A QUESTIONNAIRE STUDY TO ASSESS THE LEVELS OF STRESS IN PHARMACY STUDENTS AND TO IDENTIFY FACTORS THAT CONTRIBUTE TO STRESS-RELATED ILLNESSES.

[1]PUNIDHA JENIFER, [2]RAGAVENDRA T, [3]RAO PRIYANSHU DILIP SINGH, *DR. JACINTHA SHARON DANIEL.J

[1],[2,3]B. Pharmacy, Department of Pharmacy Practice, School of Pharmaceutical Sciences, Vels Institute of Science, Technology and Advanced Studies (VISTAS), Pallavaram, Chennai- 600117.
*Assistant Professor, Department of Pharmacy Practice, School of Pharmaceutical Sciences, Vels Institute of Science, Technology and Advanced Studies (VISTAS), Pallavaram, Chennai- 600117.

*CORRESPONDING AUTHOR DETAILS:
Dr. Jacintha Sharon Daniel.J
Assistant Professor
School of Pharmaceutical Sciences,
Vels Institute of Science, Technology and Advanced Studies, Pallavaram, Chennai- 600117.

ABSTRACT

Several research articles revealed that students of medical and paramedical sciences have substantial amount of stress which leads to Pharmacy students may experience a significant amount of stress due to the demands of their coursework and the responsibilities of their future profession.This study will give an insight about the trigger factors for stress in pharmacy students and pave a way to avoid or modify the approach to certain situations that cause stress. Aim of this study is to assess the level of stress in Pharmacy students and to identify factors that contribute to stress related illnesses. Objective of the study is to determine the general levels of stress among pharmacy students and to identify characteristics and behaviors that contribute to stress-related illnesses, determine if the students have protection against potential risk factors that arise due to stress and also to identify different sources of stress encountered by students. A total of 152 sample was taken in this study , the study design is descriptive Observational study. The entire study was carried out for 4 Months. The study instrument used was Perceived Scale Questionnaire (PSS). It was found that out of the 240 responders and as a results we found the high stress level percentage which is alarming as it is more than half of the moderate stress level findings. Conclusion: from the study it was found that both B.pharm & Pharm.D Students experience almost same levels of stress, Academic stressors being the

20778

major factor that contributes to the stress levels among the students.

INTRODUCTION

Several research articles revealed that students of medical and paramedical sciences have substantial amount of stress which leads to Pharmacy students may experience a significant amount of stress due to the demands of their coursework and the responsibilities of their future profession. Some common sources of stress for pharmacy students include heavy course load as the workload can be overwhelming, and students may struggle to keep up with the pace, clinical rotations as these rotations can be stressful, as students are expected to perform at a high level and may be exposed to high-pressure situations, career pressure, financial burden, balancing work and personal life. This study will give an insight about the trigger factors for stress in pharmacy students and pave a way to avoid or modify the approach to certain situations that cause stress. Factors that influence stress induced diseases that may occur in the near future if stress is not brought under control. Early detection of chronic stress will be beneficial to prevent diseases that are stress induced. Stress as an inescapable part of life generally touches a wide range of groups of population with no regard to their age, gender, educational status or socioeconomic status. Despite this fact, stress, depression and anxiety are prevailing mental health problems among college students . College students undergo numerous educational, social, environmental and psychological adjustment difficulties in the new campus atmosphere which may affect their psychosocial wellbeing and learning outcome. A randomly drawn participants (N = 30) completed Perceived Stress Scale assessing their levels of stress) The results revealed that there was a moderate level of stress among the students. Besides, the students' levels of stress were found to have no statistically significant associations with their gender. The study may theoretically contribute to the body of scientific knowledge on mental health studies. Practically, the study may also guide college communities to take concrete steps towards the improvement of the learning environment and subsequently mitigating the adverse impact of stress on students' well being and learning outcomes.

AIM AND OBJECTIVE

Aim:

Aim of this study is to assess the level of stress in Pharmacy students and to identify factors that contribute to stress related illnesses.

20779

Objectives:

Primary objective:

1) Determine the general levels of stress among pharmacy students.

2) Identify characteristics and behaviors that contribute to stress-related illnesses.

Secondary objective:

1) Determine if the students have protection against potential risk factors that arise due to stress.

2) Identify different sources of stress encountered by studentsMethodologies:

Sample size:

Sample size was found to be 152 which was calculated using survey monkey online sample size calculator using the following formula.

https://www.surveymonkey.com/mp/sample-size-calculator/

N = population size • e = Margin of error (percentage in decimal form) • z = z-score

$$\text{Sample size} = \frac{\dfrac{z^2 \times p\,(1-p)}{e^2}}{1 + \left(\dfrac{z^2 \times p\,(1-p)}{e^2 N}\right)}$$

Study design:

Descriptive Observational study.

Study Duration:

The entire study was carried out for 4 Months.**Study Instrument**. Perceived Scale Questionnaire (PSS)Google survey form.

20780

Complete study procedure:

Result

Sample size: **152**

This means 152 or more measurements/surveys are needed to have a confidence level of 95% that the real value is within ±5% of the measured/surveyed value.

Confidence Level:	95% ▾
Margin of Error:	5 %
Population Proportion:	50 % Use 50% if not sure
Population Size:	250 Leave blank if unlimited population size.

Calculate ● Clear

The intended Data was collected through online based, self-completed questionnaire which was developed with reference to previous published work in the area. A cover sheet at the start ofthe questionnaire briefed the purpose of the research, provided assurance that the participation was voluntary and the collected data was confidential. The questionnaire was divided into six sections. Section A consisted of general questions like age, gender, year of study. The Section B section consisted of Perceived Stress Scale (PSS) as it is one of the most widely used psychological instruments for measuring the perception of stress was selected for use in this study. Section C focused on general stressors such as psychological, academicals, financial situation, relationships, health and such. Section D had options related to sleep cycle, screen time, family time, stress-coping mechanisms and respondents were asked to select as many

stress-coping options as they wished from the given list. Section E& F consists of a general health question section asking the participant if they are experiencing any health issues. There

was a free response option to record other stressors that were not specifically mentioned in eachof the sector.

Patient Selection:

-Inclusion Criteria:

1) Subjects who are willing to participate in the study.

2) B.Pharm and Pharm.D students at the School of Pharmaceutical Sciences, VISTAS.

3) Subjects of both genders within the age limit of 17 – 25 were included.

4) Both hostellers and Day scholars were included in the study.

20781

-**Exclusion Criteria:**

1) Subjects who are not willing to participate in the study.

2) Subjects above the age of 25.

Statistical Analysis:

Completed questionnaires will be coded, reviewed for accuracy; the data will be entered intoEpidata

3.1 and exported to SPSS version 24 and will be analyzed using descriptive Statistics and logistic

regression. All categorical variables will be expressed as percentage And frequencies.

