# PSYCHOLOGICAL DISTRESS DUE TO ACADEMIC STRESS AMONG FIRST YEAR MEDICAL STUDENTS OF GOVERNMENT MEDICAL COLLEGE AND HOSPITAL OF PATIALA

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## ABSTRACT

**Objective:** Numerous studies have shown that mental distress is a common problem among medical students. The impact of medical student psychological distress on academic performance has not been systematically examined. This study provided an opportunity to explore problems faced by struggling undergraduate 1st-year medical students and the influence of demographics and academic distress on these rates of distress.to assess the level of mental distress and associated factors among medical students.

**Methods:** The study was conducted on medical students at Government Medical College and Hospital, Patiala. Data were collected from 154 consenting 1st-year medical students using a three-part structured, self-administered questionnaire (Part I: Background Data, Part II: The 20- item Self Reporting Questionnaire [SRQ-20] English version, and Part III: Academic Stress Score [ASS-40]).

**Results:** Analysis shows that 35.06% of the sample is experiencing high levels of psychological distress. Results further suggests that psychological distress is related to perceived health and academic stress. There were no significant differences in gender and other demographic variables.

**Conclusions:** The study shows that the prevalence of mental distress among medical students at medical college is higher than that reported by students of other streams. Continued supportive interventions for medical students and proper counseling and mentorship programs are highly recommended.

**Keywords:** Psychological distress, Academic stress, First year, Medical students.

## INTRODUCTION

Medical schools are responsible for ensuring that graduates are knowledgeable, skillful, and professional to meet society's expectations [1]. Adaptation into the university environment creates significant stress and uncertainty for students, including those enrolling immediately after high school, as well as mature-aged and international students [2,3]. Smooth transitioning into university is particularly important for health profession students, because they are required to have or rapidly learn diverse and adaptable problem-solving skills and advanced reflective thinking processes which are necessary to address complex patient-care problems. In addition, health profession students must possess good coping strategies, study skills, motivation, and resilience, particularly in the face of uncertainty within a dynamic and rapidly evolving learning environment [4,5]. Consequences of inadequate transition in the areas of academic, emotional, social, and institutional adjustment include elevated levels of stress and anxiety, poor academic performance, and inability to integrate socially as well as dissatisfaction with the learning environment and these may result in a decision to drop-out of university [6,7]. Numerous studies of past have shown high prevalence of self-reported psychological distress among medical students as compared with the general population [8,9]. This stress and uncertainty stems from a combination of having unrealistic expectations of the university experience and being faced with different challenges in relation to approaches to teaching, learning, assessment, financial, and social adjustment issues [12,13]. Although optimal level of stress is good for students during academic assessments, psychological distress may affect academic performance [14,15]. The term psychological distress describes condition of a person who experiences emotional suffering such as

feelings of stress, anxiety, depressed mood, and burn-out. Various factors such as personality, life events, responsibilities, medical school workload, curriculum, and/or exposure to patient death may lead to psychological distress [14]. Moreover, the climate of medical education can be stressed, with impact on academic performance and health [15]. The students while going through undergraduate training may struggle with personal or academic problems and are termed as struggling students [16].

The past studies assessed the sources and prevalence of stress and burnout in all medical students through pre-validated questionnaires such as copenhagen burnout inventory, depression anxiety stress scales, and Kessler 10 psychological distress (K10). Our study explores the problems faced by the struggling students identified by self-reported questionnaire. The purpose of the study is to collect data regarding problems faced by students related to academics and their impact on student's psychological health.

### Aims and objective of research
The objectives of the study are as follows:
1. To estimate the prevalence of psychological distress.
2. Influence of gender, urban/rural background, place of residence (home/hostel), perceived health, and financial status on psychological distress.
3. To estimate the prevalence of academic stress.
4. Any relationship between psychological and academic stress.

## METHODS

The study was conducted at the Government Medical College and Hospital, Patiala. Data collection was done from May to September 2022.

