

Original research article

A study to assess the health status and health needs of adolescents.**Dr. Vandana B Dudhamal¹, Dr. G. Rekha², Dr. V. Sadanandam³, Dr. Akshay Berad⁴**¹ Professor, Dept. of Physiology, GMC, Nizamabad, Telangana.² Associate Professor, Dept. of Physiology, GMC, Nizamabad, Telangana.³ Assistant Professor, Dept. of Physiology, GMC, Nizamabad, Telangana.⁴ Assistant Professor, Dept. of Physiology, GMC, Nagpur, Maharashtra.**Corresponding Author: Dr. Akshay Berad****Abstract**

Adolescence is transitional period from childhood to adulthood, characterized by significant psychological and social changes. Adolescents are generally believed to be healthy because by the second decade of life, they have survived the diseases of early childhood, and the health problems associated with ageing are still many years away. Aim of this study is to assess health status of adolescents, health awareness, knowledge and health needs of the adolescents. Study was conducted in randomly selected classes of Oxford School, Nava Mondha, Nanded. The study was conducted in amongst all students of 9th and 10th Standard. Total 157 students (boys and girls) participated in the study. Out of 157 students 83(62.3%) boys and 68(43.2%) Girls were aware about the components of the female reproductive system. Females know more contraceptive methods than males. Total 83.43% adolescent were aware about HIV & AIDS. Nearly 50% of the respondents thought that they were given adequate sex education. Student prefer Govt. Health Centre (Govt. Medical Colleges) as place suitable for specialized adolescent clinic.

Key words: Adolescents , Health status , Health needs.

Introduction

One of the six Healthy People 2010 core outcomes identified by the Maternal and Child Health Bureau (MCHB) for children with special health care needs (CSHCN) is that all youth will receive the services necessary to make transitions to adult life, including adult health care, work, and independence [1]. The 2002 American Academy of Pediatrics, American College of Physicians, and American Academy of Family Physicians consensus statement on health care transitions for youth and young adults with special health care needs (YSHCN) described six critical first steps for successful transition to adult-oriented care [2]. Nearly a decade later, many youth continue to face significant barriers to successful transition, and the majority of youth do not receive recommended transition services [3,4]. Adolescence is transitional period from childhood to adulthood, characterized by significant psychological and social changes. WHO defines adolescents as those in the age group of 10-19 years and "youth" 15-24 years. These two overlapping age group are combined in group "young people" covering the age range 10-24 years. The development of adolescents has described in 3 stages: **Early adolescence (10-14 years)**: Characterized by a spurt of growth and onset of development of secondary sexual characteristics. **Middle adolescence (15-17 years)**: Where adolescents develop separate identity from parents, new relationship with peer groups and opposite sex and of experimentation. **Late adolescence (18-19 years)**: At this stage, adolescents have fully developed physical characters and have formed a distinct identity and have well formed opinions and ideas. These periods roughly corresponds with the phases in physical, social and psychological development in the transition from childhood to adulthood.

Although these changes may vary in varying conditions and circumstances such as disability, illness, socio-economic status and poverty they provide basic framework to understand adolescent development. It is important to note that adolescents are not a homogeneous group. Their needs vary with their sex, stage of development, life circumstances and the socio-economic conditions of their environment. The adolescent population in India has been increasing during the last few decades. Currently adolescent constitute about 21.4% of the population in India, and 18-25% of the population of South East Asia Region. Our world currently cares for a historic highest number of adolescent; about 1.2 billion adolescent, need proper education, health and other life skills to ensure better future for themselves and their countries. Most adolescents are healthy that is they show lower levels of mortality and morbidity compared to children and adults. Most adolescents also believe that they are healthy. There is growing recognition, however, that some adolescents do develop health problems, and in addition, many more adapt unhealthy behaviours that lead to health problems in their adult lives. The health problems and problem behaviours affecting young people in developing countries have been classified by WHO.

Table 1: Classification of diseases and health-related to behaviours of young people in developing countries

Disease which are particular to young people	Diseases and unhealthy behaviours, which affect young people disproportionately	Disease which manifest themselves primarily in young people but originate in childhood	Diseases and unhealthy behaviours of young people whose major implications are on the young person's future health	Diseases which affect fewer young people than children, but more of them than adults
Diseases: Disorders of secondary sexual development Difficulties with psycho-social development Suboptimal Adolescent growth spurt	Diseases: Maternal Mortality and Morbidity STIs (including HIV) Tuberculosis Intestinal Helminthiasis Mental Disorders Behaviours: Alcohol use Other substance abuse injuries	Diseases: Rheumatic heart disease Polio (Post Polio Residual Paralysis)	Diseases: STIs (including HIV) Leprosy Dental disease Behaviours: Tobacco use Alcohol and Drug use Poor diet Lack of exercise Unsafe sexual practices	Diseases: Malnutrition Malaria Gastroenteritis Acute respiratory infection
Young people will contribute a substantial number of cases because they form a large proportion of the population in most developing countries.				

