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Influence of Academic Stress and Home Environment on Adolescent Mental Health

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Abstract

Background and Objectives: According to UNICEF, 20% of teenagers worldwide suffer from mental health issues. This study aims to evaluate the impact of the family environment and academic stresson the mental health of adolescents. **Methods:** A cross-sectional study was conducted among late adolescents aged 17-19 years studying in Pre-University Colleges (PUCs)of Udupi Taluk. Multi-stage sampling technique was adopted and a list of all the PUCs in Udupi Taluk was obtained and was stratified into Government, Aided, and Unaided PUC. A total of 385(n) students were taken and equally divided by the total number of colleges to be taken from each stratum, each selected PUC class was randomly selected as a group. From a class, all students were taken up for the study. **Results:** Academic stress was found to be statistically significant with the type of college management (p-value 0.001), depression, and anxiety (p-value 0.001). Anxiety was statistically significant with gender. Out of 50.4% of girls participants, 8.9% had extremely severe anxiety, and 11.2%had severe anxiety. Academic stress influenced mental health (p-value 0.001). **Conclusions:** The present study revealed that the prevalence of academic stress was 45.7%. The association between academic stress and anxiety, depression and stress are highly statistically significant with a p-valueof 0.001. There is an association between depression and anxiety reports with highly statistically significant results with a p-value of 0.001. Academic stress, gender, and the choice of combination of other subjects were statistically associated with mental health. Students from all the streams were found to have stress. **Major Findings:** This study evaluated the impact of family environment and academic stress on the mental health of adolescents in Udupi Taluk. A cross-sectional survey of 385 students aged 17-19 revealed that academic stress significantly affected mental health, with strong associations with anxiety, depression, and gender. The study found that 45.7% of students experienced academic stress, which was significantly linked to poor mental health outcomes.

Keywords: Adolescents, Academic Stress, Home Environment, Influence, Mental Health

1. Introduction

Adolescence is a transitional phase of human development[1]. In India, this age group forms (21.4%) of the aggregate population. U.S. Department of Health and Human Services has reported an increase in the incidence of depression and other mental health issues among late adolescents[1]. According to WHO, one in seven teenagers (ages 10-19) experiences a mental disorder globally, making up 13% of the overall health problems in this age group. Depression, anxiety, and behavioural disorders are the main causes of illness and disability among adolescents[2].

The impact of the family on the child is immense as a family is the first to influence the person, which gives the child his first experience of living. Studies have reported that conflicts in the family, unbalanced nourishment, isolated father and mother, etc. can bring about a lot of academic stress and block study involvement[3]. Academic burden has been recognized as having an impact on the health and well-being of students all along eAsiaasia[4]. It is estimated that around 20% of the world's adolescents have a mental health or behavioural issue. In India

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especially, adolescents face immense pressure to excel in examinations[5].

The definition of academic stress is the anxiety and stress that comes from schooling and education. Academic stress is the feeling of anxiety or apprehension over one's performance in academic activities. It can lead to students being unable to perform to the best of their abilities in examinations[6]. Academic stress is a significant issue for adolescents in India and can be a contributing factor to mental health problems. Stressors that arise from academic activities, such as coursework, exams, and research projects, but also expectations from parents and teachers, and relationships with peers[7].

The majority of influence on teenage mental health is learned, or environmental. The list of environmental risk factors for mental illness for teenagers such as disrupted home life, parental strife or divorce, parent mental illness, abuse, and social problems at school[8].

Close parent/adolescent relationships, good parenting skills, shared family activities and positive parent role modelling all have positive effects on adolescent health and development[9,10].

The need for this study arises from the growing concern over the mental health of adolescents, particularly in India, where academic stress and home environment play significant roles. Understanding these influences is crucial to developing effective strategies to reduce stress and promote better mental health outcomes for adolescents.

