Original Article

www.ijrhs.com
ISSN (o):2321–7251

Study of prevalence of high risk behavior among adolescents in Hyderabad - a cross – sectional study

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Abstract:

Background: Adolescence is a transitional stage of physical and psychological human development that generally occurs during the period from puberty to legal adulthood (age of majority). The period of adolescence is most closely associated with the teenage years though its physical, psychological and cultural expressions may begin earlier and end later. Hence Adolescents should receive explicit attention with services that are sensitive to their increased vulnerabilities and designed to meet their needs. **Objectives:** To study the prevalence of risk behaviors in adolescents these included substance abuse, high risk sexual behavior, STIs and HIV/ AIDS, violence and juvenile delinquency and mental health and to compare these factors among the adolescents of Govt. and Private schools and Junior colleges of Hyderabad. **Methods:** It was a cross sectional study , conducted among 250 Students (150 boys and 100 girls) in the age group of 10-19years attending 5 schools and 2 colleges at Hyderabad in the period of December 2013 to July 2014 .Schools and colleges were selected by draw method. Students to be included were determined by taking every 5th, 10th, 15th, 20th, On an Average, 25 students were taken in each age group. Participants were given pre-tested, pre-designed questionnaire, "The Child Behavior Checklist". Participants signed written informed consent and then completed questionnaire. Classroom teachers administered the Adolescent Exploratory and Risk Behavior Rating Scale (AERRS) to students. Randomly selected students were also asked to answer five open-ended questions about the risk behavior. The Adolescent Exploratory and Risk Behavior Rating Scale (AERRS) was developed. Demographics of participant groups were described in terms of gender, age and type of school attended. Demographic data were described for the total sample, the samples used for each of the five analytes of risk behavior. The number of participants (n = 250) was randomly selected from each dataset for a set of high risk behavior analyses. **Results:** In present study substance abuse in government and private schools is 28% and government and private colleges is also 28%, i.e. both schools and college group of adolescents showed same prevalence of substance abuse. In our study as tobacco, alcohol usage is mostly seen. In the Present study high risk sexual behavior at government and private schools have 16 % and government and private colleges is also 16 % , shows that both school and college adolescents have same behaviors. In present study mental health is disturbed has data in schools is 16% where as in colleges it is 20% showing that college going adolescents are more suffering from depression ,anxiety etc. Gender differences between adolescents who attempt suicide and those who complete suicide were similar to that of the international literature. Our study has slightly higher percentage when compared to other studies. **Conclusions:** Even though the risk behaviors on the whole is less in Hyderabad adolescent population as compared to studies of U.S and other parts of world , we need to address these critical issues, to promote the health of adolescents in this Region. Adolescence is considered to be a very critical transitional stage of life with acute crises in which future is at stake. Future research should emphasize the designing and testing of interventions to alleviate this burden.

Key words: Adolescents, High risk behavior, AERRS

Introduction:

Adolescence (from Latin *adolescere*, meaning "to grow up") [1] is a transitional stage of physical and psychological human development that generally occurs during the period from puberty to legal adulthood (age of majority) [1, 2]. The period of adolescence is most closely associated with the teenage years [2,3] though its physical, psychological

and cultural expressions may begin earlier and end later.[4] Adolescent is defined by WHO as a person between 10-19 years of age. There are about 1.2 billion adolescents worldwide and one in every five people in the world is an adolescent and 85% of them live in developing countries. [5].

Nearly two thirds of premature deaths and one third of the total disease burden in adults are associated with conditions or behaviors that began in youth, including tobacco use, a lack of physical activity, unprotected sex or exposure to violence. Promoting healthy practices during adolescence and efforts that better protect this age group from risks will ensure longer, more productive lives for many. Total adolescent population of India is 21% of the total population.[6] Adolescent health issues can be further complicated by factors associated with rapid social and economic development, increased urbanization, the widening gap between rich and poor, youth unemployment and rural poverty put adolescents at greater risk for sexually transmitted infections, pregnancy, under nutrition and over nutrition, and substance abuse. [7].

