Research Paper

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A Study of Socio Demographic Factors and their Association with Depression, Anxiety and Stress in Junior College Students in a Rural Area of India

Medical Science

KEYWORDS : Socio demographic factors, Depression, Anxiety, Stress, DASS-42, junior college.

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ABSTRACT

Introduction: Increasing stress on school children has become a matter of national concern in India. The success of currently applied remedial policies is doubtful. A change in methods of imparting education is strongly felt.

Aims: To study the socio demographic profile of junior college students in Loni, a rural area in state of Maharashtra, India. Assess the association of these factors with depression, anxiety and stress in the students.

Methods: This cross-sectional study was carried out in 360 students of P.V.P Arts, Science and Commerce Junior College in Loni. Stratified Random Sampling was used for selection of 120 students (equal number of girls and boys) each from arts, science and commerce streams. The questionnaire consisted of general information and Depression Anxiety Stress Scale-42 (DASS). Statistical analysis was done to calculate percentage, mean, standard deviation and Z values of DASS scores.

Results: Choice of stream, class, place of residence, change in language of education, income, education of parents, previous grades, peer pressure, burden of expectations, access to educational, recreational and public health resources have an important relationship with depression, anxiety and stress in students

Conclusions: Depression, anxiety and stress in junior college students results due to multiple factors and mere change in examination scheme will not resolve this issue. The interventions aimed at reducing stress in students need to take these factors into account while formulating national policies.

INTRODUCTION:

The burden of work and expectations on the students has increased significantly. The ill effects of this have begun to show in the form of increased depression, stress, anxiety and suicides among school children. The stress on school children has become a matter of national concern and a need to change the methods of imparting education is being strongly felt. There have been reports of several suicides by school children allegedly due to increasing stress of school work. College students are a group particularly prone to stress due to the transitional nature of college life. (Towbes LC, 1996).[1] The pressure to earn good marks (grades) is very high.(Hirsch JK et al.,1996)2

According to the World Health Organization Global Burden of Disease study ranked depression as the fourth leading cause of all disease, accounting for 4.1% of total burden (Murray C, et al.1996)[3]. By 2020 it will rise from the fourth to the second leading cause of DALYs. It will then be second only to ischemic heart disease for DALYS among both sexes.

Depression is a mood disorder characterized by feeling of hopelessness, unhappiness, loss of motivation & suicidal tendencies. Anxiety is a subjective state of internal discomfort. It is a normal emotion with adaptive value and symptoms include worrying, impaired attention, poor concentration, and memory problems. (Jones Parry, 2005)[4] Stress is a state of mental or emotional strain or tension resulting from adverse or demanding circumstances.[5]

Students in rural areas of India are trapped between two worlds, the breakneck competition of the outside world and local traditions. Researchers have noted the particular vulnerabilities of rural youth, who tended to be more isolated & have fewer educational, recreational and other public health resources. Relative to urban communities rural settings are characterized by greater isolation, fewer educational and public health resources and higher levels of poverty. Pupils staying in rural area generally suffer from social and cultural deprivation in comparison with urban students. (Brown T. A et al., 1997) [6]

We expected this study to prove useful in providing an insight into mental health issues of this vulnerable group and also help in determining further steps that need to be taken to solve the problems of these students. With this background in mind the research intends to explore the extent of effect of socio demographic factors in depression, stress, and anxiety among the 11th and 12th standard students in a rural area.

OBJECTIVES:

- To study the extent of depression, anxiety and stress among junior college students in the rural area of Loni.
- To study socio- demographic profile of the students.
- To study the association between various socio demographic factors and depression, anxiety and stress in students.

MATERIAL AND METHODS:

This cross-sectional study was carried out in 360 students of Padmashri Vittalrao Vikhe Patil Arts, Science & Commerce Junior College from village Loni a rural area of Maharashtra over a period of two months. Stratified random sampling was used for selection of 120 students each from arts, commerce & science streams and simple random sampling for selection of students from each faculty. The sample consisted of equal number of girls and boys.

Procedure prior to administering the questionnaire, ethical conditions for participating in the study was verbally explained to the respondents. These included privacy, voluntary participation, anonymity, confidentiality, and protection from both psychological and physical harm. Students participated in the study on the basis of this verbal informed consent. Written consent was taken from the Principal of college. In addition, the study met the ethical requirements of the Institutional Ethical Committee.

Data was collected on structured proforma from each study subject. The questionnaire was in both English & Marathi language.

Depression, Anxiety and Stress Scale (DASS)
(Lovibond & Lovibond, 1995)

It is a 42-item self report measure used to assess depression, anxiety and stress. Items on DASS are rated on 4-point Likert

type ranging from 0 (did not apply to me) to 3 (applied to me most of the time). Separate scores for depression, anxiety and stress were obtained by this scale. Internal consistency has been demonstrated in clinical samples(r=0.71). (Lovibond, P.F., &, Lovibond, S.H.,1995)[7]. Construct validity demonstrated with significant correlations between Anxiety Scale & Beck Anxiety Inventory (r=0.81)[8]; Depression scale & Beck Depression Inventory (r=0.74)8. The DASS has been found reliable & valid method for assessing client changes in depressive mood and anxiety. (Simons et al., 2002)[9]

Data Analysis Items in the DASS subscales were scored according to instructions in the technical manual. Higher the score on each subscale more distressed the individual. The comparison was made using Mean, Standard Deviation and Z values of DASS scores.