The knowledge scores will be calculated by Mean ($\pm$ SD). The association betweenDifferent levels of

stress with each covariate was assessed first with bivariate

Logistic regression to identify a candidate variable for multivariate logistic regression.
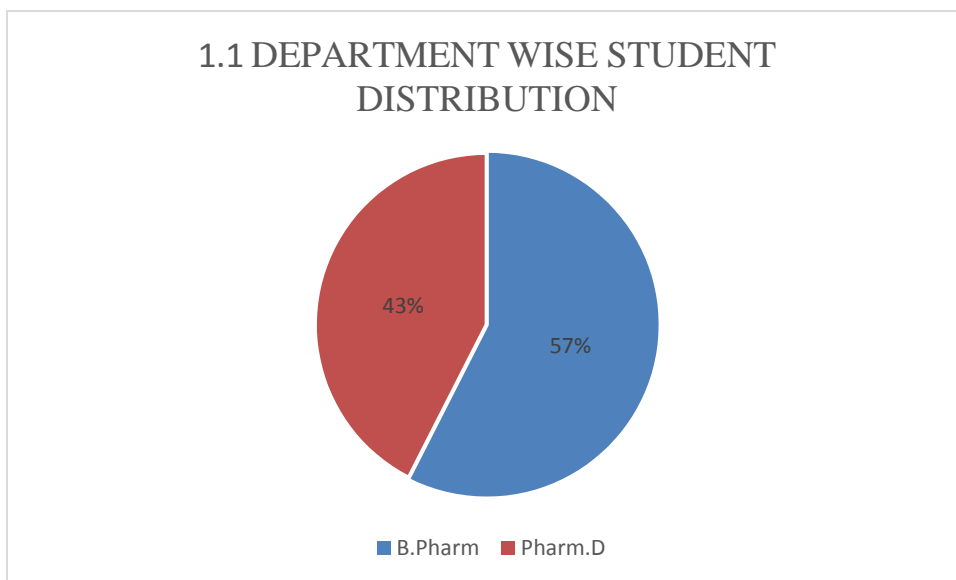
Expected outcome:

Through this study we will be able to analyze the different percentage levels of stress experienced by the pharmacy students with regard to gender variability and the stress coping methods handled by the students to cope with stress. This study will also enable the researcher toidentify factors that might be the triggering reasons for stress induced diseases

RESULTS

A total of 257 responses were received from students pursuing B.Pharm & Pharm.D out of which240 participants consented and 17 did not. The participants who consented and met the inclusion criteria were enrolled in the study. The study population comprised of students with an age criteria of 17 – 25 years as shown in table below.

The Section A of the questionnaire consisted of general questions like age, gender & year ofstudy of the participants.

20782

Eur. Chem. Bull. 2023,12(Special Issue 4), 20778-20800

Fig: 1.1 Shows the number of participants from each department

1.1 DEPARTMENT WISE STUDENT DISTRIBUTION

From the total of 240 participants 138 students were from B.Pharm and 102 studentswere from Pharm.D

Fig: 1.2 Shows the age distribution of participants

1.2 AGE OF STUDENTS

20783

Eur. Chem. Bull. 2023,12(Special Issue 4), 20778-20800
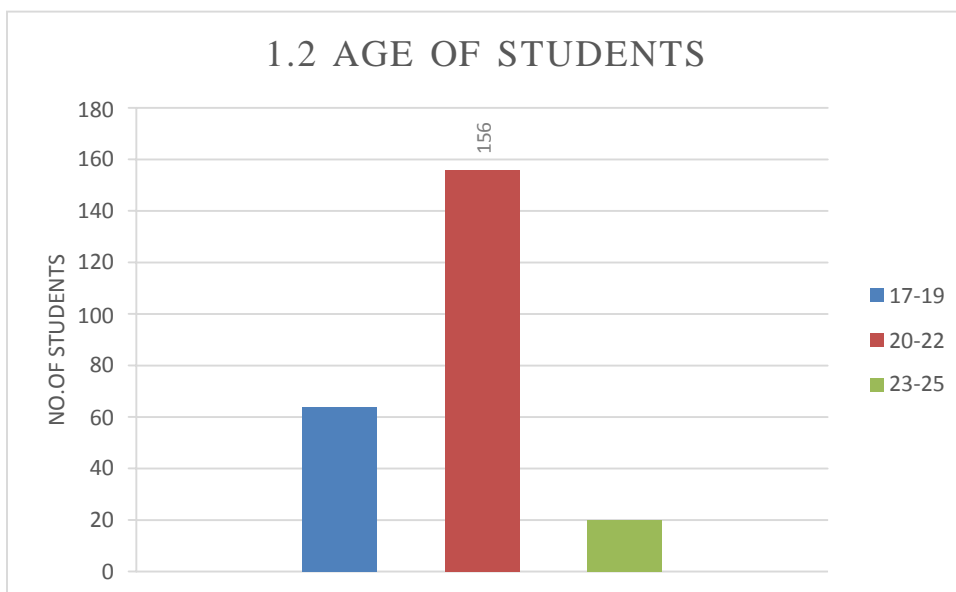
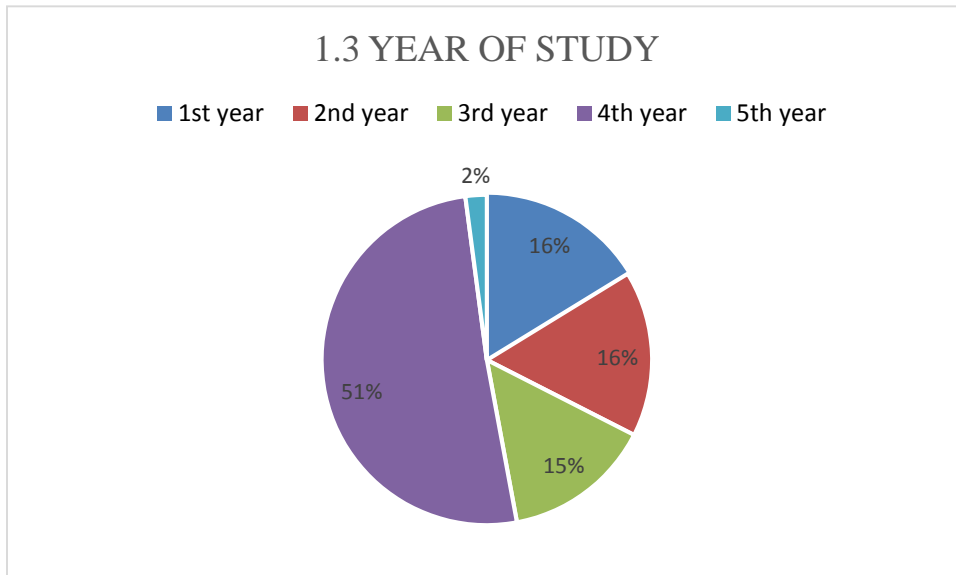Fig: 1.3 Depicts the Year of study of the participants

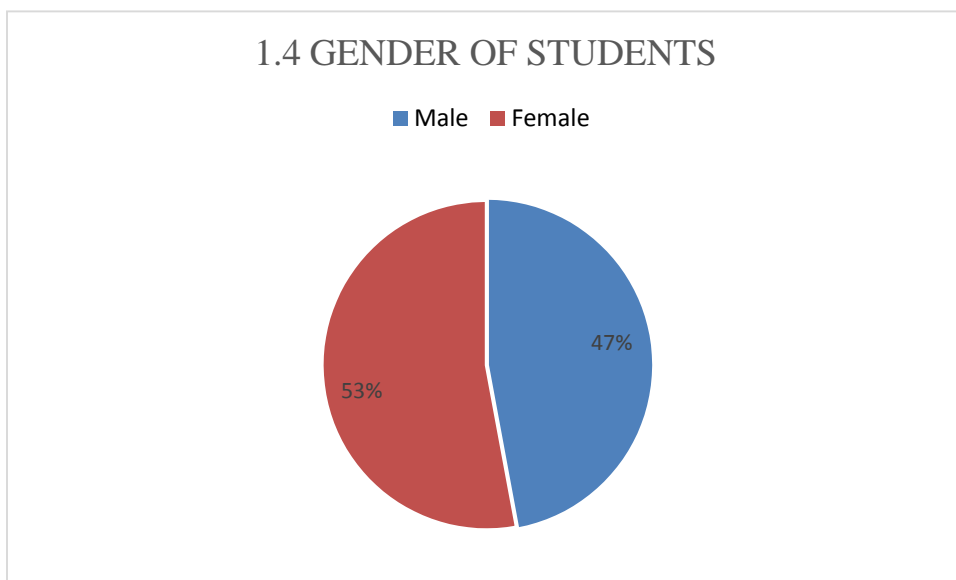

Fig: 1.4 Depicts the Gender of the participants in the study

Table 1: Demographic details of the participants who consented to the study

Demographic Details	Range	Frequency (N=240)	Percentage
Gender	Male	113	47%
	Female	127	53%