The world is becoming more and more competitive. The desire of parents for a high level of performance and achievement puts a lot of pressure on students, teachers, schools, and in general, the educational system itself [8]. As we enter the new millennium, promoting sound mental health and positive behavior of adolescents has undeniably taken on greater significance than ever before. To that end, more and more research is confirming what many have suspected for years: environment and community surroundings have a major affect on an adolescent's well-being and overall mental health. Adolescents should receive explicit attention with services that are sensitive to their increased vulnerabilities and designed to meet their needs [9]. There are many studies available internationally but there are no studies available in local population of Hyderabad hence we tried to evaluate the risk behavior in our population, Present study is done to know the prevalence of risk behaviors, which included substance use, high risk sexual behavior, STIs and HIV/ AIDS, violence and juvenile delinquency and mental health.

Aims and Objectives

To study the prevalence of risk behaviors in adolescents these included substance abuse, high risk sexual behavior, STIs and HIV/ AIDS, violence and juvenile delinquency, and mental health and to compare these factors among the adolescents of Govt. and Private schools and Junior colleges of Hyderabad.

Materials and Methods

It was a cross sectional study, conducted amongst 250 Students (150 boys and 100 girls) in the age group of 10-19years. Study included not only researcher but also 2 under graduate students took part to explain the questionnaire to the adolescents. Data was collected from all students and analyzed.

Study design: It is a cross sectional observational study.

Study area: In the age group of 10-19years attending 5 schools and 2 colleges at Hyderabad

Study period: In the period of December 2013 to July 2014

Sample size: 250 Students (150 boys and 100 girls)

Inclusion criteria: Adolescents between 10-19 years and studying in Govt. and private school and also students studying in Government and private junior colleges

Exclusion criteria: Students taking distance education, known neurological disease, mental retardation, sensory impairment that is not corrected and who are not willing to give consent.

Sampling: Systemic random sampling technique was used to select a sample. Schools and colleges were selected by draw method. Students to be included were determined by taking every 5th, 10th, 15th, 20th, On an Average, 25 students were taken in each age group.

Procedure: After taking permission from school/college authority, all the Participants and teachers were explained about the goals of survey. The rules and instructions of filling questionnaire were explained. Participants were given pre-tested, pre-designed questionnaire, "The Child Behavior Checklist". Participants signed written informed consent and then completed questionnaire.

Data collection: Data collection took place during advisory period at each of the school sites. Classroom teachers administered the Adolescent Exploratory and Risk Behavior Rating Scale (AERRS) to students. Randomly selected students were also asked to answer five open- ended questions about the risk behavior. The questions were attached to the end of the ERRS and students maintained anonymity while providing their responses.

Instrument construction: The Adolescent Exploratory and Risk Behavior Rating Scale (AERRS) was developed based on a review of the literature and present evidence in support of potential predictors and descriptors of various risk behaviors. The construction of the instrument was done with the most recent

literature on self-report methods considered. Items were generated based on the literature across various disciplines of psychology and existing risk behavior questionnaires. The risk behavior questionnaires used to develop the present measure were the Youth Risk Behavior Survey (CDC, 2006c), the Adolescent Risk Behavior Questionnaire (Gullone et al., 2000), and the Iowa Youth Survey (Research Institute for Studies in Education, 2006). The AERRS is comprised only participation in risk behavior. The initial version of the instrument contained 43 Likert-type items in each section. In the participation section of the AERRS, students were asked to rate how often they participate in each behavior as "yes" or "no". Demographics of participant groups were described in terms of gender, age and type of school attended. Demographic data were described for the total sample, the samples used for each of the five analytes of risk behaviour. The number of participants (n = 250) was randomly selected from each dataset for a set of high risk behaviour analyses.

Results

It was a cross sectional study , conducted among 250 Students (150 boys and 100 girls) in the age group of 10-19years attending 5 schools and 2 colleges at Hyderabad in the period of December 2013 to July 2014 . The data were analyzed using Microsoft excel and following statistical method applied.