Studies suggest that there are significant sex differences in adolescent morbidity and mortality rates. Boys worldwide have higher rates of morbidity and mortality from injuries due to interpersonal violence, accidents and suicide, while adolescent girls have higher rates of morbidity and mortality related to sexual behaviours. Attempts have been made to quantify the burden of morbidity and mortality among adolescents, using the measure Disability – Adjusted Life Years (DALYs). A brief explanation of the term and estimates of the burden of disease among young people given below. The Disability – Adjusted Life Year (DALY) is a time – based measure, which capture the impact of premature deaths (in years), and the time (in years) lived with a disability. One DALY is one lost year of healthily life. A recalculation of the global burden of disease estimates among adolescence, youth and young people gave

the following findings. The burden of disease and injury between the ages of 10 and 19 represents 15% of the total burden worldwide. 90% of the DALYs are lost in developing countries. 42% of DALYs result from non-communicable diseases, 29% from injuries, and 29% from communicable, maternal, perinatal and nutritional conditions. The DALY distribution for adolescents and youth is very different from the pattern observed in children or adults with STIs, HIV, maternal conditions, depression, alcohol and drug use, injuries, and road traffic accidents predominating among adolescents. Patterns of burden are very distinct between the sexes: DALY rates for injuries (and suicide) in males tend to be twice females. Exceptions to this are the suicide rates among females in China and India, which are higher than those among boys. Drawing upon data from around the world, a list of “priority” health problems affecting adolescents has been developed. Each of the problems on the list meets the following three criteria. Firstly, they cause mortality or morbidity either during the adolescent period, or in later life as a result of behaviors initiated during this period; secondly, they cause significant levels of mortality and morbidity. Thirdly, many of these health problems and problems behaviours are inter-related. For instance, substance use is associated with depressive states, and alcohol use is associated with road traffic accidents. **Health problems Established during Adolescence** are intentional and unintentional injuries, Sexual and reproductive health problems (including HIV/AIDS), Substance use and abuse (tobacco, alcohol and other substances), Mental health problems, Nutritional problems, Endemic and chronic diseases. Adolescents are generally believed to be healthy because by the second decade of life, they have survived the diseases of early childhood, and the health problems associated with ageing are still many years away. Death seems so far removed as to be almost unthinkable. Yet many adolescents do die prematurely. Every year, an estimated one million young men and women between ages of 10 and 19 years lose their lives mostly through accidents, suicide, violence, pregnancy – related complications and other illnesses that are either preventable or treatable. Even more importantly, most mortality in adulthood has its roots in the adolescent period. WHO estimates that 70% of premature deaths among adults are largely due to behaviour initiated during adolescence. Adolescents, having survived all childhood health problems, have been enjoying a relatively low morbidity age group, needs special attention because of the turmoil of adolescence which they face due to different stages of development, they face different circumstances that they come across, their different needs and diverse problems. In this context UNICEF (United Nations Children's Fund) and UNFPA (United Nations Fund for Population Activity) in collaboration with WHO, issued a joint statement on the reproductive health of adolescents in 1989, to address these problems. [5]. Traditionally, the main health indicator used by health planners has been mortality rate. Adolescents have the lowest mortality among different age groups like children, mothers or adults and have therefore received low priority. At present due to changing conditions due to civilization, urbanization and life style, the health of adolescent is increasingly at stake. Sexually transmitted diseases HIV/AIDS and other reproductive health problems are greatest threats to their well-being. However, despite the growing needs, there are no adequate health services or counseling centers specifically suitable for this specific age group unlike children, mothers or adults [6, 7]. The adolescents in class IX, X may have different issues due to normal and physical changes as well as due to the stress of study as going through board examination (Class –X), So it was decided to take this age group for the study. Aim of this study is to assess health status of adolescents, health awareness, knowledge and health needs of the adolescents and to study the factors associated with health reproductive aspect and psycho social aspect of the adolescents.

Material and Methods:

The present study was conducted in Oxford School, New Mondha, Nanded city of Maharashtra, India. Permission of health authority and school authority was taken. The

approach adopted for this community based study was a cross sectional one. Study was conducted in randomly selected classes of Oxford School, Nava Mondha, Nanded. The study was conducted in amongst all students of 9th and 10th Standard. Study was conducted in month of August 2011. Total 157 students (boys and girls) participated in the study. The information was collected through pre-tested questionnaire. Informed written consent of principle of school, parents of students and all students were obtained. Students were subjected for examinations and questions and responses given in the questionnaire were recorded appropriately. The questionnaire was prepared in English and Marathi and then explained to all students.

