A study of reproductive health, mental health & addictions among adolescents in Margao City of Goa

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Abstract*—Reproductive health development depends on the menstrual hygiene in adolescence. Half of all mental health disorders in adulthood start during adolescence. Drug, alcohol and tobacco use is major concern in this group. The present study was conducted to study the reproductive health, mental health and various addictions in urban adolescents. This cross sectional study was conducted among 506 adolescents from standard 9^{th} and 10^{th} in a high school in Margao city of South Goa district in year 2015. Study participants were sampled by census method and interviewed by using a pretested, structured questionnaire. The mean age of study participants i.e. in girls it was 16.30 years & in boys it was observed 16.43 years. 85.4% of the study participants experienced one of the feelings of being anxious, sad, irritable or stressed, 74.4% of the study participants experienced feelings suggestive of psychosomatic disorder and 48.4% participants felt they were good for nothing. 58.1% had normal cycles of 21-35 days while 30.7% and 11.2% of the girls had cycles of < 21 days & 36-60 days respectively. 49.2% experienced mild symptoms of dysmenorrhoea, equal percentage experienced moderate symptoms and 1.6% experienced severe dysmenorrhoea. 40.4% had curdy white vaginal discharge, 5.5% had greenish yellow discharge and 19.8% had blood stained vaginal discharge. 5.5% of the adolescents smoked.1.2% of the participants chewed Gutkha. 26.5% had consumed alcohol & 3.8% had tried drugs. The study shows that adolescents face various problems which need to be addressed.*

Key Words: Reproductive Health, Menstrual Hygiene, Mental Health, Addictions, Urban Adolescent.

I. INTRODUCTION

According to WHO; adolescence is a period of transition between childhood and adulthood, beginning from 10 years up to 19 years of age. It is a period of highly active physiological and psychological growth and development which may not necessarily go hand in hand[1]. Around 1 in 6 persons is an adolescent contributing to 1.2 billion of the global population.[2] In India, adolescents constitute nearly one fifth of the total Indian population.[3]

One of the crucial components of a female's genital development is menstruation. It signifies that her reproductive system is healthy and functioning optimally. Maintenance of proper menstrual hygiene is of pivotal importance to prevent reproductive tract infections. Thus menstrual health is an important building block of a women's reproductive health.[1]

Development of cognitive and socio emotional behaviour indicates good psychological health. During the phases of illness, stress, and conflicts there is a tendency to regress to less mature processing, leading to a range of feelings from being anxious to being depressed[1]. Most of the mental health disorders in adulthood starts during adolescence, but maximum cases go undetected and untreated.[2]

Healthy risk taking is a positive tool in adolescent's life for discovering, developing and consolidating ones identity. Although at times it may turn negative if the risk is dangerous.[1] Drug abuse and harmful use of alcohol is a major concern in many countries with at least 1 in 10 adolescents using tobacco globally.[2] This study was a felt need to overview the important aspects of reproductive and mental health of the adolescents, and also to study the prevalence and pattern of addictions among them.

II. METHODOLOGY

This present cross sectional study was conducted among adolescents in a high school in Margao city of South Goa district in 2015. Sampling was done by census method.

After obtaining the permission from school authorities, adolescents from standard 9th and 10 th were interviewed after taking their consent using a pre-planned, pretested and structured questionnaire.

The questionnaire had 3 parts; part one focusing on reproductive health problems, part two on mental health problems and part three on addictions.

The purpose of the study was explained and confidentiality was assured. Questionnaire was administered to the study participants during the school hours following which a talk on health education was given. To gain confidence of the participants the questionnaire had no questions about the personal details of the study participants. About 506 adolescents were contacted and they participated in the study which was conducted over a time period of 6 months.

The filled questionnaire with ticked answers was collected and then the collected data was than analysed by SPSS Version 14.

III. RESULTS

Out of 506 participants, 177(34.98%) were boys and remaining 329(65.02%) were girls (Figure 1). Mean age of boys was 16.30 ± 0.744 years and that of girls was 16.43 ± 0.583 years.