Table 1: Age and gender wise distribution

AGE	MALE	FEMALE	TOTAL	PERCENTAGE (%)
10-11 y	25	14	39	15.6
11-12 y	20	10	30	12
12-13 y	15	8	23	9.2
13-14y	15	10	25	10
14-15y	15	15	30	12
15-16y	16	8	24	9.6
16-17y	12	15	27	10.8
17-18y	16	10	26	10.4
18-19y	16	10	26	10.4
total	150	100	250	100

Table 2: High risk parameters in between schools

RISK BEHAVIOR	SCHOOL	TOTAL NUMBER	NO OF ADOLESCENTS
SUBSTANCE ABUSE	GOVT	13	4
	PRIVATE	12	3
MENTAL HEALTH	GOVT	13	2
	PRIVATE	12	2
HIGH RISK SEXUAL BEHAVIOR	GOVT	13	3
	PRIVATE	12	2
SEXUALLY TRANSMITED INFECTIONS	GOVT	13	2
	PRIVATE	12	2
VIOLENCE AND JUVENILE DELINQUENCY	GOVT	13	2
	Private	12	1

TABLE-3:HIGH RISK PARAMETERS PERCENTAGE IN SCHOOL

RISK BEHAVIOR	SCHOOL	NO OF ADOLESCENTS	TOTAL	PERCENTAGE(%)
SUBSTANCE ABUSE	GOVT	4	7	28%
	PRIVATE	3		
MENTAL HEALTH	GOVT	2		

	PRIVATE	2	4	16%
HIGH RISK SEXUAL BEHAVIOUR	GOVT	3	5	20%
	PRIVATE	2		
SEXUALLY TRANSMITED INFECTIONS	GOVT	2	4	16%
	Private	2		
VIOLENCE AND JUVENILE DELINQUENCY	Govt	2	3	12%
	Private	1		

TABLE-4: HIGH RISK PARAMETERS IN BETWEEN MALES AND FEMALES IN SCHOOLS

RISK BEHAVIOR	SCHOOL	N	NO OF ADOLESCENTS
SUBSTANCE ABUSE	MALES	15	5
	FEMALES	10	2
MENTAL HEALTH	MALES	15	3
	FEMALES	10	1
HIGH RISK SEXUAL BEHAVIOR	MALES	15	3
	FEMALES	10	2
SEXUALLY TRANSMITTED INFECTIONS	MALES	15	3
	FEMALES	10	1
VIOLENCE AND JUVENILE DELINQUENCY	MALES	15	2
	FEMALES	10	1

TABLE-5 : HIGH RISK PARAMETERS IN BETWEEN COLLEGES

RISK BEHAVIOR	COLLEGE	TOTAL NUBER	NO OF ADOLESCENTS
SUBSTANCE ABUSE	GOVT	13	4
	PRIVATE	12	3
MENTAL HEALTH	GOVT	13	2
	PRIVATE	12	2
HIGH RISK SEXUAL BEHAVIOR	GOVT	13	3
	PRIVATE	12	3
SEXUALLY TRANSMITED INFECTIONS	GOVT	13	2
	PRIVATE	12	3
VIOLENCE AND JUVENILE DELINQUENCY	GOVT	13	2
	PRIVATE	12	2

TABLE-6:HIGH RISK PARAMETERS PERCENTAGE IN COLLEGES

RISK BEHAVIOR	COLLEGE	NO OF ADOLESCENTS	TOTAL	PERCENTAGE(%)
SUBSTANCE ABUSE	GOVT	4	7	28%
	PRIVATE	3		
MENTAL HEALTH	GOVT	2	4	16%
	PRIVATE	2		
HIGH RISK SEXUAL BEHAVIOUR	GOVT	3	6	24%
	PRIVATE	3		
SEXUALLY TRANSMITED INFECTIONS	GOVT	2	5	20%
	PRIVATE	3		
VIOLENCE AND JUVENILE DELINQUENCY	GOVT	2	4	16%
	PRIVATE	2		

