a job following their course.

PSS Scores

The PSS Score varied from 4 to 32 with an average PSS score of 18.03. Students coming from rural residential area are having higher stress score (18.12) than students from urban area. Indian students were having little high stress with a mean PSS Score of 18.06 where as the foreign students having a mean PSS Score of 17.27. Students from nuclear family is having high stress score (18.06) than students from joint family. The PSS Score of students staying off campus had significantly higher stress when comapred to the studen's staying within the campus in the previous studies^[4] but there was no much difference in the stress score of our student population on campus and off campus. The students studying by staying with the parents were having little less stress score than others. Students with home sickness are having higher stress compared to the students without home sickness. There is no much difference in the stress score of the student's medium of language in their primary schooling and the syllabus they studied. Interestingly, the students with failed subjects of the previous year are having less stress when compared to the students without any failed subjects. Students opting job after course having high stress score with a mean PSS score of 18.39 than students opting higher education. Students with a close friend to share their feeling were having less stress (17.96) than who doesn't have any close friends(18.46). Though there was difference in the PSS Scores of all the variables of the students under study, there was no statistical sgnificance as all the P values were more than 0.05. The details of the study population with their PSS Sores are present in the Table No.1

Table 1: Details of enrolled students with PSS Scores.

Variables		Number	Mean	Standard Deviation	P value
Gender	Male	161	18.32	4.209	.359
	Female	244	17.60	4.120	
Nationality	Indian	387	18.03	4.184	.726
	Foreign	18	16.79	5.618	
Residential Area	Urban	173	18.13	3.936	.267
	Rural	232	17.91	4.503	
Type of Family	Nuclear	353	17.81	4.855	.149
	Joint Family	52	18.07	4.082	
Medium of schooling	Regional Language	106	18.12	4.211	.748
	English	299	17.74	4.094	
Syllabus studies at School	State Syllabus	261	17.86	4.113	.485
	CBSE	119	18.33	4.314	
	Others	25	18.67	4.433	
Type of Accommodation	On - campus	295	17.47	4.545	.581
	Off - campus	56	18.10	4.106	
	Home	51	18.20	4.282	
Home sickness	Yes	189	16.91	4.161	.362
	No	216	19.32	3.835	
Friendship	With Close friends	349	17.97	4.237	.995
	Without Close friends	56	18.46	3.842	
Choice of course	Self selection	305	17.89	4.128	.378
	Others selection	100	18.48	4.340	
Future plan	Job	213	18.11	3.733	.332
	Higher studies	192	18.01	4.413	

There was no much difference in the stress levels of students studying Annual scheme and semester scheme. Pharm D students and the M. Pharm students had little higher stress level when compared to the diploma students and B. Pharm Students, but there was no significant relation between stress scores and classes of study. Higher PSS Score was observed in outgoing Pharm.D and M. Pharm students as they were opting for job immediately after their course. There was no statistical difference in stress level among the students studying various courses as the P value was 0.611. But a significant reduction in the stress levels of the Ph.D candidates (Mean PSS Score - 14.33, Standard deviation - 4.849) was observed with a P value of .027. The details of PSS Scores of students studying different courses are present in Table No 2.

Table 2: PSS Scores of students of various courses.

Course	Mean	Std. Deviation	P Value
D. Pharm	17.40	4.797	0.611
B. Pharm	18.06	3.739	
Pharm.D	18.46	4.567	
M. Pharm	18.57	4.748	
Total	18.17	4.221	

Students chose their course option by self were having less stress (17.88) when compared to the students chosen their course by chance. It is supporting the data that the students who chose the course will have less stress on their studies as they understand the curriculum and joining for the course. The association of PSS Score and the choice of the course is present in the Figure 1. But the difference in the stress level were not statistically significant with a P value of 0.378. The students with close friends are having less stress score than who do not have any close friends in the campus.

