

Prevalence of tobacco, alcohol, and other drug abuse among school-going male adolescents in Jammu

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Abstract

Background: Considerable morbidity and mortality all through the life occurs as a result of multiple risk behaviors inculcated during adolescence. Adolescence (10–19 years) is an important stage of life for establishing healthy behaviors determining current and future health. So, it becomes necessary to investigate the risk behaviors during these years.

Objective: To study and compare the health-risk behavior of rural and urban male adolescents with regard to tobacco, alcohol, and other drug abuse.

Materials and Methods: A school-based cross-sectional study was conducted over a period of 1 year in RS Pura (rural area) and Jammu city (urban area) of district Jammu, Jammu and Kashmir, India. Information on a pretested, semi-open-ended, self-administered 2011 Youth Risk Behavior Survey (YRBS) questionnaire was obtained from all the students (15–19 years) studying in 9th to 12th class of 12 randomly selected schools.

Results: The sample studied (n=848) comprised of nearly equal number of urban and rural adolescents. Not only that, their average ages were also similar. However, a higher proportion of rural adolescents was observed to have ever tried cigarette smoking (38.78% rural vs. 20.78% urban). The majority of adolescents in both urban (71.92%) and rural (80%) areas were not consuming alcohol. More rural adolescents had used cannabis (20% rural vs. 12% urban), with the majority of them experimenting this in early adolescence.

Conclusion: High-risk behavior observed among adolescents necessitates an urgent need for scaling up of antitobacco and antialcohol measures to ensure healthier adulthood.

KEY WORDS: Adolescents, smoking, alcohol, substance abuse

Introduction

The period of transition between childhood and adulthood is called adolescence. It is a critical period for establishing healthy behaviors, attitudes, and lifestyles, which determine current and future health. Adolescence is defined by the WHO

as the age group of 10–19 years.^[1] In India, adolescents constitute 21.4% (one-fifth) of the total population.^[2] Owing to huge numbers, one of the most important commitments India can make for its future economic, social, and political progresses and stability is to address the health and developmental needs of its adolescents.^[3] Adolescents, from both rural and urban areas, may start experimenting with risky behaviors, then intensify unhealthy activities, and ultimately demonstrate extreme vulnerability to such behaviors.

The WHO considers smoking along with substance abuse as one of the most dangerous risk behavior affecting health. Almost 50% of young people who start smoking as teenagers will become adult heavy smokers and continue smoking for at least 16–20 years.^[4] Cultural, social, and family environment is known to influence such behaviors. More specifically,

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tobacco use among adolescents is related to the number of one's friends who smoke.^[5] Another risk behavior of particular concern is regular alcohol use and binge drinking. Early use of alcohol adversely impacts sexual-risk behavior, substance use, criminal and violent behaviors, academic underachievement, mood disorders, injury, and high levels of alcohol-related attendances at hospital.^[6]

A thorough understanding of risk behaviors in adolescents can help identify the most effective ways of promoting good health in adolescents. This study, thus, is an endeavor to study and compare the health-risk behaviors of rural and urban male adolescents with regard to tobacco, alcohol, and other drug abuse.

Materials and Methods

After taking approval from Institutional Ethics Committee (IEC), Government Medical College and Hospital, Jammu, Jammu and Kashmir, India, a cross-sectional, school-based study was conducted over a period of 1 year in the rural and urban areas of the district Jammu. An updated list of all the schools of RS Pura Block (rural) and Jammu city (urban) was procured from the Chief Education Officer, Jammu, and the schools were categorized as government and private. Twelve schools of 79 were randomly selected for the study [Figure 1]. All the students studying in 9th to 12th class (15–19 years) of these schools constituted the potential participants for the study.

Sampling Strategy

The investigators, after meeting the heads of the selected school and briefing them about the purpose of the study, sought time convenient to the school authorities for data collection. Verbal assent was secured from each participating student before the conduct of the study. In the case of minors, the parents were contacted telephonically and, whenever possible, their consent was obtained. A pretested, semi-open-ended, self-administered 2011 Youth Risk Behavior Survey (YRBS) questionnaire^[7] was used. The Youth Risk Behaviour Surveillance System (YRBSS)^[8] is mainly restricted to monitor six categories of risk behavior as per Centers for Disease Control and Prevention (CDC). Although data were collected on all six behavioral components, this article discusses the results that specifically pertain to tobacco, alcohol, and other drug abuse. Before administration, the students were briefed about the questionnaire in local language, so that they could easily understand and fill it. They were encouraged to answer all the questions to ensure complete coverage.

Data Analysis

The data were compiled, tabulated, and expressed as proportions. The χ^2 -test was used to evaluate statistical significance, and two-sided p value of < 0.05 was considered as statistically significant.