20784

Age in years	17 - 19	64	27%
	20 - 22	156	65%
	23 - 25	20	8%
Course	Pharm.D	102	43%
	B.Pharm	138	58%

The Section B consisted of the Perceived Stress Scale (PSS) comprising of 10 questions whichwas used to analyze the amount of stress which is classified into

i. Low stress

ii. Moderate Stress

iii. High perceived stress

The data collected from PSS is represented by the following bar graphs.
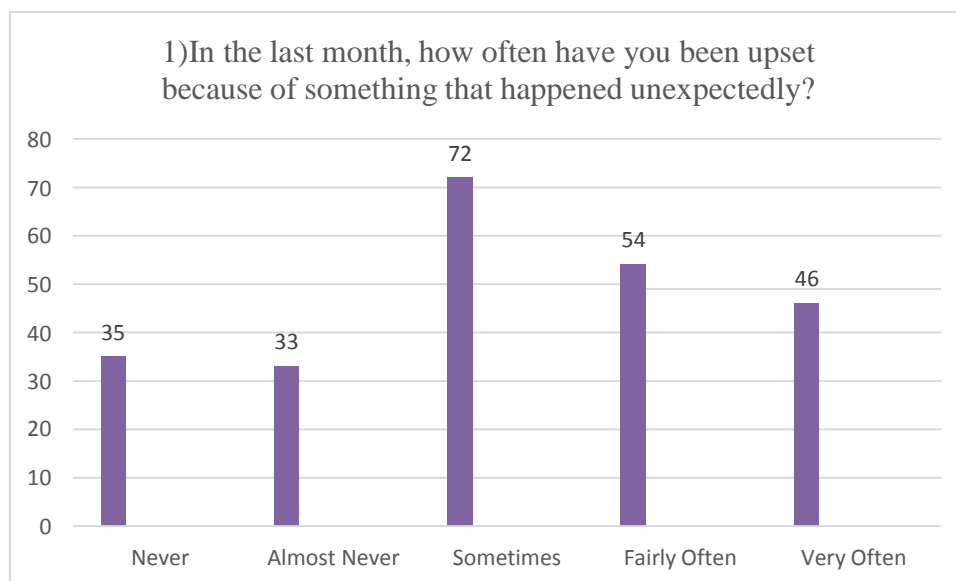
Fig: 2.1 Responses to Question 1, Sec B

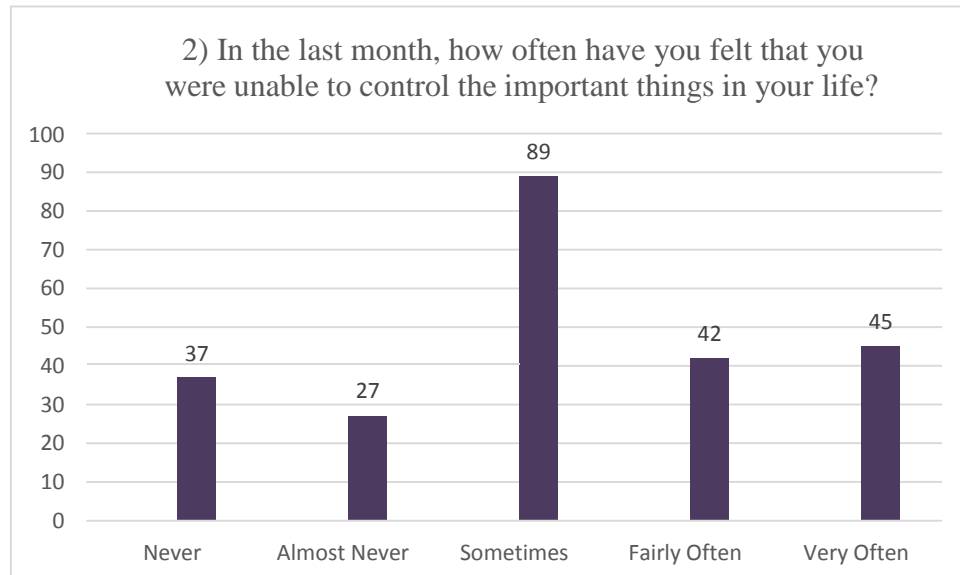1)In the last month, how often have you been upset because of something that happened unexpectedly?

20785

Eur. Chem. Bull. 2023,12(Special Issue 4), 20778-20800

Fig: 2.2 Responses to Question 2, Sec B

2) In the last month, how often have you felt that you were unable to control the important things in your life?

Fig: 2.3 Responses to Question 3, Sec B

3) In the last month, how often have you felt nervous and stressed?

20786

Fig: 2.4 Responses to Question 4, Sec B

4) In the last month, how often have you felt confident about your ability to handle your personal problems?

Response	Count
Never	31
Almost Never	30
Sometimes	73
Fairly Often	60
Very Often	46

Fig: 2.5 Responses to Question 5, Sec B

5) In the last month, how often have you felt that things were going your way?

Response	Count
Never	48
Almost Never	40
Sometimes	80
Fairly Often	40
Very Often	32

20787

Eur. Chem. Bull. 2023,12(Special Issue 4), 20778-20800

Fig: 2.6 Responses to Question 6, Sec B

6) In the last month, how often have you found that you could not cope with all the things that you had to do?

Fig: 2.7 Responses to Question 7, Sec B

7) In the last month, how often have you been able to control irritations in your life?

20788

Eur. Chem. Bull. 2023,12(Special Issue 4), 20778-20800
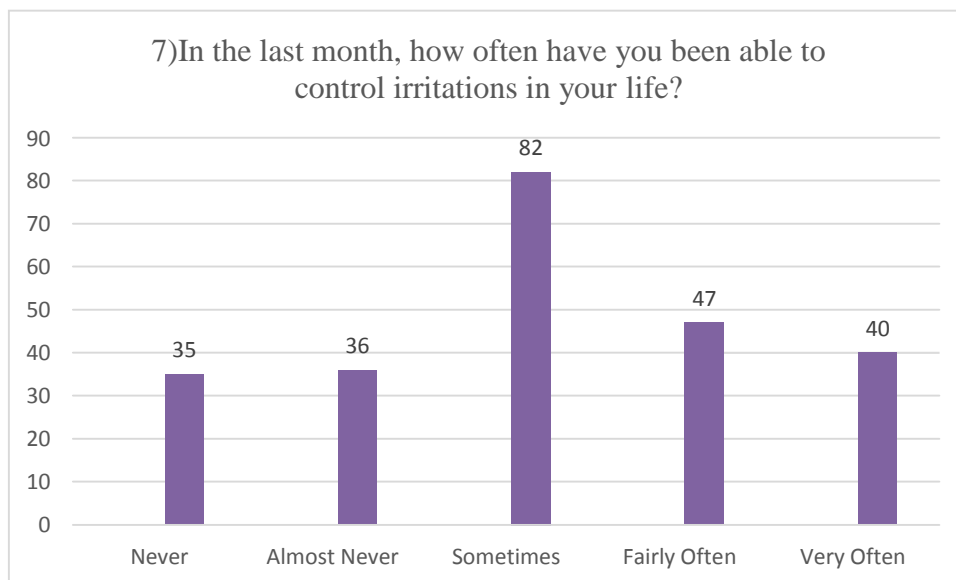
Fig: 2.8 Responses to Question 8, Sec B

8)In the last month, how often have you felt that you were on top of things?