Figure 1
Sex wise distribution of the study participants

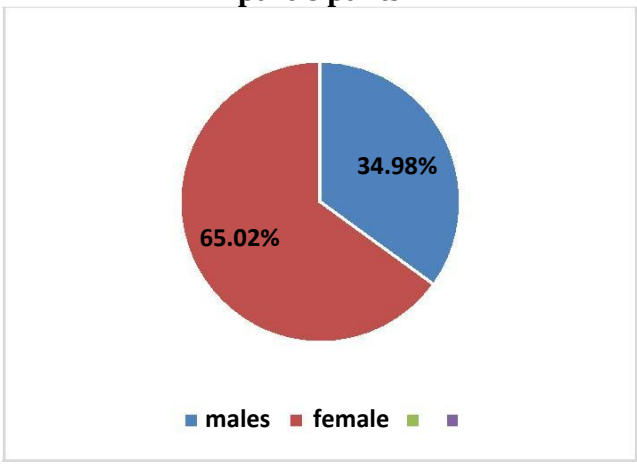
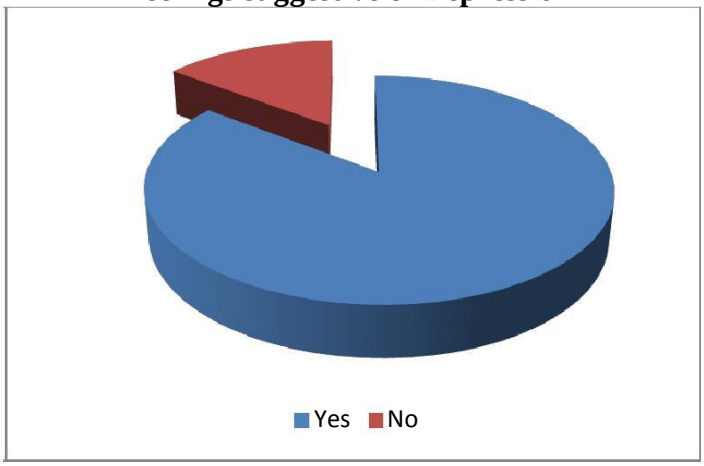


Figure 2
Distribution of the study participants as per Feelings suggestive of Depression



With respect to the reproductive health component of the study, the mean age of the girl participants at menarche was 12.93 years. Around 191(58.1%) had normal cycles of 21-35 days while 101(30.7%) and 37(11.2%) had cycles of <21 days and 36-60 days respectively. Majority of them i.e. 243(73.9%) had

normal menstrual flow. About 162(49.2%) experienced no or mild symptoms of dysmenorrhoea, an equivalent percentage experienced moderate symptoms while few i.e. 5(1.6%) experienced symptoms suggestive of severe dysmenorrhoea.

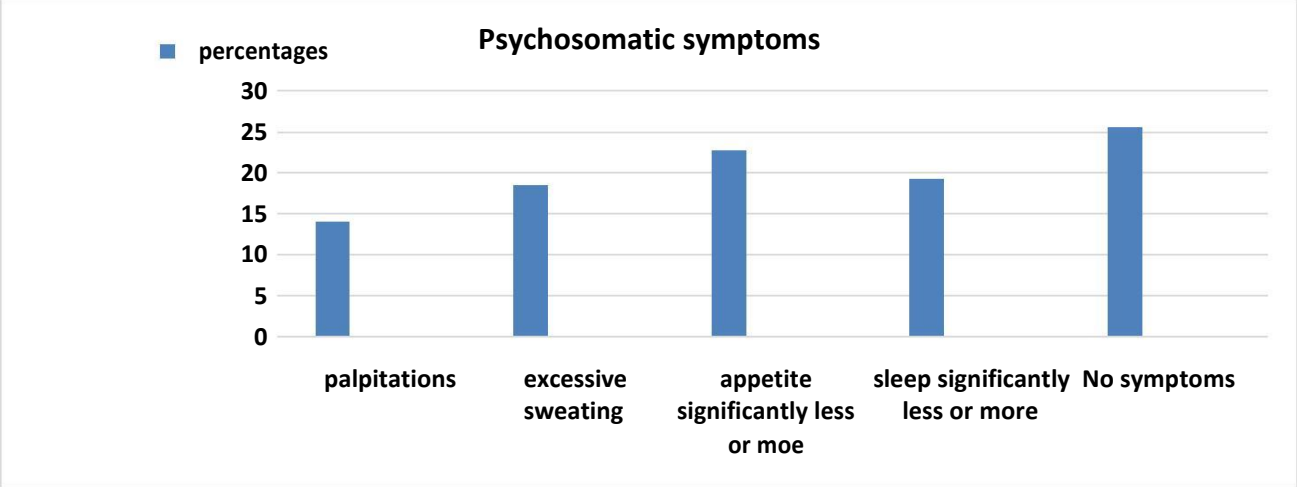
Among the girl participants; 142(43.1%) experienced burning sensation during urination, of which 114(34.6%) had it sometimes whereas 28(8.5%) experienced it often. Almost half of the girl participants i.e. 165(50.2%) of reported itching in the groin or vulva, of which 158(48.02%) experienced it sometimes while 7(2.18%) experienced it often. When asked about the vaginal discharge, around 113(34.3%) of study participants reported pearly white vaginal discharge, 133(40.4%) had curdy white vaginal discharge while remaining 65(19.8%) and 18(5.5%) complained of blood stained and greenish yellow vaginal discharge respectively.