The participants of this study were 154 1st year students. The average age of the students was 19.5 years (SD=1.23). Most of the students were female (58.44%). The participants were informed about the study and instructed as dictated by the questionnaires.

Demographic characteristics were measured with a brief demographic questionnaire. Participants were asked to fill in items covering age, gender, rural, or urban background, whether staying at home or in hostel, health status, and family financial status.

Psychological distress was measured using the English version of the Self-Reported Questionnaire containing 20 items (SRQ-20) developed by Harding *et al.* [17] In this study, a score of 7 or lower means that a mental disorder is not probable whereas a score of 8 or higher means a probable case. Although it must be stressed, this questionnaire only covers mental distress related to anxiety and depression symptoms and not mental health disorders.

Academic stress was measured by the academic stress scale (ASS). The ASS consists of 40 items and was originally created by Kim (1970). Each item has five alternatives varying from the response – No Stress, Slight Stress, Moderate Stress, High Stress, and Extreme Stress. Each response carries a score of "1," "2," "3," "4," and "5," respectively. The items were classified into five domains containing eight questions each:
a. Personal Inadequacy
b. Fear of Failure
c. Interpersonal difficulties with teachers
d. Teacher pupil relationship/Teaching methods
e. Inadequate study facilities.

## OBSERVATIONS AND RESULTS

### Sociodemographic characteristics

### Reliability and general data
The SRQ-20 was used to measure psychological distress. For the assessment of academic stress, the ASS was used. The scores on the ASS were divided into the categories: Personal Inadequacy, Fear of Failure, Interpersonal difficulties with teachers, Teacher pupil relationship/ Teaching methods, and Inadequate study facilities. The questionnaires and their subcategories were tested for reliability using Cronbach's Alpha (developed by Lee Cronbach in 1951 to measure reliability or internal consistency). The SRQ-20 showed an acceptable internal consistency of 0.771 and the ASS showed an acceptable internal consistency of 0.691.

### Prevalence of psychological distress
The average score on SRQ-20 was 7.72 (SD=4.91). Psychological distress has a prevalence of 52.6% when using the proposed cutoff point of 8. When using a higher cutoff point of 10, there is a prevalence of 35.06%. Meaning that 35.06% till 52.6% of the participants are in such ranges of psychological distress that a mental health disorder is probable.

### Influence of gender, background (urban/rural), place of residence (home/hostel) on psychological distress

An independent t-test was conducted to compare psychological distress between the above variables. There was no significant difference (p=0.006) in psychological distress between males (M=6.41, SD=4.47) and females (M=8.63, SD=5.02). These results suggest that experienced levels of psychological distress are not different between gender.

There was no significant difference (p=0.812) in psychological distress between students having rural (M=7.88, SD=4.67) and urban (M=7.66, SD=5.01) backgrounds. These results suggests that experienced levels of psychological distress is not different when comparing people from rural and urban backgrounds.

There was no significant difference (p=0.716) in psychological distress between students residing at home (M=7.41, SD=5.34) or hostel

(M=7.79, SD=4.83). These results suggest that experienced levels of psychological distress are not different in students residing at home or in hostel.

### Influence of perceived health and perceived wealth on psychological distress
A one-way ANOVA was conducted to look at the effect of the above variables on psychological distress.

There is a significant influence (F=12.68, p=0.000) from perceived health on psychological distress. These results suggest that perceived health in students is related to levels of psychological distress they experience.

There was no significant influence (F=0.133, p=0.876) from perceived wealth on psychological distress. These results suggest that students with difference in family financial status experience the same amounts of psychological distress.

### Prevalence of academic stress
When looking at experienced academic distress, we see a total average score of 102.40 (SD=30.27). Scores per subcategories are: Personal Inadequacy 20.38 (SD=7.08), Fear of Failure 23.57 (SD=7.39), Interpersonal difficulties with teachers 18.68 (SD=6.52), Teacher pupil relationship/Teaching methods 19.49 (SD=6.73), and Inadequate study facilities 20.28 (SD=6.35) (Table 2). Students experience slightly more stress from Fear of failure and Personal Inadequacy when compared with the other subcategories (Table 2).

