Research Article

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Magnitude of health problems among late adolescents: a cross sectional study

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ABSTRACT

Background: Adolescence is a very important phase of growth and maturity, but is often related with mental and behavioural problems. However, very few attempts are made to understand the magnitude of adolescent health problems; hence the current study was planned.

Methods: It is a cross-sectional study conducted among arts, commerce and science college students from Sangli, (Maharashtra) India; by using cluster random sampling. Due ethical considerations and written consent were undertaken. The study tool was self-administered questionnaire with inventories like SPIN, DASS-21 and PSST-A. Analysis was done using percentages and chi-square test. Microsoft Excel 2007 and SPSS-22 were used for analysis.

Results: Eight hundred one (67.5%) students had psychological problems with anxiety being the commonest. Menstrual problems were reported by 413 (58.4%) female students. Psychological problems were associated with menstrual problems.

Conclusions: Majority of students had some psychological problem. Menstrual problems were present in more than 50% female students. There is unmet need for proper guidance and help regarding health.

Keywords: Adolescence, Mental health, Adolescent behaviours, Menstruation disorders, Reproductive health

INTRODUCTION

The adolescence means "growing to maturity" in Latin. WHO defines this phase from 10 to 19 years of age. During adolescence, rapid development of the body interacts with social development resulting in many transitions in an individual; required to function as a productive adult. The adolescents are resource to the society with their zeal and energy; however they are vulnerable due to biological and environmental pressures. Puberty results into physical maturation with increased fitness as well as emotional, cognitive and behavioral changes. But these changes all bring the increased mortality & morbidity from injuries, suicide, mental disorders, substance abuse and eating disorders. Adolescence and young adulthood coincide with major

changes in health problems and determinants of health in later life.⁴

In developed countries like USA, substantial efforts are taken for development of adolescent health; however, Indian scenario is lagging due to limited availability of specialized training. The adolescent health is hampered due to deficient specialized medical care and absence of proper policies. These problems are further escaladed due to lack of health seeking behaviour in adolescents. The unmet needs for mental health services are almost 100% in many developing countries.⁵

Young people are commonly regarded as healthy and hence few attempts have been made to systematically measure their health.⁴ There is a serious shortage of

literature on adolescents; resulting in a barrier to understand their needs and to identifying appropriate programmes to improve their lives. Hence, the current study was undertaken to find out the magnitude of reproductive health, mental health and behavioral problems in late adolescents.

METHODS

It is a cross-sectional study, conducted from June 2012 to June 2013. Study population was the students from arts, commerce and science degree (graduation) colleges from Sangli District, Maharashtra, India. Cluster random sampling was used to collect the data. The calculated minimum sample size was 1000. The study proposal was approved by Institutional Ethical Committee and permission was acquired from the respective head of the selected institutes. Written consent was acquired from every participant.

The study tool was self-administered, pre-tested questionnaire based on published literature; developed with the help of specialists and experienced faculty. Social Phobia Inventory (SPIN)⁶, DASS-21(Depression, Anxiety and Stress Scale, a short version)⁷ and Premenstrual syndrome screening tool modified for adolescent (PSST-A)⁸ were used to identify various psychological problems. The study tool also had questions regarding substance abuse (viz. smoking, alcohol, ganja, tobacco chewing, glue sniffing etc.), symptoms of reproductive tract infections (i.e. genital blisters, swelling over groin, discolouration of urine, genital discharge, difficulty in micturition, itching over genital region, genital sores etc.)⁹, self-perceived body weight and body image anxiety.¹⁰ Appropriate pilot studies were conducted for finalizing study tool and study procedure. The data from the pilot studies was not used in the final analysis.

Analysis was done using percentages and chi-square test. Microsoft Excel-2007 and SPSS-22 were used for analysis.

RESULTS

Total 1186 participants had completed the questionnaire in the requisite manner and hence included in the final analysis. Considering the socio-demographic profile of the study participants nearly 60% were females. Majority of the study participants were 18 years old. Maximum study participants i.e, 57.34% belonged to commerce stream of education followed by science and arts respectively.

More than two third of the students were from urban area. Almost 90% of them stayed at their homes; while only 5% students stayed in hostels. Over 70% of the students belonged to nuclear family. More than one third of participants belonged to socioeconomic class-I, while only 10% belonged to class-V. (Table 1)

Among the students; 862 (72.7%) supported addition of reproductive health education, 1114 (93.9%) supported addition of mental health and de-addiction related education in their curriculum. Need for health cell in college was felt by 1146 (96.6%) students. Only 3.4% students were comfortable about discussing health problems with teachers, while 56.7% and 56.3% with mother and friends respectively.