Few studies have focused on the current issue in India and Karnataka, particularly in assessing the mental health of adolescents, considering the impact of home environment and academic stress, which are major contributors to mental health disorders. Given the severity, consequences, and effects on adolescents' physical and mental well-being, this study aims to evaluate the influence of home environment and academic stress on adolescent mental health in Udupi taluk. The findings of this study could lead to recommendations for policymakers to improve the assessment of how these factors affect adolescent mental health. The objectives of this study include examining the prevalence of academic stress, depression, and anxiety among adolescents, as well as exploring the influence of academic stress and home environment on their mental health.

2. Materials and Methods

A cross-sectional study was carried out from January to July 2016 on pre-university college students in Udupi taluk, Karnataka. The sample size was calculated with the prevalence of academic stress of 50%[11] with an allowable error (0.05) Confidence Limit (CL) =95% the sample size was calculated as 385. Total Pre University Colleges (PUCs) in Udupi Taluk were 48: Government (19), Aided (12), and Unaided (16). Multi-stage sampling technique was adopted for the study a list of all the Pre University Colleges (PUCs) in Udupi Taluk was obtained from the concerned authorities which they were stratified into Government, Aided, UnaidedPre University colleges and were randomly selected from each of the three strata's, government (4) aided (4) unaided (4). From each selected PUC, classes were randomly selected as a group. From a class, all students were taken up for the study Late adolescent boys and girls aged 17-19 years studying in pre-university colleges of Udupi Taluk were included, and adolescents who did not consent to be part of the study were excluded. Approval of the DDPI (Deputy Director of the university) of theUdupi district was taken, and then the purpose of the study and procedures were explained to the college principal. The study was then conducted as per the time and given by the principal. A class was randomly chosen and all the students in that class were administered the pre-designed pre-test questionnaire after obtaining informed consent from them. Confidentiality was maintained.

2.1 Tools Used

The following tools were used in the study.

A pretested, self-administered and semi-structured questionnaire was used which was developed under the supervision of experts and with the help of published literature. The questionnaire was peer-validated before administering to the study participants. It was divided into four parts:

2.2.1 Part I

It included socio-demographic factors like gender, type of college, type of family, etc.

2.2.2 Part II

It comprised of home environment questionnaire[12] which was developed after reviewing the literature. It consisted

of questions related to the parent-child relationship, disciplining practices and facilities provided by parents, and parents' involvement in children's academics[6].

2.2.3 Part III

The Academic Stress Scale was created by Kim in 1970, and it is currently being used by a number of studies, including Gill[13], Alam & Halder[14], Hill[15], Pandey & Shukla[16], and Porwal & Kumar[17]. The scale, also known as the Students'Academic Stress Scale, was modified and referred back to by Rajendran and Kaliappan[18] in order to account for Indian conditions.

2.2.4 Part IV

The last part of the questionnaire consisted of the Depression, Anxiety, and Stress Scale (DASS 42)[19]. DASS is a screening tool designed to measure the negative emotional states of depression, anxiety, and stress. This DASS scale consisted of 14 items divided into subscales of 2-5 items. Students were asked to rate the extent to which they had experienced depression, anxiety, and stress over the past weeks. Scores for depression, anxiety, and stress were calculated by summing the scores for the relevant items.

Table 1. Distribution of study participants according to socio-demographic profile

Variables		Categories	Frequency (n)	Percentage (%)
Gender Female		Male	191	49.6
		194	50.4	
Type of college Private Aided		Government	128	33.2
		128	33.2	
		129	33.5	
Combination Commerce Arts		Science	128	33.2
		128	33.2	
		129	33.5	
Type of family Joint family		Nuclear	255	66.2
		130	33.7	
Occupation	Father	Skilled	205	53.24
		Unskilled	180	46.7
	Mother	Homemaker	290	75.3
		Unskilled	95	24.6
Education	Father	Primary	59	15.34
		Secondary	135	35.06
		PUC	99	25.71
		Graduate	92	23.89
	Mother	Primary	79	20.51
		Secondary	138	35.84
		PUC	110	28.57
		Graduate	58	15.06
Family income (INR) per Month		<10000	29	7.5
10001-20000		147	38.2	
20001-30000		40	10.4	
30001-40000		26	6.8	
40001-50000		37	9.6	
>50000		95	24.7	
Don't know		11	2.8	