### Relationship between psychological and academic stress
An scatter plot is conducted to see if there is linear relationship between psychological distress and academic stress.

Since a linear relationship is visible a Pearson's correlation was conducted to further assess the relationship between psychological distress and academic stress. There was a positive correlation between psychological distress and academic stress, (r=0.5280 and (p<0.0005).

## DISCUSSION

This study suggests that a large percentage of 1st-year students are experiencing psychological distress. It shows that 35.06% of the participants in this study are experiencing such high levels that it makes them at risk.

**Table 1: Distribution of sociodemographic characteristics**

| Demographic Information | Patients (N=154) | Percentage |
|---|---|---|
| Age group (years) | | |
| 16–20 | 134 | 87.01 |
| 21–25 | 19 | 12.34 |
| 26–30 | 1 | 0.65 |
| Mean±SD | 19.51±1.23 | |
| Median | 19.00 | |
| Range | 18–29 | |
| Gender | | |
| Female | 90 | 58.44 |
| Male | 64 | 41.56 |
| Place of Residence | | |
| Hostel | 127 | 82.47 |
| Home | 27 | 17.53 |
| Background | | |
| Urban | 113 | 73.38 |
| Rural | 41 | 26.62 |
| Heath Status | | |
| Good | 98 | 63.64 |
| Fair | 52 | 33.77 |
| Poor | 4 | 2.60 |
| Family Financial Status | | |
| Normal | 115 | 74.68 |
| Sufficient Wealth | 32 | 20.78 |
| Poor | 7 | 4.55 |

**Table 2: Reliability and Mean SRQ-20 and ASS**

| | Mean (N=154) | SD | Cronbach's Alpha | Items | Scale |
|---|---|---|---|---|---|
| SRQ-20 | 7.72 | 4.91 | 0.771 | 20 | 0–1 |
| ASS Total | 102.40 | 30.27 | 0.691 | 40 | 1–5 |
| Personal Inadequacy | 20.38 | 7.08 | | 8 | 1–5 |
| Fear of Failure | 23.57 | 7.39 | | 8 | 1–5 |
| Interpersonal difficulties with teachers | 18.68 | 6.52 | | 8 | 1–5 |
| Teacher pupil relationship/teaching methods | 19.49 | 6.73 | | 8 | 1–5 |
| Inadequate study facilities | 20.28 | 6.35 | | 8 | 1–5 |

ASS: Academic stress scale

**Table 3: Relationship between gender, place of residence, and background with psychological distress**

| Variable | N | Mean | SD | S.E.M | t-test | p value |
|---|---|---|---|---|---|---|
| Female | 90 | 7.86 | 4.34 | 0.46 | 1.88 | 0.061 (NS) |
| Male | 64 | 6.50 | 4.49 | 0.56 | | |
| Hostel | 127 | 7.79 | 4.83 | 0.43 | 0.36 | 0.716 (NS) |
| Home | 27 | 7.41 | 5.34 | 1.03 | | |
| Urban | 113 | 7.66 | 5.01 | 0.47 | 0.23 | 0.812 (NS) |
| Rural | 41 | 7.88 | 4.67 | 0.73 | | |

**Table 4: Relationship between perceived health, perceived wealth, and psychological distress**

| | Sum of Squares | df | Mean Square | F | p value |
|---|---|---|---|---|---|
| Heath Status | | | | | |
| Between Groups | 530.055 | 2 | 265.028 | 12.68 | 0.001 |
| Within Groups | 3154.93 | 151 | 20.894 | | (HS) |
| Total | 3684.99 | 153 | | | |
| Family Wealth Status | | | | | |
| Between Groups | 6.472 | 2 | 3.236 | 0.133 | 0.876 |
| Within Groups | 3678.52 | 151 | 24.361 | | (NS) |
| Total | 3684.99 | 153 | | | |