Never	Almost Never	Sometimes	Fairly Often	Very Often
33	38	92	40	37
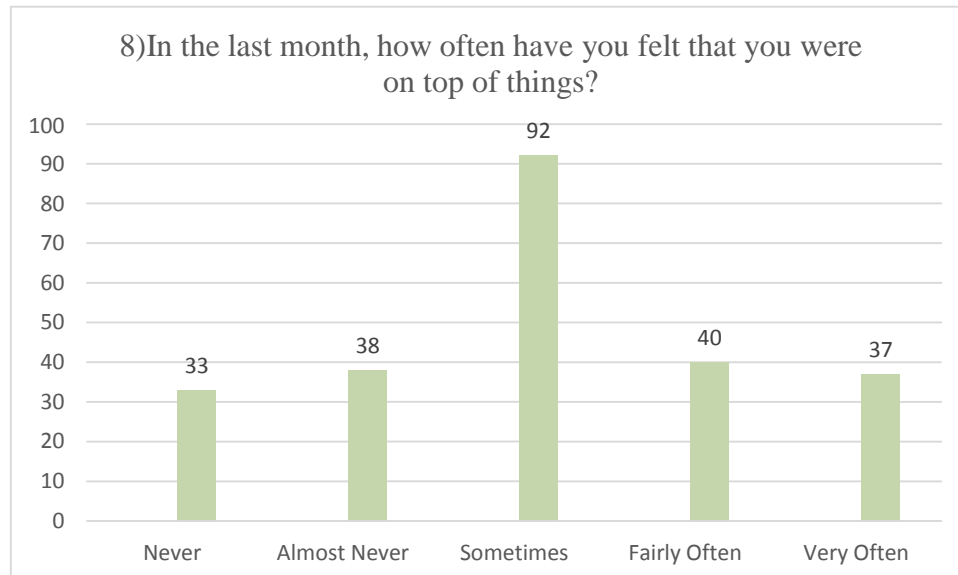
Fig: 2.9 Responses to Question 9, Sec B

9)In the last month, how often have you been angered because of things that happened that were outside of your control?

Never	Almost Never	Sometimes	Fairly Often	Very Often
35	35	83	50	37

20789

Eur. Chem. Bull. 2023,12(Special Issue 4), 20778-20800
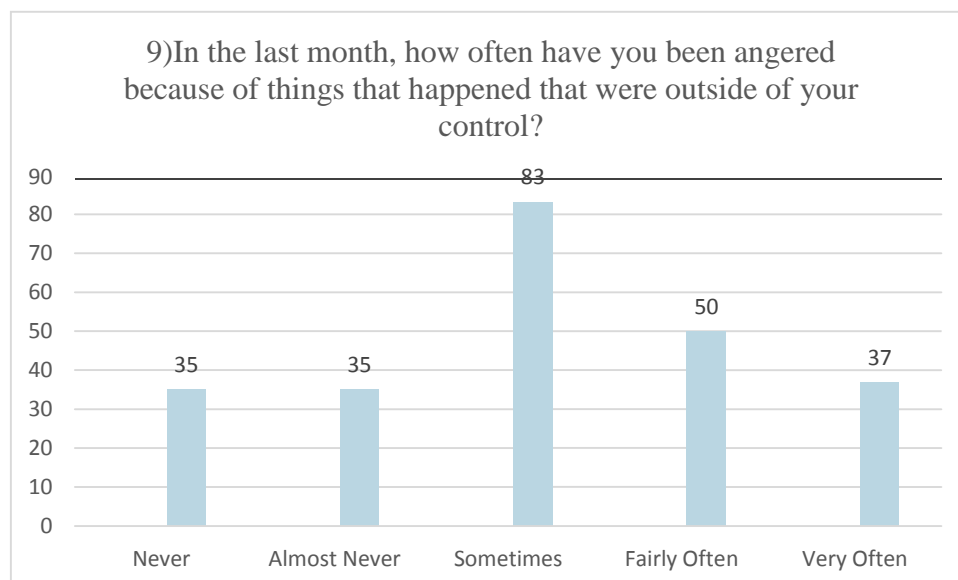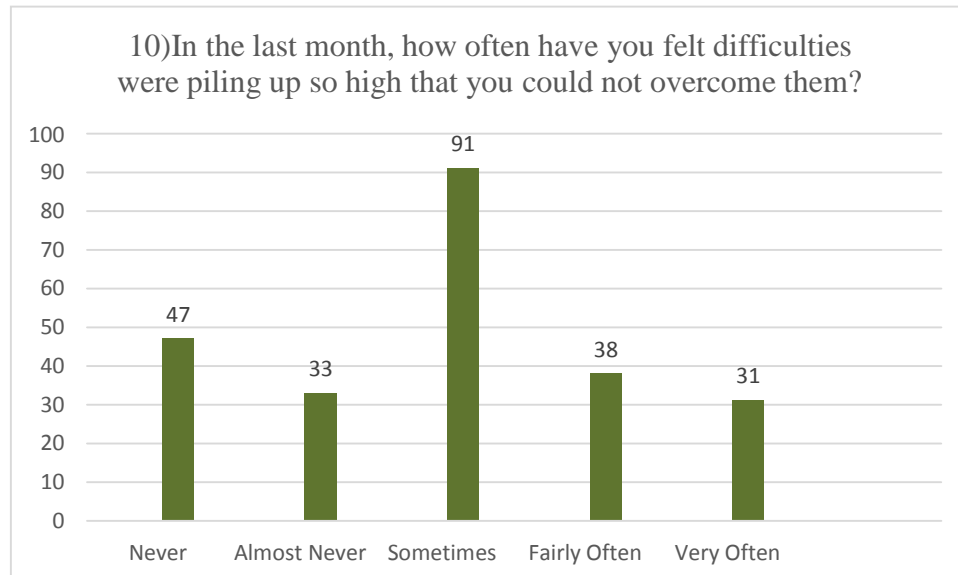
Fig: 2.10 Responses to Question 10, Sec B

The collected data was analyzed and the score was calculated according to the PSS.

► Scores ranging from 0-13 would be considered low stress.

► Scores ranging from 14-26 would be considered moderate stress.
► Scores ranging from 27-40 would be considered high perceived stress.

It was found that out of the 240 responders

- 34 responders had their scores ranging from 0 – 13 indicating that they have low stress
- 125 responders had their scores ranging from 14 – 26 indicating that they havemoderate stress
- 81 responders had their scores ranging from 27 – 40 indicating that they have highperceived stress.