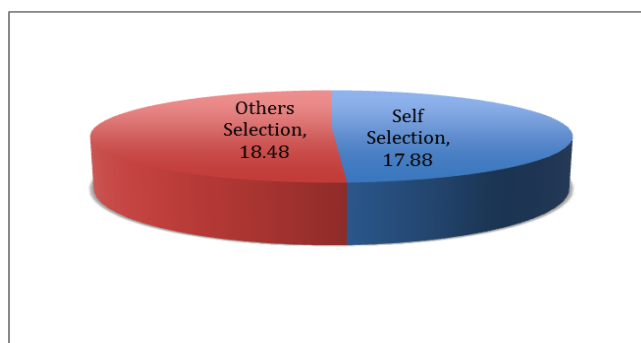


Figure 1: Association between PSS Score and choice of the course.

Stress relieving Practices of students

The best stress relieving practice for the students were listening to music(28.39%) followed by games (15.55%), reading literatures / newspapers and dancing (6.91%). The details of the stress relieving practices among students are present in table 3.

Table 3: Stress relieving Practices among students.

Stress relieving Practices	Number of Students	Percentage(%)
Meditation	5	1.23
Yoga	4	0.98
Cooking and eating favourite food	9	2.22
Listening Music	115	28.39
Singing	9	28.39
Dancing	28	6.91
Chatting with friends	25	16.17
Sleeping	14	3.45
Reading literatures and News papers	28	28.39
Writing Diaries/ poems/ stories	7	1.72
Painting	14	3.45
Games – Video games / Different outdoor and in-door games/ Swimming	63	15.55
Go out for a ride	8	1.97
Photography	8	1.97
Watching movies	25	6.17
Work out in Jim	6	1.48
Nil	37	9.135

DISCUSSION

There is no statistically significant differences in the PSS scores of students studying various courses in our college except research scholars. The PSS Score of research scholars are high as per the surveys done at different universities,^[9] but we found a lower (14.33%) stress level among the PhD scholars. The reasons for this may be the freedom of work under the guidance of experienced guides. Theoretically, students take half yearly examinations are expected to have high stress when compared to the students write exam annually,^[4] But we couldn't find a statistical significance in the stress levels observed in students following semester and annual schemes. Effective mentorship programs can help to decrease the stress among the students^[10] and the same result was observed in our study population. First year students were reported to have decreased stress scores when compared to their seniors, one of the reasons may be the introduction of mentee-mentor effective interaction in the first year. Similar to previously published studies,^[11] we reported higher stress level among the postgraduates when compared to the graduates. Future orientation was one of the major reasons for the stress^[11] and we found an elevated stress level in outgoing students who opt for job after their college days.

In our study female students had slightly higher stress as per the perceived stress scale (PSS) compared to male students and similar results are observed in previous studies.^[3,12,13] The reasons for less stress among the students from joint families may be due to the number of people to help manage the stressful situation is more in the joint family than nuclear family. The result is almost similar to the previous studies.^[4] Students who selected their course by self reported to have lower PSS Score as seen in published literatures.^[14]

Students were using many different stress relieving practices depending on their time and their preference and personal experiences. The practices were ranging from meditation, yoga like the scientific ways to the modern techniques like a lonely bike ride to a hill station. There were students using painting, dancing, singing, watching TV etc to relieve the stress. Listening to music was one of the major stress relieving practices in a previous study conducted among the dental students^[15] and the same was observed in the present study also. Briana Murnahan from Eastern Michigan University describes the usefulness of writing diaries, emails, journals and weblogs as the stress relieving practices in their students, where as we observed a very less number of students using these techniques as their stress relieving practices.

CONCLUSION

The stress is an individual experience and it varies in students depending on their socio cultural backgrounds. Mismanagement of stress during the college days have harmful effects to their future life as it may bring negative experiences and some psychological disorders. Identification and effective management is essential to have a positive outcomes in life. Faculties of the colleges can help the students to manage their stress by an effective communication systems like mentorship programs at least in their the initial years of college.

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