Table 1: Distribution of socio-demographic variables of the study participants.

Socio-demograp	ohic Variables	N (1186)	Percent	
Aga	18 years	848	71.5	
Age	19 years	338	28.5	
Gender	Female	707	59.61%	
Gender	Male	479	40.39%	
Stream of	Arts	215	18.1	
education	Commerce	680	57.3	
Cutcation	Science	291	24.5	
Permanent	Rural	399	33.6	
Residence	Urban	787	66.4	
	Home	1054	88.9	
	Hostel	60	5.1	
Current Residence	Other (With relatives, shared flats etc.)	72	6.1	
	I	424	35.8	
Prasad's	II	295	24.9	
Socioeconomic classification	III	165	13.9	
	IV	182	15.3	
	V	120	10.1	
Eamily Type	Nuclear	841	70.9	
Family Type	Joint	345	29.1	

Eight hundred one (67.5%) students had at least one of the psychological problem, while 476 (40.1%) had multiple psychological problems. There was no association of gender, permanent residence (urban - rural) or socioeconomic status with presence of psychological problems. Stress, anxiety, depression and social phobia were present in 324 (27.3%), 459 (38.7%), 378 (31.9%) and 317 (27%) students respectively. Total 643 (54.2%) students had at least stress, anxiety or depression and 153 (12.9%) had all the three. One hundred ninety two (16.2%) students perceived that their body type was abnormal i.e. they are either overweight 77 (6.5%) or underweight 115 (9.7%). Body image anxiety was present in 159 (13.4%) students.

Any addiction was reported by 22 (1.9%) students. Thirty-one (2.61%) students were sexually active, among them 12 (38.7%) had unprotected sexual intercourse. Heterosexual attraction was reported by 291 (24.54%) students and homosexual by 38(3.2%) students. One hundred thirteen (9.53%) fantasized about sex and 112

(9.44%) watched porn. The routine life of 123 (10.4%) students was hampered sexual thoughts or exposure. Male predominance was observed in all the sexual thoughts and behaviour. Symptoms of reproductive tract infection were reported by 96 (8.1%) students.

Mean age of menarche was 14.5 years; there was no significant difference in age of menarche of girls from rural and urban area. Menstrual problems were reported by 413 (58.4%) female students. Dysmenorrhea 332 (47%), was the commonest. For the menstrual problems, 250 (35.4%) students had consulted the doctor (Figure 1).

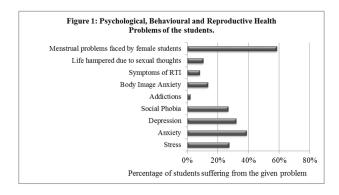


Figure 1: Psychological, behavioural and reproductive health problems of the students.

Higher age was associated with stress (Chi-square=10.7, p= 0.001) and anxiety (Chi-square=7.8, p=0.005).

Anxiety was associated with gender (Chi-square=4.5, p=0.035), with female preponderance. Education stream was associated with stress (Chi-square=10.4, p=0.005), anxiety (Chi-square=26.4, p=0.000), depression (Chi-square=18.7, p=0.000), social phobia (Chi-square=13.5, p=0.001) and body image anxiety (Chi-Square=9.263, p=0.01); these were highest in arts students, followed by commerce and science. Depression was common in students from rural area (Chi-square=4.6, p=0.03). Anxiety was associated current residence (Chi-square=8.19, p=0.017), students living in home were prone as compared to hostel dwellers.

Social phobia was present in 203 (29%) female and 114 (24%) male students. There was statistically significant association of social phobia with socio-economic status (Chi-square=13.832, df=4, p-value =0.008), with general trend of increase in social phobia from class-I to class-V.

Gender was associated with body type perception (Chisquare=14.2, p=0.008) and body image anxiety (Chisquare=5.7, p=0.017). Higher percentage of girls perceived themselves overweight and boys perceived themselves underweight. Body image anxiety was present in 11% girls as compared to 16% boys.

For the symptoms of reproductive tract infection (RTI), only 46 (47.9%) students had consulted the doctor. The association of symptoms of RTI and gender was statistically significant (Chi-Square value=10.9, p=0.001), with male preponderance.