Results :

Out of the 178 school adolescents involved for study 166 (93.25) completed the questionnaire. Of these nine were excluded due to incompleteness and inconsistency of responses. Thus finally study was conducted in 157 students i.e. boys and girls. All the students are in the age group of 14-16 years. Total 102(65%) male and 55(35%) female students participated in study.

Table 1: Socio-demographic and parental characteristics of school adolescents.

Sr.No	Variable	n=157	percentage
1	Sex		
	Male	102	65.00%
	Female	55	35.00%
2	Age		
	14-15 Years	90	57.32%
	15-16 Years	67	42.61%
3	Food habit:		
	Pure vegetarian	68	43.31%
	Mixed diet	89	56.68%
4	Family Economic status:		
	Poor	35	22.29%
	Medium	92	58.59%
5	Paternal education level:		
	Illiterate	25	18.04%
	>10 th Std.	30	19.10%
	<10 th Std.	102	65.00%
6	Maternal education:		
	Illiterate	12	7.54%
	>10 th Std.	100	63.69%
	<10 th Std.	45	28.66%
7	Parents work status:		
	Both parents work	50	31.84%
	One of the parent work	96	61.14%
	Both do not work	11	7.00%

Out of 157 students 83(62.3%) boys and 68(43.2%) Girls were aware about the components of the female reproductive system. Only 5(3.18%) Boys and 10(6.39%) Girls were aware about the components of Male reproductive system.

Table 2: Main sources of information about reproductive health in adolescent

Main source of information regarding sexually*	Male n=102		Female n=55		Total n=157	
	n	%	n	%	n	%
Friends	71	69.60	28	50.90	99	63.05
Television	75	73.52	22	40.00	97	61.78
Books, magazines, newspapers	80	78.42	15	27.27	95	60.50
Parents	30	29.41	30	54.54	60	38.21

*Multiple responses hence % may add up to more than 100.

It was found that in males common sources of information was books, magazines and television, where as in females it was parents and friends.

Table 3: Awareness about contraception in adolescents

Contraceptive* Methods known	Male n=102		Female n=55		Total n=157	
	n	%	n	%	n	%
Condom	80	78.43	40	72.72	120	76.43
IUCD	30	29.41	36	65.45	66	42.03
OCP	60	58.82	42	76.36	102	64.96
Vasectomy	43	42.15	22	40.00	65	41.40
Tubectomy	51	50.00	45	81.81	105	66.87

The contraceptive methods more known to Girls are Tubectomy , OCP and condom, whereas in males method known more is condom. Thus females know more contraceptive methods than males.

Table 4: Awareness about STDs in adolescents

STDs known	Male n=102		Female N=55		Total n=157	
	No	%	No	%	No	%
HIV/AIDS	89	87.25	42	76.36	131	83.43
Hepatitis B	45	44.11	20	36.36	65	41.40

* Multiple responses hence percentages may add upto more then 100.

Total 83.43% adolescent were aware about HIV & AIDS. They also know that HIV and AIDS are STDS. About 41.40% of total students know that Hepatititis B can be transmitted sexually.

Psychosocial Aspect: Out of 157 students, 30.2% boys and girls think that they are treated differently in their families. Out of these 30.2% respondents 55.8% thought that boys are treated better than girls. More than 90% get satisfactory love and care from their parents. When asked about cigarette smoking and alcohol consumption, 89% of students did not think that smoking or drinking helps handle stress or anger or enhance one's personality.

Health Needs: Nearly 50% of the respondents thought that they were given adequate sex education while the rest disagreed, while 62% believed that they require further sex education. Out of total 55 Girls, 75.8% girls experienced problems during their menses and the major problems was, pain in abdomen, body ache, tiredness, laziness, depression. Problems related to sexual development have been rated as the most common problems faced by the adolescent and most preferred person for information related to sexual development and sex education was teacher for boys while it was mother for Girls followed by doctor and

friends in both. Females had more awareness about issues related to puberty, infertility, sexual intercourse, incest, abortion and homosexuality, where as males had more awareness about masturbation, safe sex, impotency and sexual abuse. About 120 (76.43%) students felt that specialized adolescent clinic should be established for solving adolescent problem when asked about it. Most suitable place, for establishing a special adolescent clinic was Govt. health center, 71.2% consider government hospital as most suitable place, followed by school/colleges, private clinic and community center respectively.

Table 5: Places suitable for specialized adolescent clinic

Place*	No.	%
Govt. Health center	111	71.1
Govt. Hospital	95	61.5
School/ College	91	58.3
Private Doctor	89	57.5
Community Centre	47	30.5

* Multiple responses hence % may add up to more than 100.

The above table shows that student prefer Govt. Health Centre (Govt. Medical Colleges) as place suitable for specialized adolescent clinic, followed by Govt. Hospital, School College, Private Doctor, Community centre respectively.