Table 2. Home environmental factors

Home environmental factors	Always	Sometimes	Not at all
Parents compare negatively	42 (10.9)	226 (58.4)	117 (30.2)
Too much restriction by parents	17(4.4)	58(15.1)	310(80.1)
Parents listening to participants' problem	57(14.7)	229(59.2)	99(25.6)
Parents visit for an academic progress check	80(20.7)	200(50.7)	105(27.5)
Parents periodic check on progress	26(6.7)	120(31)	238(61.5)
Parents expect to join the best institution for future studies	19(4.9)	104(26.9)	262(67.7)
Participant involvement in decision-making	68(17.6)	215(55.6)	102(26.4)
Parents are allowed to watch television	89(23)	195(50.4)	101(26.1)
Parents taking interest in participant hobbies	60(15.5)	154(39.8)	171(44.2)

Table 3. Prevalence of academic stress among the study participants

Academic stress prevalence		
Academic stress	**Frequency(N)**	**Percentages (%)**
Absent	209	54.3
Present	176	45.7
Total	385	100.0

Table 4. Regression analysis of academic stress on mental health

Model	R	R square	Adjusted R square	Unstandardized coefficients	Standardized coefficients	Beta	T	Sig.
				B	Std. Error			
Model 1	.513	.263	.261	13.773	2.272		6.062	<0.001
DASS SCORE				.833	.072	.513	11.627	<0.001

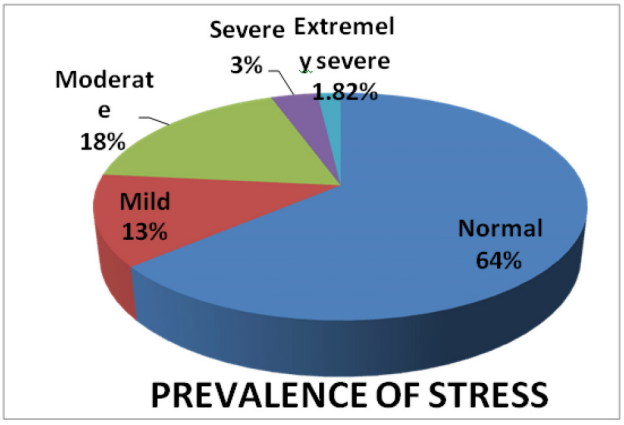


Figure 1. Prevalence of stress among the total study participants.

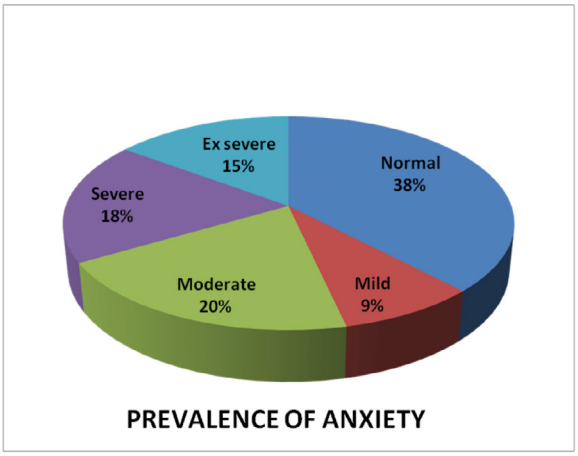


Figure 2. Prevalence of anxiety among the study participants.