TABLE-7 :HIGH RISK PARAMETERS IN BETWEEN MALES AND FEMALES IN COLLEGES

RISK BEHAVIOR	SCHOOL	TOTAL NUMBER	NO OF ADOLESCENTS
SUBSTANCE ABUSE	MALES	15	5
	FEMALES	10	2
MENTAL HEALTH	MALES	15	3
	FEMALES	10	1
HIGH RISK SEXUAL BEHAVIOR	MALES	15	3
	FEMALES	10	2
SEXUALLY TRANSMITTED INFECTIONS	MALES	15	3
	FEMALES	10	1
VIOLENCE AND JUVENILE DELINQUENCY	MALES	15	2
	FEMALES	10	1

Discussion

Interventions for children very often focus on the younger ages; adolescents 'age out' of pediatric health care, and they are often unreached by programmes for adults. Adolescence is a phase of rapid growth and development during which physical, sexual and emotional changes occur. Adolescents are not homogeneous group and their needs vary with their gender, stage of development, life circumstances and the socio economic conditions in which they live.

The present cross sectional study , conducted among 250 Students (150 boys and 100 girls) in the age group of 10-19years attending 5 schools and 2 colleges at Hyderabad in the period of December 2013 to July 2014 has documented the prevalence of risk behaviors. These included substance use like tobacco, alcohol and other drug use, high risk sexual behavior, STIs and HIV/ AIDS, violence, and mental health as supported in the international literature [10]. The challenges faced by adolescents have been of growing interest to researchers.

In present study substance abuse in government and private schools is 28%and

government and private colleges is also 28% , i.e both schools and college group of adolescents showed same prevalence of substance abuse. In our study as tobacco, alcohol usage is mostly seen. Blum [11]proved that there are similarities in the prevalence of risk factors among adolescents in the United States and the Caribbean. In 2005, there were high reported levels of lifetime substance abuse of 74% in the US[12] as compared with the average Caribbean data of 52% [13,14,15] respectively. Our study correlates well with A. Kotwal et.al.study that showed students in public school were using more tobacco and tobacco/areca nut in Indian population[16].In the Present study high risk sexual behavior at government and private schools have 16 % and government and private colleges is also 16 % , shows that both school and college adolescents have same behaviors. In the US, in terms of sexual behavior, in 2005, 47% of high school students had sexual intercourse,14% of high school students had four or more sex partners during their lifetime[12]. Caribbean review provides that initiation of sexual activity ≤ 10years old-19% and those having more than six partners-19%. In Caribbean adolescents are possible participating in high-risk sexual behaviors similar to their US counterparts. Findings of the few available studies (Jejeebhoy, 2000, for India; or Abraham, this volume) generally suggest that between 20% and 30% of young men and between 0% and 10% of young women report premarital sexual experience. High risk sexual behavior is less in our study as compared to previous studies.

It was found that the factors which were associated with this increased adolescent sexual activity included the absence of a father figure, low educational goals and a lack of parental supervision .[17,18]. As a consequence, the care of children and adolescents is entrusted to their elderly grandparents or relatives who are often unable to cope or give adequate supervision.

Sexually transmitted infections has data in schools is 20 % where as colleges it is 24 %in present study. Sexual initiation occurs earlier than many assume, and is often unplanned and unprotected. Population prevalence of gonorrhea and/ or chlamydia in 18–21 year-olds was 26% in Caribbean studies [19]. So in the era of HIV/AIDS pandemic there is a great need to increase awareness about safe sexual behavior amongst adolescents. Our study correlates well with previous study.

In present study mental health is disturbed has data in schools is 16% where as in colleges it is 20% showing that college going adolescents are suffering more from depression ,anxiety etc. Suicide is a leading cause of mortality in Caribbean adolescents severe depression in the adolescent age group was 9%, and attempted suicide-12% [20]. Gender differences between adolescents who attempt suicide and those who complete suicide were similar to that of the international literature[21].Our study has slightly higher percentage when compared to other studies.