Table 2: PSS calculation of 240 responders

Sl.No	Score range	Stress Category	Number ofresponders		Percentage	
			B.Pharm	Pharm.D	B.Pharm	Pharm.D
1	0 -13	Low stress	20	14	16%	14%
2	14 - 26	Moderate stress	64	61	45%	59%
3	27 - 40	High stress	54	27	39%	27%
		Total Responders (N)	138	102		

The chi square statistic is 4.8397.The p value is 0.088934.The result is not significant as p <0.05

20790

Eur. Chem. Bull. 2023,12(Special Issue 4), 20778-20800

The Section C focused on general stressors such as psychological, academicals, financialsituation, relationships, health and such. The result is depicted below as pie chart & bar graphs.
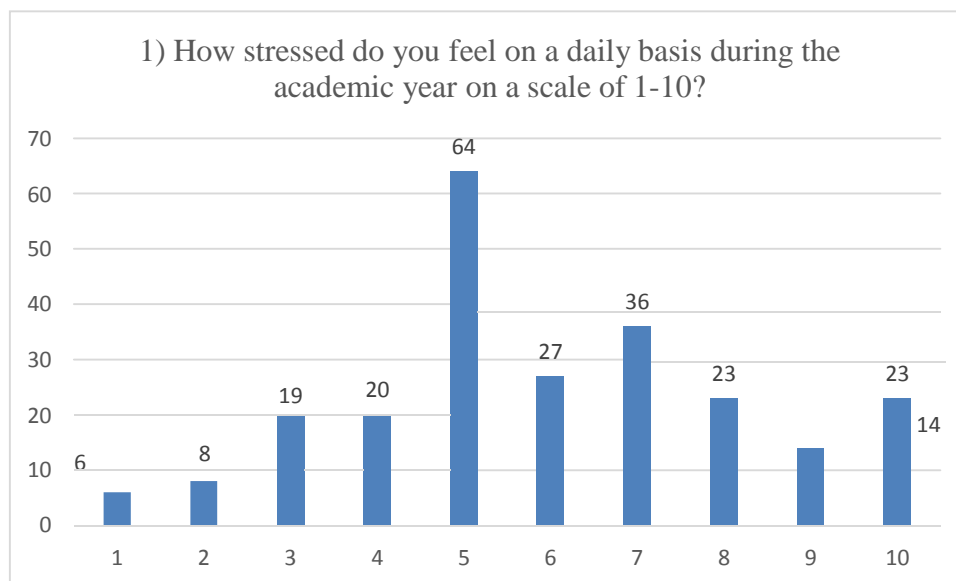
Fig: 3.1 Responses to Question 1, Sec C

1) How stressed do you feel on a daily basis during the academic year on a scale of 1-10?

Fig: 3.2 Responses to Question 2, Sec C

2)In a month how many days do you feel stressed?

20791

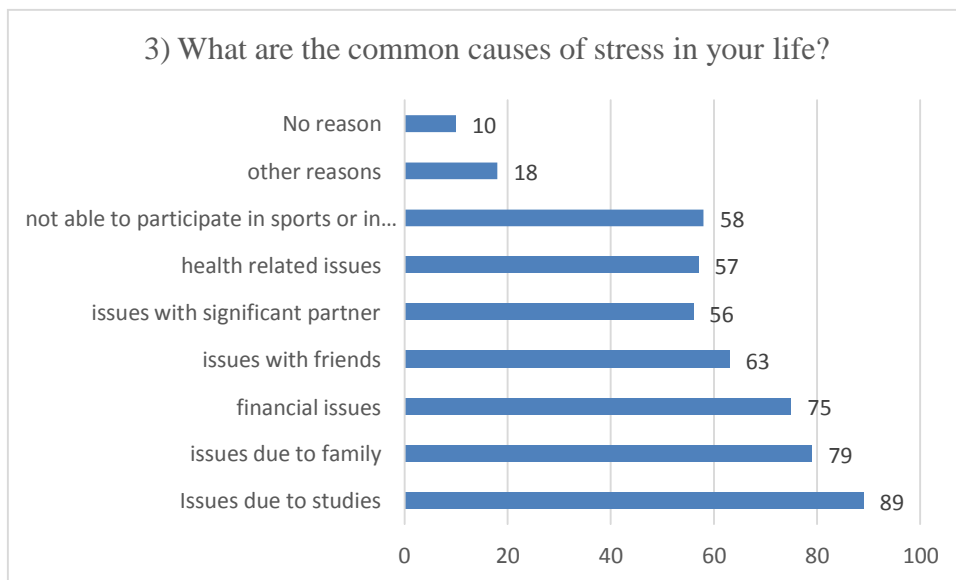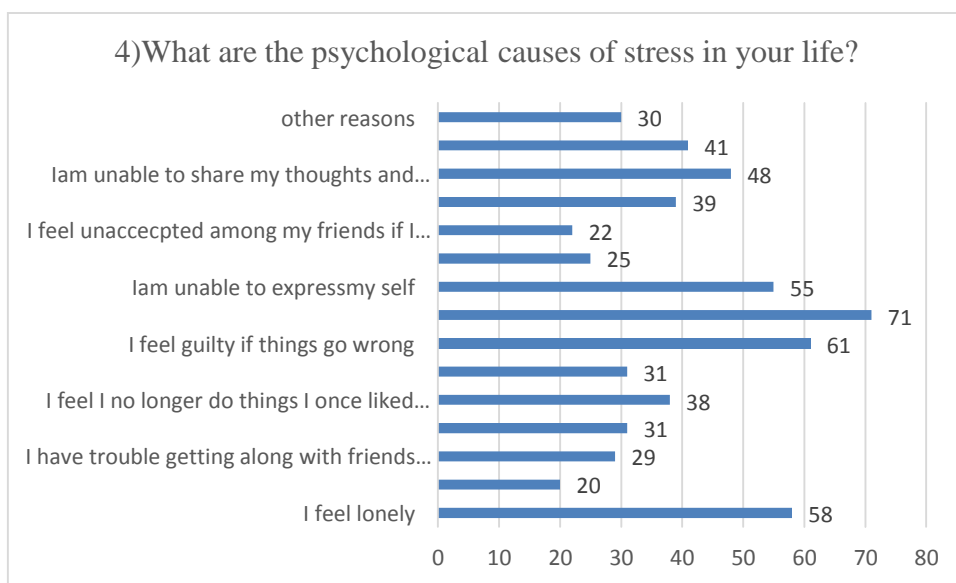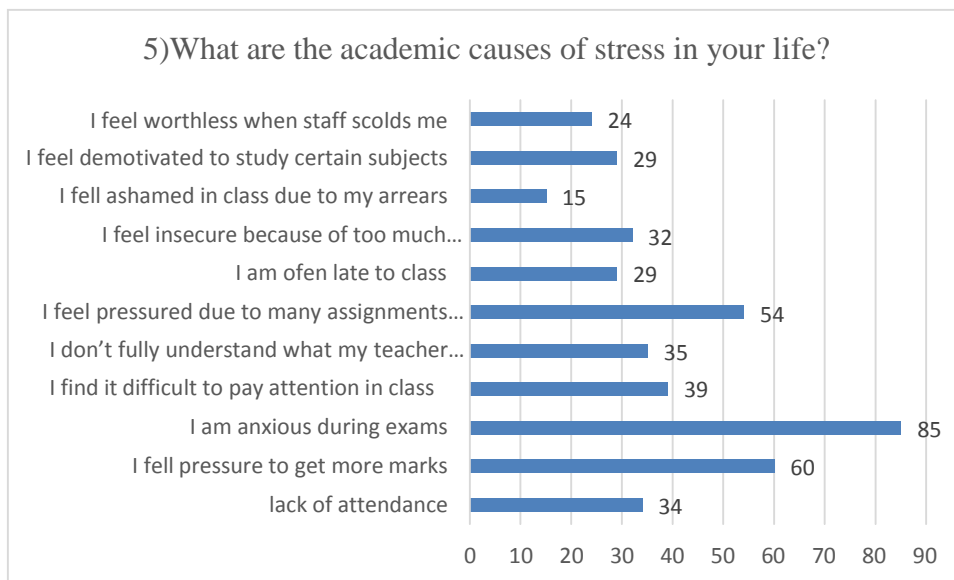Eur. Chem. Bull. 2023,12(Special Issue 4), 20778-20800