Discussion:

The mean age of study participant was calculated to be 14.9 years. Our study revealed that knowledge about the reproductive health was inadequate. Only 3.18% boys and 6.39% girls knew about components of male reproductive system. The sources of information about sex education were not appropriate as friends, printed materials and Television has been found to influence majority. Lack of communication with parents, teachers or other health professionals including counselors may contribute to their ignorance. Awareness about barrier method (condom) is more prevalent (76.43%) as compared to other contraceptive methods. 83.43% of students know about HIV/AIDS and were aware about the transmission of the disease. About 55.8% respondents thought that boys are treated better than Girls. More than 90% were satisfied about the love and care received from their parents. 98 (63.41%) believed that sex education was unsatisfactory and they wanted further sex education preferable from teacher in case of males and from mother in case of females followed by doctor and friends. Requirement of specialized adolescent clinic was felt by the respondents and Govt. health centre was most preferred suitable place for such clinic followed by Govt. hospitals. 98% of girl students were menstruating. Majority of the girls had one or more problems related to their menstrual cycles. Dysmenorrhoea (48.2%) was the most common problem reported to be associated with menstruation by the study subjects. Dysmenorrhoea has been reported to be commonest menstrual problem by other researchers also [8, 9]. As per other authors, the prevalence of Dysmenorrhoea is 54.0%⁸. Premenstrual syndrome (PMS) was reported by almost all the subjects. Dysmenorrhoea, (48.2%) was the commonest problem faced by adolescent girls. More than half of the study subjects had one or the other symptoms of premenstrual syndrome (PMS), namely irregular menses (16.9%), body ache (9.5%), however the findings of our study are as higher as compared to study reported by other research [10, 11]. In literatures also, PMS has been reported to be one of most distressing problems associated with the menstrual cycle [12,13].

Conclusion:

10th std. Total 157 students, (boys and girls) participated in study. The information was collected through pretested questionnaire. Our study concluded that knowledge about the reproductive health was inadequate in adolescents. They are not aware about their health needs and psychosocial aspect. However further studies are required.

Limitations: The study was conducted in the age group of 14-16 years so, the results cannot be generalized to all adolescents. The study was conducted in small group, so, it should be conducted in large group.

References:

1. Maternal and Child Health Bureau, Health Resources and Services Administration. Achieving and measuring success: A national agenda for children with special health care needs. Available at: <http://www.mchb.hrsa.gov/programs/specialneeds/measuresuccess.htm>. Accessed August 31, 2010.
2. American Academy of Pediatrics, American Academy of Family Physicians, American College of Physicians-American Society of Internal Medicine. A consensus statement on health care transitions for young adults with special health care needs. *Pediatrics* 2002;110:1304 – 6.
3. Scal P, Ireland M. Addressing transition to adult health care for adolescents with special health care needs. *Pediatrics* 2005;115:1607–12.
4. Lotstein DS, Ghandour R, Cash A, et al. Planning for health care transitions: results from the 2005–2006 national survey of children with special health care needs. *Pediatrics* 2009;123:e145–52
5. Hanson M, Gluckman P. Evolution, development and timing of puberty, trends in *Endocrinology and metabolism* 2006;17:7-12.
6. Berhane F. Assessment of Reproductive Health Service in Front line Health Institution, under Addis Ababa Health Bureau. Residency Report, Dept. of community health, faculty of Medicine Addis Ababa university. September 1999.
7. Senderowitz J. Adolescent health reassuring the passage to adulthood, World Bank discussion paper, world Bank Washington DC No: 272, 1995.
8. Bankarim C, Chacko MR, Kelder SH, Prevalence of Dysmenorrhoea on Hispanic female adolescents, *Arch pediatric Adolesc Med* Dec. 2000; 1226-29.
9. Kilien J, Litt I, Epidemiology of adolescents. *Dysmenorrhoea Pediatrics* 1981; 68; 661-64.
10. Atchuta Kameswarrao Avasarala, Saibharghavi Ponchangeon, *Dysmenorrhoea in different settings. Are the rural and urban adolescent girl perceiving and managing the Dysmenorrhoea problem differently. Indian Journal of community Medicine*, 2008; 33: 246-49.
11. B. Joshi et al, Reproductive and Health problems and health seeking behavior among the adolescent in urban India. *Indian journal of paediatrics*; 2006 June Vol-73 Page no.509-12. 12.Majumdar R, Ganguli S. A study of Adolescent girl in Pune. *Health and population perspectives and issue* 2000; 23/2 95-104.
12. Lee LK, Chen PC, Lee KK, Kaur J. Menstruation among the adolescent girls in Malaysia; a cross sectional school survey. *Singapore Med J* 2006; 47; 869-74.