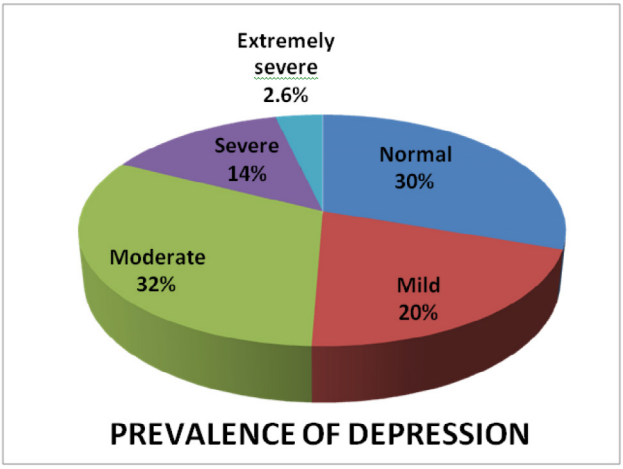


Figure 3. Prevalence of depression among the participants.

3. Statistical Analysis

To analyze the data, SPSS version 15was used. Thecategorical variables were summarized using frequency and percentage, whereas the continuous variable was represented using mean and standard deviation. Multiple regression was used to investigate how the family environment and academic stress affect the adolescent mental health. For this study, the p-value<0.05 was considered statistically significant.

4. Ethics

Ethical clearancewas obtained from the Institutional Ethics Committee (IEC) from Kasturba Medical College, Manipal University (KMC/KH837/2015).

5. Results

5.1 Study Participants are Distributed according to Socio-Demographic Profile (n=385)

A total of 385 participants were taken from 12 colleges among which 33.2%of students were from government colleges, 33.2% were from private colleges and 33.5% students were from an aided type of college. 33.2%, 33.2%, and 33.5%of students were from the Science, Commerce, and Arts streams, respectively. The majority of students were from nuclear families (66.2%). About 67.02% of students joined their coursesout of self-interest whereas 32.98% of participants mentioned that they had joined the course to fulfil their parent's dreams. Around 53.24% of the participant's fathers were in a skilled occupation and 75.03% of the participants' mothers were homemakers (Table 1).

5.2 Home Environmental Factors

A total of 385 participants were administered the home environment questionnaire to know the influence of the home environment on participants' mental health with the help of factors like parent-children relationships, the role of parents in children's academics and facilities provided by parents to their children. About 80.1% of participants mentioned that they did not have too much of restrictions from their parents, about 67.7% of students mentioned that their parents did not expect them to join the best institution for future studies, about 61.5% of students mentioned that their parents did checkon their progressperiodically, about 59.2% opined thattheir parents listened to their problems sometimes, about 58.4% opined that sometimestheir parents compare them negatively, and about 55.6% opined that sometimes their parents involved them in decision making (Table 2).

5.3 Prevalence of Academic Stress among the Study Participants (n=385)

Table 3 shows that out of the 385students who participated in the study (45.7%) had academic stress, whereas (54.3%) of students were not stressed. So, the prevalence of academic stress among the total students who participated in the study was 45.7% (Table 3).

The Figure 1 illustrates the prevalence of stress among a group of individuals. A majority of the participants, 64%, fall under the "Normal" category, indicating no significant stress levels. Among the rest, 18% experience moderate stress, 13% have mild stress, while 3% are classified as having severe stress. A small percentage, 1.82%, suffer from extremely severe stress. This suggests that while most individuals do not face significant stress, a noticeable proportion still experience varying levels of stress, from mild to extreme, which could have implications for mental health interventions and support systems.

The Figure 2 shows the prevalence of anxiety among individuals. A little over one-third of the participants, 38%, fall under the "Normal" category, indicating no significant anxiety levels. However, a significant portion of individuals experience varying degrees of anxiety: 20% have moderate anxiety, 18% suffer from severe

anxiety, and 15% are classified as having extremely severe anxiety. Additionally, 9% report mild anxiety. This indicates that while a substantial portion of individuals are anxiety-free, more than half are dealing with some level of anxiety, with a significant number experiencing severe or extreme anxiety, which may require attention for mental health support.