With regards to the mental health component, almost 432(85.4%) of the study participants experienced one of the following feelings of being anxious, sad, angry/irritable or stressed (Figure 2); out of which around 81(16%) felt that the feelings were out of proportion to the cause whereas majority i.e. 362 (71.5%) felt the opposite, remaining 63(12.5%) opined that it was not applicable to their situation.

When asked about their perception towards life; 245(48.4%) felt that they were good for nothing, 175 (35.4%) felt that life was not worth living, 167 (33%) felt that they had no future and 141 (27.9%) had a feeling of causing harm to themselves. 317 (62.6%) of the participants had a feeling of loss of interest in things that they would otherwise enjoy doing.

Around 376 (74.4%) of the study participants experienced feelings suggestive of psychosomatic disorder. Among them 71(14%) experienced palpitations, 93(18.5%) experienced excessive sweating, 97(19.2%) experienced significantly less or more sleep while 115(22.7%) said that their appetite was significantly more or less (Figure 3). Due to the above symptoms a majority i.e. 180 (35.6%) of the study participants reported their studies getting affected, whereas 75 (14.9%) felt that it affected their daily activities while only 7(1.4%) reported their jobs getting affected.

Figure 3
Psychosomatic symptoms among study participants



Addictions: With regards to smoking, 28(5.5%) of the study participants had smoked cigarettes in last 30 days. Prevalence of smoking was 18(10.16%) and 10(3.03%) among males and females respectively. Males were found to be significantly more (p=0.001) smoker than females. (Table 1)

Table 1
Association between sex of the study participants and smoking

Sex	Smoking		Total
	Yes	No	
Female	10 (1.97%)	319 (63.04%)	329 (65.01%)
Male	18 (3.55%)	159 (31.43%)	177 (34.99%)
Total	28 (5.53%)	478 (94.47%)	506 (100%)

Chi square = 11.192, df = 1, p = 0.001

Only 6(1.2%) of the participants reported chewing gutkha and 134(26.5%) had consumed alcohol in the past whereas 19(3.8%) had tried drugs.(Table 2)

Table 2
Addictions among study participants

Addictions	Number (%)
Smoking	28 (5.5%)
Gutkha	6 (1.2%)
Alcohol	134 (26.5%)
Substance use	19 (3.8%)

IV. DISCUSSION

Nonappearance of secondary sexual characters by the age of 13 years is considered abnormal[3]. A girl who does not attain menarche by the age of 16years should be attained by a Gynaecologist. In the present study, mean age menarche of the girl participants was 12.93 years which was similar to the study conducted by Juyal et al in Uttarakhand[4]. In a study by Dambhare et al[5]among adolescent school girls in Central India, mean ages of menarche were 13.51 ± 1.04 years and 13.67 ± 0.8 years for urban and rural areas respectively. But Ravi et al[6] in his study among adolescent school girls in Tamil Nadu, reported a higher mean age (14.74years) of menarche compared to the present study. This finding could be due to different environmental, nutritional and socio-economic factors of the study participants as well as their general health status which are important determinants of attaining menarche.