**Table 5: Correlation between psychological distress and academic stress score**

| Pearson correlation | ASS |
|---|---|
| Psychological distress | |
| r value | 0.528 |
| p value | 0.001(S) |

ASS: Academic stress scale



**Fig. 1: Academic Stress versus psychological distress plot**

For having a common mental health disorder. These levels of distress still are lower then found in the UK, Malaysia, and Australia (National Union of Students 2013 [18,19] but same when compared with students from Kerala and Australia [20,21]. Since the present study used a questionnaire that is measuring self-reported psychological distress, results do not say that the said percentage of the participants have a mental disorder because it completely relies on the subjective perception of symptoms. Although it clearly points to a high level of distress in this study sample. There are some factors in this study that are probably influencing these scores on psychological distress. First, as stated earlier, it is known that distress in students is at its peak during the 1st year of professional college with rates getting less in the years after [21]. This effect comes from the developmental transition of students from this age make into (young) adulthood combined with adjusting to a new (academic) environment, leaving their home and old support systems and the challenge of making a new peer network [22]. Second, students filled in the questionnaires close to the examinations and examinations are a known source of extra distress in most students [23]. Which probably has influenced the experienced psychological distress. When looking at the relationship between demographic variables and experienced psychological distress, the only significant differences in psychological distress were found in perceived health. Where psychological distress is higher in students who perceive their health as not good. Other demographic variables did not give any significant differences in experienced psychological distress, while studies done in other countries shows females suffered from higher levels of psychological distress as compared to males Harutyunyan *et al.* 2020 [24]. However, these findings are like the results of the study of [25] which also did not find significant differences in distress within gender in Karachi. This can point to cultural differences where
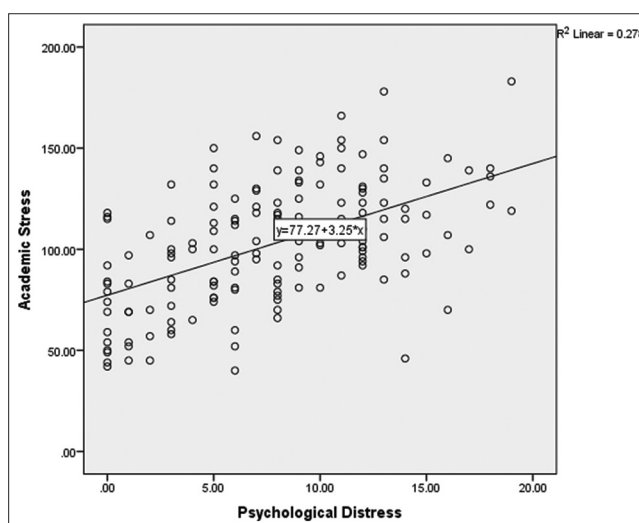
other variables may influence (psychological) distress. More research on students is necessary to further explore predictors of stress in medical students. Academic stress accounts for 27.8% of the variance in psychological distress, which can be seen as a positive correlation. Most academic stress came from fear of failing in the examinations and high workload (covered in the category fear of failure). This is consistent with other studies that identified these same sources of academic stress as most influential. This study has some limitations. Comparisons of levels of distress from this study with global rates should be approached carefully since most studies are using different measurements for psychological distress. Moreover, the definition of psychological distress is not defined well and differs from study to study. Participants of this study are all 1st-year students studying in Government Medical College and Hospital, Patiala (Punjab). This sample is not a representation of the full medical student's population, and these findings should be interpreted accordingly.

**SUMMARY AND CONCLUSION**

The studies done on psychological distress in medical students of Patiala shows that 1st-year students are experiencing the high levels of psychological distress due to academic stressors. Higher education facilities are increasingly paying attention to this phenomenon to apply preventive measures and to provide support for their student population by educating teachers and providing counseling.

Mental health programs as counseling are important for addressing psychological distress. Besides increasing mental and physical well-being, supporting students with high psychological distress has proven to reduce the number of dropouts, increase academic performance, and to create better behavior in classrooms.

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