Table 2: Association between psychological, behavioural and reproductive health problems with socio-demographic factors.

Davahalagiaal hahariaanal and	Important socio-demographic factors					
Psychological, behavioural and reproductive health problems	Age	Gender	Educational stream	SES	Permanent residence	Current residence
Stress			V			
Anxiety	V	√	V			V
Depression			$\sqrt{}$		V	
Social phobia				V		
Body image anxiety		$\sqrt{}$	$\sqrt{}$			
Symptoms of RTI	V	$\sqrt{}$				
Life hampered by sexual thoughts		$\sqrt{}$				
Menstrual problems			V	√	V	
SES = Socio-economic status						

The day-to-day activity or working capability of males was significantly more hampered due to sexual behaviour or thoughts (Chi-square= 80.8, p= 0.000) as compared to females.

Menstrual problems were associated with socioeconomic status (Chi-square = 9.9, p= 0.042); with trend of

decrease in menstrual problems from class - I to V. These problems were associated with Arts stream of education (Chi-square = 22.3, p = 0.000). They were significantly more in urban students (Chi-square = 6.4, p value = 0.01).

Symptoms of reproductive tract infection were more common among the girls suffering with menstrual problems; the association was statistically significant (chi square= 9.3, p= 0.002) (Table 2).

Social phobia was associated with stress (chi-square=9.9, p= 0.002), anxiety (chi-square=23.9, p=0.000) and depression (chi-square=11.4, p=0.001). Similarly, body type perception was associated with stress (chi-square=12.5, p=0.002), anxiety (chi-square=6.6, p= 0.04) and depression (chi-square=10.1, p=0.006). Stress, depression and anxiety were higher among perceived underweight, followed by perceived overweight and then perceived normal. Stress (chi-square=7.8, p=0.005),

depression (chi-square=7.9, p=0.005) and anxiety (chi-square=5.6, p=0.018), were higher among those having body image anxiety.

Presence of symptoms of reproductive tract infection was associated with stress (Chi-square=9.3, p=0.002), anxiety (Chi-square=6.7, p=0.01) and depression (Chi-square=5.6, p=0.02). Students disturbed due to their sexual behaviour or thoughts had significantly higher stress (Chi-square=12.3, p=0.000), anxiety (Chi-square=9.1, p=0.003) and depression (Chi-square=9.2, p=0.002).

Table 3: Association between psychological, behavioural and reproductive health problems.

Problems	Stress	Anxiety	Depression	Social phobia	BIA	RTI	ST	Menstrual problems
Stress				V	V	V	V	$\sqrt{}$
Anxiety				√			$\sqrt{}$	V
Depression					V	V	V	
Soc. Phobia	V	V	V		V	V	V	
BIA	$\sqrt{}$	V	V	√				
RTI	$\sqrt{}$	V	V	$\sqrt{}$				V
ST	V	V	V	√				
Menstrual Problems	V	V				V		

BIA = Body image anxiety, RTI = Symptoms of reproductive tract infection, ST = Life hampered due to sexual thoughts / behaviour.

The association of social phobia with body type perception (Chi-square= 16.6, p= 0.000) was statistically significant; 43% perceived underweight and 27% perceived overweight had social phobia as compared to only 25% perceived normal. Significant association was observed between body image anxiety and social phobia (Chi-Square = 8.9, p = 0.003).

Social Phobia was higher among students with symptoms of reproductive tract infection (Chi-Square=8.8135, p=0.0029). Higher percentage of students with day-to-day life hampered due to sexual behaviour or sexual thoughts had social phobia (Chi-Square=4.7, p=0.029).

Seventy (91%) perceived overweight and 89(77%) perceived underweight students had body image anxiety, the association was significant (Chi-square=5.9, p=0.015).

The association of menstrual problems with stress (chisquare = 21.5, p=0.000) and anxiety (chi-square=4.07, p= 0.01) was significant (Table 3).

DISCUSSION

Al-Gelban (2007) had observed that 59.4% Saudi Arabian adolescents had stress, anxiety or depression and 22.6% had co-morbidity of all the three. 11 We observed

that 54.2% students had stress, anxiety or depression and comorbidity in 12.9%; lower as compared to Al-Gelban's observations. Observed variation may be attributed to cultural, social and economic differences.