Majority of the girls (58.1%) had normal cycles of 21-35 days which was similar to the results by Zegeye et al[7]in his study in northwest Ethiopia, where menstrual cycle length between 21 to 35 days was observed in 70.3% of the girls. Similar findings were seen in a study by OA Esimai et al in Nigeria[8]. In the present study, 30.7% and 11.2% of the girls had cycles of <21 days & 36-60 days respectively. However only 9% of the participants had irregular cycle in a study by OA Esimai et al in Nigeria[8]. These differences could be due to different ethnicity, general health status of the females studied. 73.9% girls in the study had normal menstrual flow, 4.3% considered it to be less than normal and 21.8% considered it to be excess. Similar study done in Gujarat by Vermaet al[9] among adolescent school girls, 75% of the participants perceived the menstrual flow within normal limits, while 8.8 % considered it to be less than normal and 8.7 % more than normal.

Dysmenorrhoea is one of the commonest symptoms experienced by adolescent girls. 49.2% of the girls experienced no or mild symptoms of dysmenorrhoea, an equivalent percentage experienced moderate symptoms and 1.6% of the participants experienced severe dysmenorrhoea. In a study done among secondary school adolescents in northwest Ethiopia by Zegeye et al[7]dysmenorrhea (pain during menstruation) was reported by 72% of the study subjects, of which about 28.5% were having moderate to severe dysmenorrhea. Difference in the results may be due to the fact that pain perception differs by each individual.

Lack of menstrual and personal hygiene may cause burning sensation during urination, genital itching and vaginal discharge[3]. Among the study participants, 43.1% had burning sensation during urination, 34.6% of the participants said they had it sometimes and 8.5% girls said it was there often. However in the study done by Ram et al[10] the prevalence was found to be 12%.

4.1 Mental Health

Adolescents have to cope with the emotional stress and strain associated with the bodily changes. Hormonal changes are likely to result in thoughts pertaining to sex, irritability, restlessness, anger and tension[3]. Feeling of being anxious was present in 16.9% of the participants, similarly in a study done by Bakkhla et al[11] the overall prevalence of anxiety symptoms was 11%. However in a study done by Ahmad et al[12] anxiety was prevalent only in 3.84% of the cases. In the present study, irritability was present in 25.3% of the adolescents. The prevalence of this finding is lower as compared to a study done by Colette et al[13] where the prevalence of irritability was 43%. Reason for such difference could be due to different scales and methodologies used in the later studies. The period of adolescence is characterized by emotional instability making them vulnerable to depression. In the present study, 72.13% of study participants had variety of symptoms suggestive of depression which was similar to a study by Naushad et al[14] who found a prevalence of 79.2% in the same age group. Depression in adolescence if not detected at an earlier age can affect day to day activities. Around 51.8% of the study participants reported their symptoms of depression affecting their daily activities, job or studies. In a study done among adolescents in Norway[15] to examine the relationships between school-related stress, gender and psychosomatic symptoms, 18.1% experienced a feeling of 'very much' affected by at least one of the assessed psychosomatic symptoms.

4.2 Addictions

5.5% of the participants had smoked cigarettes in past 30 days, only 1.2% had gutkha. 26.5% had alcohol whereas 3.8% had tried drugs. Similar findings were seen by Abbo et al[16] in a study done in Uganda where use of cigarettes was seen in 5.9% of the cases, in 23.3% commonest used substance was alcohol. In a study done by Sharma et al[17] on tobacco use in New Delhi, 7.1% had prevalence of current smoking and 10% of the participants reported having ever used smokeless forms of tobacco.

In a study done by Atwoli et al[18] in Western Kenia prevalence rate of cigarette use was 42.8%, and substances used were cannabis (2%) and cocaine (0.6%).

In a study done by Girish et al[19] on alcohol use and its public health implications, it was found that nearly 10% of the alcohol users belonged to the age group of 16 – 25 years. Study done on adolescents in urban slums by Sarangi et al[20] reported the most common substances abused were gutkha (91.7%), alcohol (14.7%) and smoking (26.6%).The difference may be due to differences in the socioeconomic background of the study participants.

V. CONCLUSION

Based on the study findings it is recommended that adolescent boys or girls in high schools should have access to gender sensitive counseling services, adolescent health care clinics.

Mechanism should be in place for early detection and referral of adolescents with serious health problems e.g mental health problems, RTIs to avert potential health problems in later life.

CONFLICT OF INTEREST

None declared till now.

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