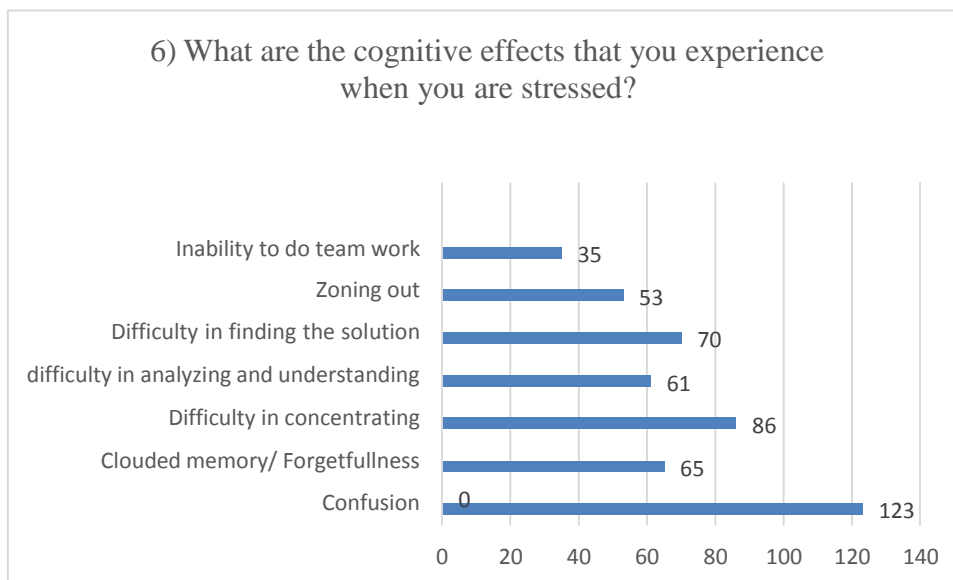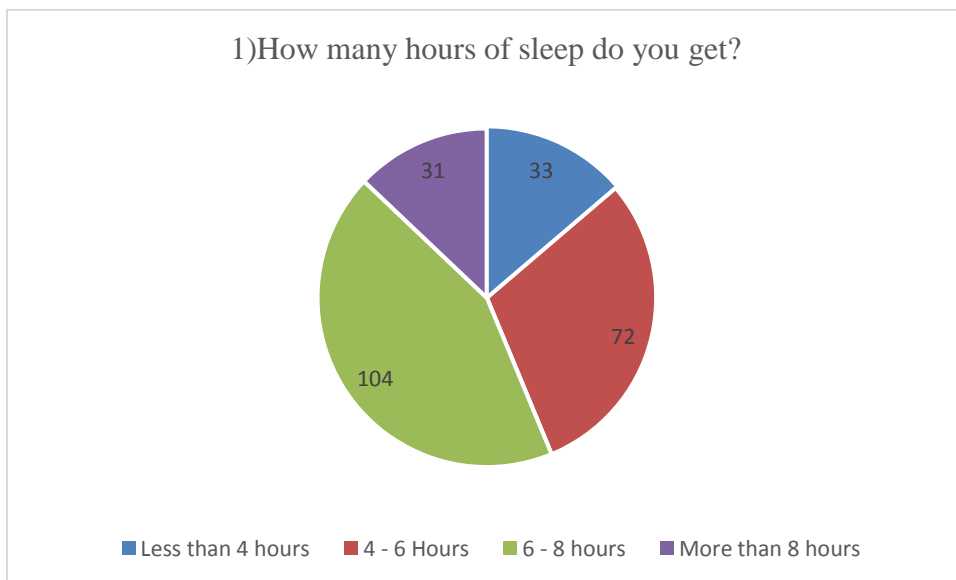Fig: 3.3 Responses to Question 3, Sec C

Fig: 3.4 Responses to Question 4, Sec C

20792

Fig: 3.5 Responses to Question 5, Sec C

5)What are the academic causes of stress in your life?

Fig: 3.6 Responses to Question 6, Sec C

6) What are the cognitive effects that you experience when you are stressed?

20793

Eur. Chem. Bull. 2023,12(Special Issue 4), 20778-20800

Fig: 4.1 Responses to Question 1, Sec D

1)How many hours of sleep do you get?

- Less than 4 hours
- 4 - 6 Hours
- 6 - 8 hours
- More than 8 hours

Fig: 4.2 Responses to Question 2, Sec D

2)How many hours do you spend in using mobile / laptop /computer?

- Less than 1 hour
- 1 - 3 hours
- 3 - 5 hours
- More than 5 hours

20794

Eur. Chem. Bull. 2023,12(Special Issue 4), 20778-20800

Fig: 4.3 Responses to Question 3, Sec D

3)How much time do you spend on physical activities?

32
75
50
83

Less than 30 minutes | 30 minutes to 1 hour | 1 - 2 hours | More than 2 hours

Fig: 4.4 Responses to Question 4, Sec D

4)How much time do you spend on academic activities?

47
51
68
74

■ Less than 30 minutes ■ 30 minutes to 1 hour ■ 1 - 2 hours ■ More than 2 hours

20795

Eur. Chem. Bull. 2023,12(Special Issue 4), 20778-20800

Fig: 4.5 Responses to Question 5, Sec D

5)How much time do you spend with friends and family?