RESULTS:

Table 1) Extent of depression among students:

dass score	NUMBER OF STUDENTS (%)
PROFOUND (>28)	6(1.7)
SEVERE (>21)	36(10)
MODERATE (14-20)	150(41.7)
MILD (10-13)	81(22.5)
NORMAL (0-9)	87(24.1)

The table 1 shows the extent of depression among students. Of 360 students 6(1.7%) have profound depression, 36(10%) have severe depression, 150(41.7%) have moderate depression while 81(22.5%) suffer from mild depression.

Table 2) Distribution of DASS scores in various socio demographic factors:

	Depression		Anxiety		Stress		p value*
	Mean	S.D	Mean	S.D	Mean	S.D	
Stream Arts Commerce Science	 14.65 14.5 11.6	 6.9 4.4 7.26	 15.25 13.8 11.05	 9.6 7.25 8.96	 16.35 14.05 12.58	 9.5 8.2 8.29	p<0.001
Class 11th 12th	 13.6 13.56	 6.4 6.48	 12.53 14.2	 9.2 8.14	 12.72 15.9	 9.06 8.2	p<0.001
Gender Male Female	 13.3 13.8	 7.1 5.7	 14.3 12.4	 9.8 7.4	 14.6 14.08	 9.26 8.3	p>0.05
Medium Of Education English Marathi	 10.6 14.18	 7.39 5.87	 9.4 14.16	 8.86 8.32	 11.1 14.94	 7.2 8.83	p<0.001
Residence Home Hostel	 12.49 18.17	 6.4 6.08	 12.49 17.04	 9.7 8.29	 13.56 17.56	 7.3 9.0	p<0.001
Per Capita Income(Rs.) Upto 2000 More than 2000	 14.4 11.5	 5.5 7.6	 13.9 12	 8.1 9.8	 14.3 13.2	 8.3 8.7	p<0.001
Peer group Pressure Yes No	 15.7 11.78	 5.6 6.48	 16.85 10.5	 8.97 7.36	 17.92 11.37	 8.49 7.89	p<0.001
Burden of Expectations Yes No	 16 11.3	 5.15 6.7	 15.6 11.2	 7.9 8.8	 16.5 12.3	 8.4 8.6	p<0.001
Education of Parents Graduates Non Graduates	 15.23 11.45	 6.38 6.55	 15.98 9.25	 9.08 6.1	 16.9 13.2	 8.48 8.00	p<0.001

***p values calculated on basis of Z test.**

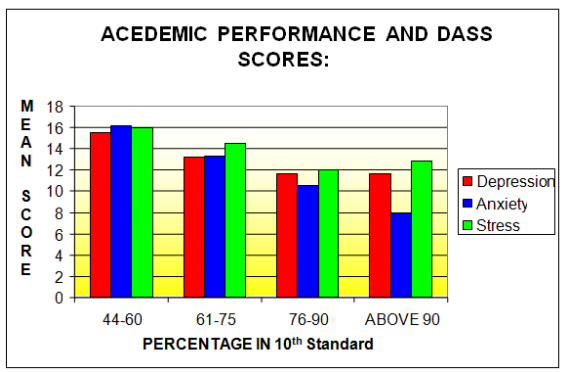
The table 2 shows distribution of DASS scores in various socio demographic factors. The Z values revealed that mean stress scores of 12th standard students are significantly higher ($p < 0.001$) than 11th standard students.

There was a highly significant association ($p < 0.001$) between DASS scores of students educated in Marathi medium till 10th as compared to those from English medium schools.

A highly significant association was found between DASS scores of students living in hostels as compared to those living at home.

The Z values showed a highly significant association ($p < 0.001$) between DASS scores of students feeling burden of parents expectations as compared to those not under burden of parents expectations.

Figure 2) Relation of past academic performance to mean DASS score:



The figure 2 shows relation of past academic performance to DAS score. There is a highly significant association ($p < 0.001$) between mean DASS scores of students having less than 60% marks in 10th standard as compared to those having more than 60%.

Forty Five (45%) of students felt that they were under peer pressure and showed significantly high levels of DASS scores as compared to 5.5% who did not feel peer pressure. 48.3% felt the burden of parents expectations and showed significantly higher levels of DASS scores as compared to 51.7% who did not feel burdened by parents expectations.

Discussion:

Gender-wise comparison Table 2 revealed no significant difference between male and female students. One study showed similar result. (Ghaderi,A.R. et al. 2009).[10] Further studies with a larger sample size are required to find out the cause for this.

A large number of students (81.7%) have studied in Marathi medium schools till 10th standard. As seen in Table 2, depression, anxiety & stress are all significantly higher in students who have studied in Marathi medium schools till 10th as compared to those who have studied in English medium. This implies that an abrupt change in language of imparting education puts additional burden on students and increases chances of falling prey to depression, anxiety and stress.