The Figure 3 illustrates the prevalence of depression among individuals. A notable portion, 30%, fall under the "Normal" category, indicating no signs of depression. However, the majority of the participants are experiencing some level of depression: 32% are classified as having moderate depression, 20% have mild depression, 14% suffer from severe depression, and 2.6% are experiencing extremely severe depression. This suggests that while about a third of individuals show no depression, a significant number are affected by varying levels of depression, with moderate cases being the most prevalent. These results highlight the need for mental health interventions to address the wide range of depression severity.

5.4 The Impact of Academic Stress, Gender and Combination on Mental Health

The amount of variation in the mental health score that each predictor accounts for is ascertained using the stepwise regression technique. The variables included in the equations were limited to those that have a statistically significant impact on the variations of the dependent variable. The entered variables are academic stress, gender, and the choice of a combination of subjects. The variablesdo not significantly contribute to the variations in mental health, those equations are removed.

The table 4 shows that academic stress has a moderate positive impact on mental health, with a correlation value (R) of 0.513, meaning as academic stress increases, mental health issues also rise. About 26% of the variation in mental health can be explained by academic stress, as indicated by the R^2 value of 0.263. The unstandardized coefficient (B = 13.773) suggests that for each unit increase in stress, mental health worsens by 13.773 units. The relationship is statistically significant ($p < 0.001$), confirming that the impact of academic stress on mental health is not due to chance.

6. Discussion

This study revealed that academic stress was higher in private college students compared to government and aided college students. Rao *et al.*,[20] also reported that academic stress was higher in private colleges.

This study revealed that the association of anxiety with gender was statistically significant.

Waghachavare *et al.*,[21] reported similar findings that the association of academic stress with gender was statistically significant. Academic stress was significantly associated with depression and anxiety.

This study also revealed that there was no significant association between academic stress about family income, type of family, or education status of their parents and occupation of parents but there was a significant association between gender and type of college management. Similar findings have been reported in the study conducted by Menage and Chandrasekaran[22].

The present study revealed that the home environment was not significantly associated with the mental healthof the students. A study conducted by Sharma[23] showed that there was an insignificant difference in mental health among students with a good or poor home environment.

This study also showed that there was a statistically significant association between academic stress, depression, and anxiety among the participants. Students who had academic stress also had depression and anxiety. Similarly, Kumari and Jain[24] studied that there was a positive correlation between examination stress and anxiety of college students.

This study also revealed that academic stress, depression, and anxiety were significantly associated. As academic stress among the students increased depression and anxiety also increased. These results are in line with the results of the study conducted by Eisenberg[25]. Similarly, Jayanthi[26] reported that academic stress was statistically correlated with depression among adolescents. Similar results have been reported by Supreeth Kaur *et al.*[27], Moreira and Furegato[28], Liu and Lu[29], Skipworth[30], Antonio *et al.*,[31] and Bhasin *et al.*,[32] that depression among the study participants increased as academic stress increased.

This study analyses the influence of academic stress on depression, anxiety and stress with a statistically significant association. Academic stress had a positive influence on the depression and anxiety of the study participants, as the academic stress of the students

would increase, their mental health problems would also increase. The home environment did not influence the mental health of the participants.

7. Conclusion

The present study highlights the significant impact of academic stress on the mental health of adolescents in Udupi Taluk. With a prevalence of academic stress at 45.7%, the findings underscore the strong association between academic stress and the incidence of anxiety, depression, and stress among students, with all associations demonstrating high statistical significance (p-value 0.001). Gender differences also played a notable role, with female students showing higher levels of severe and extremely severe anxiety. Additionally, the type of college management and the choice of academic subjects were found to be significantly associated with mental health outcomes. These results emphasize the need for targeted interventions addressing academic stress across different educational settings and demographics to mitigate its adverse effects on adolescent mental health.

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