Less than 30 minutes ■ 30 minutes to 1 hour ■ 1 - 2 hours ■ More than 2 hours
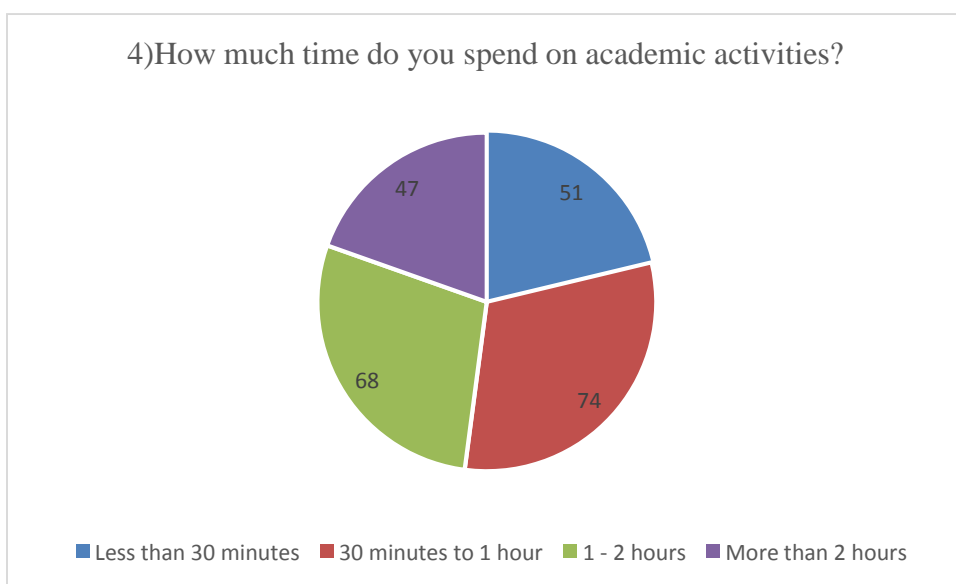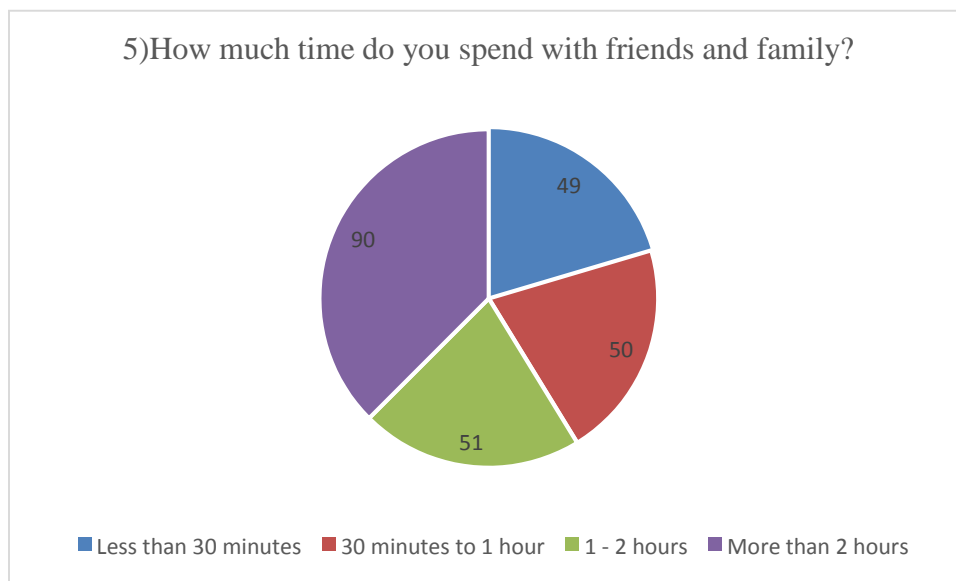
Section E consists of a general health question section asking the participant if they areexperiencing any health issues.The results are as follows
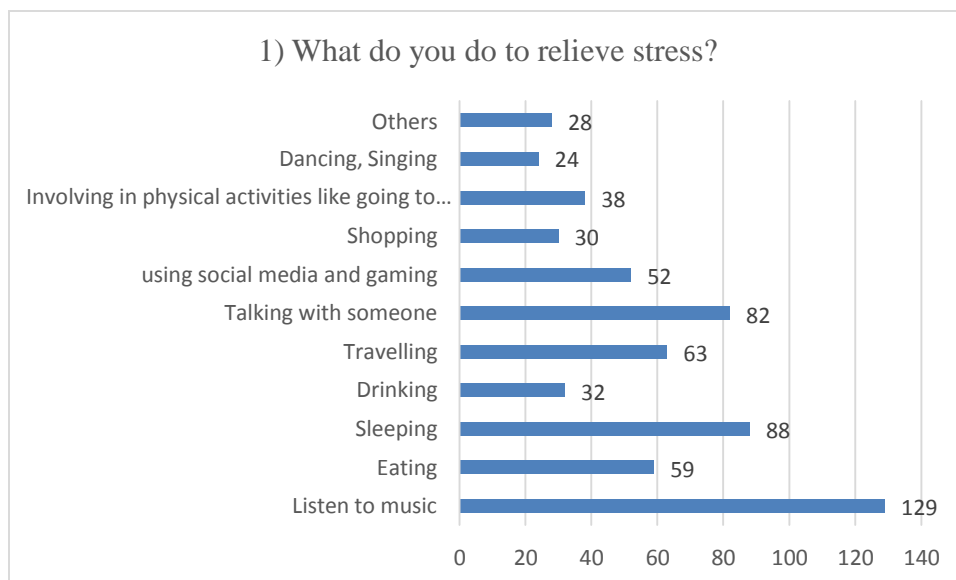
Fig: 5.1 Responses to Question 1, Sec E

1) What do you do to relieve stress?

Eur. Chem. Bull. 2023,12(Special Issue 4), 20778-20800

Fig: 5.2 Responses to Question 2, Sec E

2) What do you do when you feel depressed or stressed?

- I distract myself with other activities — 73
- I start stress eating — 36
- I take measures to solve the problem — 45
- I blame myself and others — 52
- I bottle up my feelings until it explodes — 45
- I seek help from friends and family — 37
- I isolate myself from others — 75
- I do nothing about it and wait for the… — 59

Fig: 5.3 Responses to Question 3, Sec E

3) From a scale of 1 - 10 how would you rate your stress coping skills?

Scale	Count
1	26
2	8
3	30
4	48
5	55
6	18
7	18
8	10
9	8
10	19

20797

Eur. Chem. Bull. 2023,12(Special Issue 4), 20778-20800

Fig: 6.1 Responses to Question 3, Sec E

1) Do you experience any of the following?
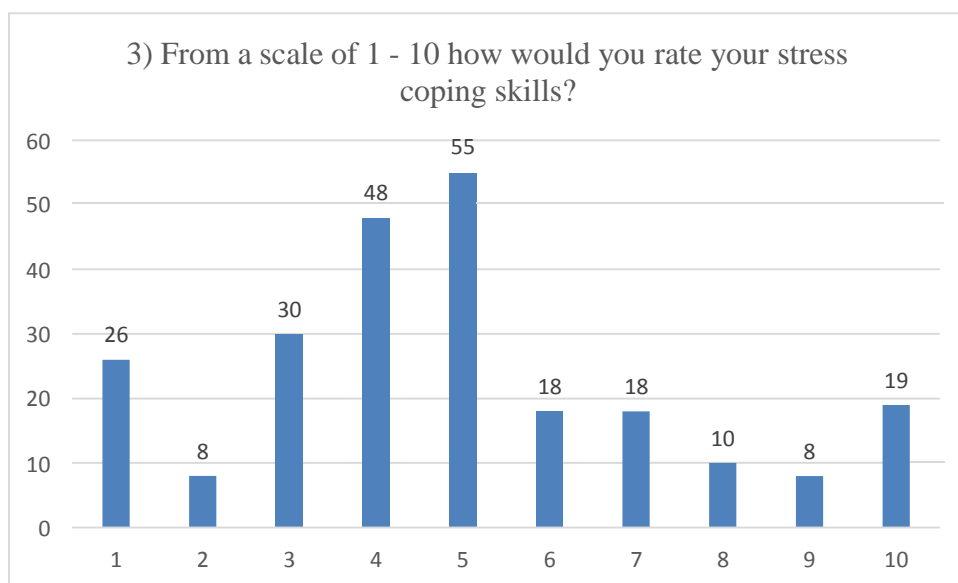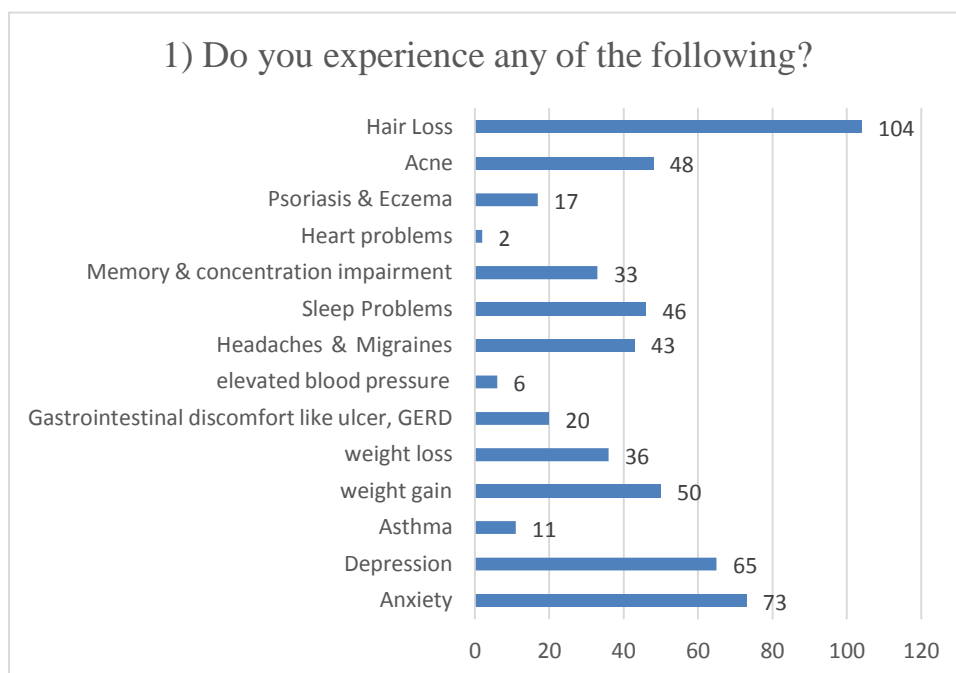
Discussion