The major risk factors were intra-familial and interpersonal conflict, depression, physical and sexual abuse and antisocial disorders, with substance abuse increasing the likelihood of suicidal attempt or completed suicide.[22,23,]. Although the adverse situations faced by adolescents may change with the specific culture, the risk factors for increased risk-taking behavior appears to be universal. Also reported high levels of exposure and participation in violence. One domain not well documented in the international literature is that of rage. It is defined as 'a sense of 'almost always wanting to hurt another'. Five percent of adolescents reported rage in two Caribbean studies[24]carrying a weapon to school in the last 30 days-10% and almost always wanting to kill or injure someone-5% in one of the Caribbean studies .Interestingly, comments on studies done in New Zealand in the 1970s, suggested that antisocial behavior peaks around 16–17 years old and includes 5% of males who were persistent offenders throughout their lives[25]. This is certainly an area for more extensive study and may represent a high risk group that may benefit from tailored intervention. Our data in schools is 12% where as in colleges it is 16 %it is that college going adolescents have aggressive behavior than school going ,so they need more attention and counseling.

There are previous studies in India on nutritional status and high risk behavior of adolescents in Ahmedabad its a Cross Sectional Study by Mital Prajapati .et al[26] .Adolescent sexual and reproductive risk behaviors by RamasubbanR, JejeebhoyS et.al[27] but our study is of its own kind On the whole is less in Hyderabad population as compared to studies of U.S and Caribbean so unless we address these critical issues, it is not possible to promote the health of adolescents in the region. An organized approach to the identification and encouragement of a child's strengths during health supervision visits provides both the child and parent with an understanding of how to promote healthy achievement of the developmental tasks of childhood and adolescence. Children with special health needs often have a different timetable, but they have an equal need to been encouraged to develop strong family and peer connections, competency and independent decision-making.

Conclusions:

Even though the risk behaviors on the whole is less in Hyderabad adolescent population as compared to studies of U.S and other parts of world , we need to address these critical issues, to promote the health of adolescents in this Region.

Adolescence is considered to be a very critical transitional stage of life with acute crises in which future is at stake. These initial results suggest that the survey does, in fact, measure the identified risk and protective factors that have been shown in other studies to predict adolescent antisocial behavior, including delinquency, substance abuse, and violence. Preventive programs that effectively address the identified elevated risk and suppressed protective factors can be selected for implementation with the target group, thus focusing prevention efforts on changing potential etiological factors where they may have the greatest impact. This should increase the effectiveness and efficiency of prevention efforts by facilitating strategic prevention planning addressing specific predictors of problem behavior in schools and communities. The answer appears to lie in universal education, improved quality of life, equitable opportunities, access to health care, confidential counseling and information services but above all, understanding and supportive parents. There is a substantial body of literature on adolescents documenting prevalence and correlates of health risk behaviors. Future research should emphasize the designing and testing of interventions to alleviate this burden.

The present study included only adolescent population attending schools and colleges. Participants might have difficulty in understanding the questionnaire. Data collected is completely relied on the information given by the subjects. Evaluation of reliability of response is lacking. Although sample size is statistically adequate, due to the wide range of economic and cultural differences in Hyderabad the results cannot be generalized.

Recommendations

A large number of sample to be studied for better results. Further studies are required to design interventions and plan risk reduction to reduce this burden. Other rcommendations to reduce the risk behavior are good therapist and child relationship is essential, behavioral and emotional problems, psychological problems should be managed through behavior therapy and psychotherapy, motivational counseling and life skills training have an important role in improving the motivation and time management of children, family counseling and parental guidance are essential, every child should be taught to adopt themselves to the environment in which they live right from childhood onwards and this should start from home itself, teacher–student relationship should be strengthened, a psychologist should be there in every educational institution to help students to maintain a sound mental health.

Acknowledgements:

The authors wish to thank Dr. D. Kalyani, Assistant Professor, Department of Pathology, Gandhi Medical College, Hyderabad for her help in manuscript preparation and statistical evaluation of this study.

Source of Funding: Nil
Source of Conflict: Nil

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