Bayram and Bilgel (2008) observed that depression was present in 27% of the Turkish University students. ¹² We observed depression in 31.9% adolescents, higher than the mentioned studies. Burden of depression is considered to be greater in lower income countries due to lack of awareness and help might be the reason. ¹³ This may explain the observed difference.

Mohanraj et al. in Chennai observed depression among 60.8% students. The variation observed in results in current study and other Indian studies can be attributed to personal & genetic vulnerability, geographical difference, socio-economic differences and to difference in inventories. Is

We observed social phobia in 27% students with female preponderance. Al-Hinai et al., observed that, depending on the assessment instrument, 37% to 54% Omani college students meet criteria for Social Anxiety Disorder. The difference in the results can be attributed to cross cultural variation, as observed by Hofmann et al. 17

We observed that social phobia increased from class -I to class-V, indicating that financial scarcity may lead to social phobia. Similar observations were made by Schneiner et al (1990). Similar to our results, Mehtalia (2004) had observed association of depression and social phobia in adolescents from Ahmadabad.

Al Sabbah et al had observed body image anxiety in 32.1% Palestinian adolescents. Dixit et al. observed Body image dissatisfaction in 26.6% adolescent girls in Lucknow. In the current study body image anxiety was present in 13.4% adolescents. Petroski et al had observed higher prevalence of body image anxiety in urban residents as compared to their rural counterparts. This phenomenon could have played role, in our result.

Stice et al, concluded body image anxiety as risk factor of depression. ²³We found significant association between body image anxiety and depression. In accordance with Mirza et al ²⁴ we observed that body image anxiety was common among perceived overweight. Izgic et al ²⁵ observed that body image anxiety was associated with social phobia. Similar result was appreciated in the current study.

Slap observed that problems associated with menstruation affect 75% of adolescents.²⁶ Thakre et al. observed menstrual problems among 71.8% adolescent girls.²⁷ However we observed menstrual problems in 58.4% girls. The difference is attributed to different attitude and geographical variations.

Singh A et al observed that 73.83% subjects complained dysmenorrhea.²⁸ In the current study was reported by only 42.5% subjects, lower than above mentioned studies. However the results are closer to observed result of 50.6% dymenorrhoea among girls from Bhavnagar, by Verma et al²⁹ The dysmenorrhea and its severity are perceptive and depends on personal threshold for pain. This may be the reason for observed differences in the results.

In the Zurich cohort study by Merikangas et al strong association between menstrual syndrome and anxiety was observed.³⁰ In the current study, there was association of stress and anxiety with menstrual problems.

The study is based on self-addressed questionnaires, hence reporting bias cannot be completely eliminated. The tools used to identify the problems are for screening purpose and for community and social interventions. But the results are not useful for initiation of therapeutic interventions.

Although problems statement can be defined for the group as whole, but individuals with problem cannot be traced for further examination due to confidentiality reasons. The study is conducted in colleges; hence results cannot be applied to all the adolescents in the community.

Differences in psychological problems like stress, anxiety and depression in pre-examination, examination and post examination period are not considered.

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CONCLUSION

Majority of students had some psychological problem, especially arts students. Behavioural problems like addictions were present in less than 2% students with male preponderance. Symptoms of reproductive tract infection were observed by nearly 8% respondents, with very poor health seeking behaviour. Menstrual problems were present in more than half female students. Girls from urban area and higher socioeconomic class were more prone. Only 35.4% girls had ever sought advice from doctors for menstrual problems. Reproductive health problems were present in 40% students and were associated with psychological problems. The sexually active students were more likely to have symptoms of reproductive tract infection with few getting medical consultation.

Arts stream was associated with most psychological problems, many due to lack of scientific knowledge and stress about future.

Majority of students favoured inclusion of education related to reproductive health, mental health and deaddiction, in the curriculum. Similarly more than 96% supported an idea of health cell in the college. Psychological, behavioural and reproductive health problems are faced by many students. There is unmet need for proper guidance and help regarding health.

It is recommended to introduce health cell with specialist in every college. Inclusion of reproductive health, stress management and de-addiction topics in the curriculum. Knowledge regarding safe sexual practices, contraception and menstrual problems must be included in the teaching programme. Experts should conduct routine physical examination and screening of all the students in the college. Active efforts to bridge the communication gap between teachers and students.

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Ethical approval: The study was approved by the

Institutional Ethics Committee

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