Several research articles revealed that students of medical and paramedical sciences have substantial amount of stress which leads to Pharmacy students may experience a significant amount of stress due to the demands of their coursework and the responsibilities of their future profession. These findings are potentially reassuring, i.e., these future pharmacists opted for social support and non-pharmacological measures such as exercise over pharmacological interventions to alleviate stress. Medicines and other substances used to alleviate stress will not necessarily resolve the underlying problem and can have side-effects including drowsiness and dependence. The questionnaire is validated by subject expert who is familiar with the topic and incorporated few questions and helped in designing the questionnaire.

It was found that out of the 240 responders

- 34 responders had their scores ranging from 0 – 13 indicating that they have low stress which amounts to about 14.5% of the responders.
- 125 responders had their scores ranging from 14 – 26 indicating that they have moderate stress which amounts to about 52% of the responders.
- 81 responders had their scores ranging from 27 – 40 indicating that they have high perceived stress which amounts to about 33.5% of the total responders.

The high stress level percentage is alarming as it is more than half of the moderate stress level findings.

20798

Conclusion

From the study it was found that both B.pharm & Pharm.D Students experience almostsame levels of stress, Academic stressors being the major factor that contributes to the stress levels among the students.

The most common general stressor was the choice of career, closely followed by employment opportunities and the student's financial situation. Choosing a career (and gainingemployment) is undoubtedly a stressful process.

References:

1) Mr. Rais Ahmad, Dr.Priyanka Chaudhary , Dr. Rajwant Kaur Randhawa "A study to assess the level of stress among college students in a selected Govt. College of Nursing,Srinagar, J&K, India" © 2021 IJCRT | Volume 9, Issue 5 May 2021 | ISSN: 2320-2882

2) SankappaGulaganji, Manjunath Patil., "A Study to Assess the Stress Level among the Nursing Students Studying in the Panna Dhai Maa Subharti Nursing College at Meerut"Volume 5 - 2020, Issue 1 - January

3) Lezley-Anne Hanna, Melissa Wilson, Maurice Hall, Alan Hanna., "A Questionnaire Studyto Investigate Stress among Future Pharmacists by Gender and Year Group" 2018 Jul 25;6(3):75. doi: 10.3390/pharmacy6030075.

4) María Guadalupe Acosta-Gómez,José María De la Roca-Chiapas,Alicia Zavala- Bervena,Antonio Eugenio Rivera Cisneros,Verónica Reyes Pérez,Charles Da Silva Rodrigues,Keneth Novack., "Stress in High School Students: A Descriptive Study" 01Mar 2018© 2018 María Guadalupe Acosta-Gómez, et al.

5) Adomah Opoku-Acheampong, Irene A. Kretchy,corresponding authorFranklin Acheampong,Barima A. Afrane,Sharon Ashong, Bernice Tamakloe, and Alexander K. Nyarko"Perceived stress and quality of life of pharmacy students in University of Ghana"Published online 2017 Mar 2. doi: 10.1186/s13104-017-2439-6.

6) Bhat U, S., Anekal, A., Kodancha, P., John, S., Kumar, S., Aiman, A. Cherian, A. V. (2018). Psychological Distress among College Students of Coastal District of Karnataka:A community based crosssectional survey.Asian Journal of Psychiatry. doi:https://doi.org/10.1016/j.ajp. 2018.10.006

7) Azila-Gbettor, E. M., Atatsi, E. A., Danku, L. S., & Soglo, N. Y. (2015). Stress and Academic

A QUESTIONNAIRE STUDY TO ASSESS THE LEVELS OF STRESS IN PHARMACY STUDENTS AND TO IDENTIFY FACTORS THAT CONTRIBUTE TO STRESS-RELATED ILLNESSES

Section: Research Paper
ISSN 2063-5346

Achievement: Empirical Evidence of Business Students in a Ghanaian Polytechnic. International Journal of Research in Business Studies and Management, 2(4),78- 98.

8) Labrague L.J., McEnroe-Petitte D.M., Papathanasiou I.V., Edet O.B., Tsaras K., Christos K.F., Fradelos E.C., Rosales R.A., Cruz J.P., Leocadio M., et al. A cross-country comparative study on stress and quality of life in nursing students. *Perspect. Psychiatr. Care.* 2017 doi: 10.1111/ppc.12248.

9) Zhao F.F., Lei X.L., He W., Gu Y.H., Li D.W. The study of perceived stress, copingstrategy and self-efficacy of Chinese undergraduate nursing students in clinical practice. *Int. J. Nurs. Pract.* 2015;21:401–409. doi: 10.1111/ijn.12273.

10) Khoshhal K.I., Khairy G.A., Guraya S.Y., Guraya S.S. Exam anxiety in the undergraduatemedical students of Taibah University. *Med. Teach.* 2017;39:S22–S26. doi: 10.1080/0142159X.2016.1254749.

11) Saleh D., Camart N., Romo L. Predictors of stress in college students. *Front.Psychol.* 2017;8:19. doi: 10.3389/fpsyg.2017.00019.

12) Mirghni H.O., Elnour M.A.A. The perceived stress and approach to learning effects on academic performance among Sudanese medical students. *Electron. Phys.* 2017;9:4072–4076. doi: 10.19082/4072.

13) Garber M.C. Exercise as a stress coping mechanism in a pharmacy studentpopulation. *Am. J. Pharm. Educ.* 2017;81:50. doi: 10.5688/ajpe81350.

14) Longyhore D.S. Pharmacy student anxiety and success with objective structured clinicalexaminations. *Am. J. Pharm. Educ.* 2017;81:7. doi: 10.5688/ajpe8117.

15) Marcos Hirata, Felipe Santana, SMAD, Rev.9 (2), 88- 94, May-Aug 2013

16) Baljinder Kaur And Jaspreet Kaur Sodhi, International Journal Of Development ResearchVol. 4, Issue, 6, Pp. 1268-1271, June, 2014

17) Bataineh, Z. M. (2013). Academic Stress Among Undergraduate Students:The Case of Education Faculty at King Saud University.International Interdisciplinary Journal of Education,2(1), 82-88.

18) Waghachavare, V. B., Dhumale, G. B., Kadam, Y. R., & Gore, A. D. (2013). A Study of Stressamong Students of Professional Colleges from an Urban area in India. Sultan Qaboos University medical journal, 13(3), 429-436

19) Ts J, Rani A, Menon PG, Cr J, M R, Jose V, Ks R, Kishore A, K T, B SN. Psychological distress among college students in Kerala, India-Prevalence and correlates. Asian J Psychiatr. 2017Aug;28:28-31. doi: 10.1016/j.ajp.2017.03.026. Epub 2017 Mar 18. PMID: 28784389.

20800

Eur. Chem. Bull. 2023,12(Special Issue 4), 20778-20800