Studies have shown that causes of stress include adjusting to life in a new environment. (Pabiton CP, 2004). 11 It was seen that 27.8% students who lived in hostel showed highly significant levels of depression, anxiety & stress scores as compared to 72.2% students living at home. Loneliness or isolation is an established cause of depression & stress (Pabiton CP, 2007)12. Thus students who live away from home are more susceptible to develop depression, anxiety and stress. (Cho Y.B, 2009)13

Financial pressure is also a major stressor among students. The levels of stress were significantly higher in students from families with lower per capita income. Financial security is not only important in paying tuition fees, books, accommodation and essentials but also for fashion items, electronic equipments and applying for additional coaching classes. Other studies also confirm this finding. (Ghaderi A.R. et al. 2009)10

The education of parents also appears to be a factor related to stress among students. The students whose parents had com-

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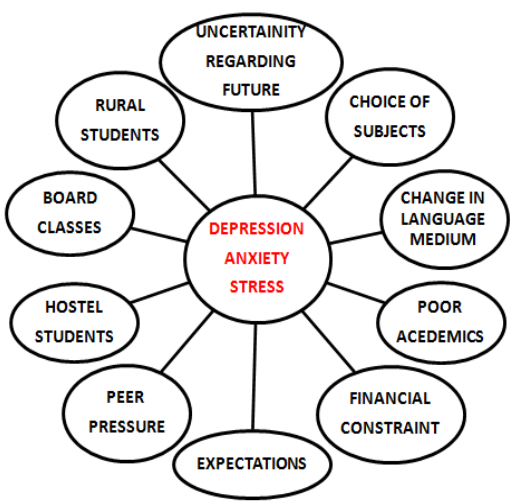
pleted graduation showed lesser scores of depression anxiety and stress as compared to students whose parents were uneducated or had only primary education. Well educated parents have better resources and can give better guidance to their children. The fig.2 shows that previous academic performance plays a key role in Depression, Anxiety and stress. Students who have lower grades were found to have higher DASS scores. (Bhasin SK 2010)14

CONCLUSION:

In conclusion we can say depression, anxiety and stress among junior college students in the rural area is matter of great national concern and needs to be dealt with policies that are based on detailed analysis of problems and address the issue of children's mental health. The levels of depression, anxiety and stress were significantly higher than those seen in other studies. This shows that levels of depression are more in rural students. There was no significant gender wise difference found in depression anxiety and stress among the students, but studies with larger sample sizes need to be carried to find the cause of the same.

Studying subjects which are not of students own choice, appearing for board exams, students staying away from parents, change in language of education, income, education of parents, previous grades, peer pressure, burden of parents expectations all lead to higher levels of depression, anxiety and stress in students.

Figure 3) Socio demographic factors related with depression anxiety and stress:



Suggestions:

India's education system is based on rote learning, or memorization, with a strong emphasis on scoring high marks. Major educational reforms are required in the Indian educational system. Studies should not be exam-oriented but application oriented. Hands on training that is accessible to all must be developed. Performance in a single exam should not be the deciding factor for entire future of students. Education should lead to overall personality development of students. It is essential to train teachers to recognize the symptoms of depression in students. Student councilors should be appointed in each school to deal with students problems.

Mental health care facilities should be integrated with primary health care services. There is a great shortage of mental health-care professionals in India especially in rural areas. The general practitioners should be trained to deal with these cases and man power development in psychiatry should be done simultaneously. Multi-factorial educational approaches for both the public and general practitioners & strategies for the detection and management of depression at a local and national level could alter practice (Bhugra, 1996).15

Students coming from lower socio-economic group should be provided with better social and economic support in form of better student loans, vocational training and language training from early age along with the subjects in school.

Further research is needed to determine the magnitude of psychiatric disorders at national level. The temporal relationship of depression, anxiety and stress should be established by a long term study. Since it was a school-based study, it might miss adolescents in the community who do not attend schools. Both qualitative and quantitative data must be analyzed (Bhui & Bhugra 2001)16 and meaningful interventions must be devised.

A national program for mental health in this age group is crucial. All these factors need to be taken into consideration while formulating policies to reduce stress among the students.

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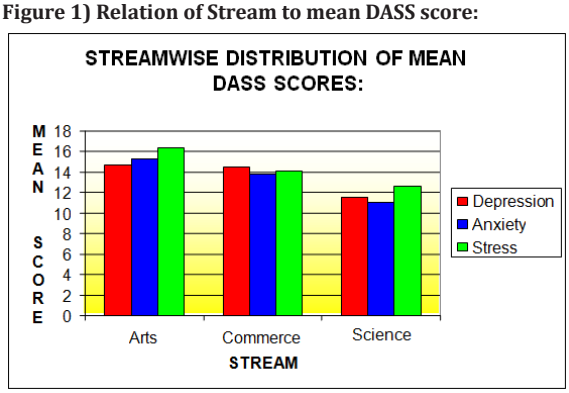
Figure 1) Relation of Stream to mean DASS score:



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