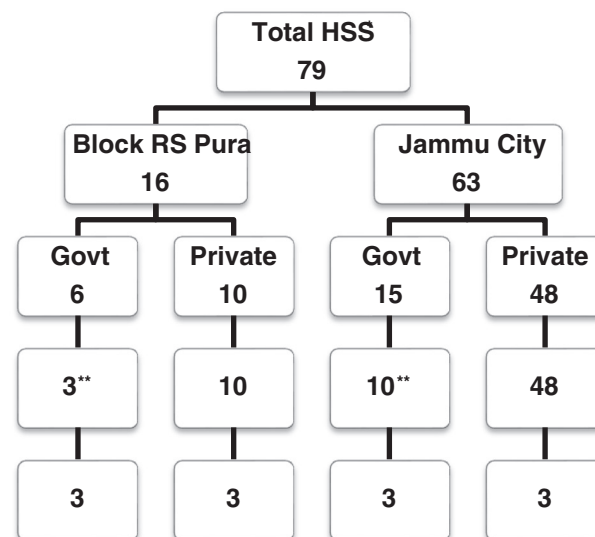


Figure 1: Sampling strategy.

*HSS = Higher secondary schools.

**Three schools in RS Pura and five schools in Jammu city were exclusively for girls; hence, they were excluded.

Result

Both the urban and rural adolescents were of similar mean age (urban, 16.5 ± 1.55 vs. rural, 16.4 ± 1.65 years). The majority of adolescents studied were Hindus. Sikhs were proportionately more (23.4%) in rural than in urban (6.6%) areas.

Nearly two-thirds of adolescents in urban and half of the adolescents in rural Jammu belonged to nuclear families. A higher proportion of the parents were illiterate in rural area when compared with their urban counterparts [Table 1].

The overall prevalence of tobacco, alcohol, and other drug abuse among studied subjects is depicted in Figure 2. The proportion of rural adolescents who ever tried cigarette smoking was almost double when compared with their urban counterparts. Almost equal number of adolescents in both the areas ever tried to quit smoking during the last 12 months. The majority of adolescents in both urban and rural areas smoked a whole cigarette for the first time at the age ranging between 11 and 16 years. An increasing trend in the proportion of male adolescents smoking full cigarette for the first time in both the areas was observed up to the age of 14 years after which the pattern showed a reverse trend. A higher proportion of rural adolescents have reportedly chewed tobacco during the last 30 days even on school property [Table 2].

The majority of the adolescents were not consuming alcohol, and among those reportedly drinking alcohol, a higher proportion was residing in urban areas, and this pattern persisted irrespective of days of drinking alcohol. An increasing trend in the proportion of male adolescents reportedly took their first drink of alcohol in both the urban and rural

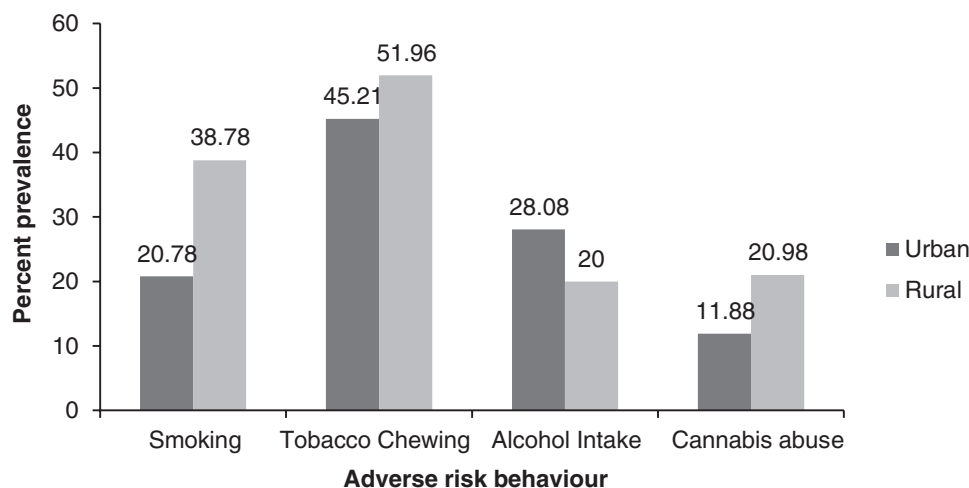


Figure 2: Prevalence of tobacco, alcohol, and other drug abuse among the studied subjects.

areas up to 12 years of age, and, then, it started declining [Table 3].

Nearly, 12% of the urban and 20% of the rural adolescents were using cannabis, with the majority of them having experimented it at the age ranging between 9 and 14 years [Table 4]. A very small number of adolescents indulged in the use of opioids and anabolic steroids (11 adolescents in urban areas and four adolescents in rural areas).

Discussion

Many workers in India and across the world have studied the risk behavior of adolescent boys and girls, but only few focused on smoking, alcohol and drug abuse.^[9–15] Studies in this respect have predominantly been undertaken in the western world, and therefore, direct comparison with this study findings may not be appropriate. Furthermore, only few studies have reported rural–urban differences.

Available literature links risk behavior with sociocultural customs, traditions, and the psychological makeup of the adolescents.^[13,16–19] The observation that higher proportion of adolescents belonging to nuclear families were reportedly indulging in high-risk behavior with respect to many facets of YRBS finds consonance with the figures reported by various other workers.^[20–22] It seems joint families serve as a deterrent for engaging in high-risk behavior by the way of enhanced supervision, sharing of the family values, and by being more indulgent in activities that keep them busy.

It is important to note here that only few workers have studied this phenomenon using YRBS questionnaire as we have done.^[12] Some issues, however, merit further explanation, for example, adolescents belonging to families of single parents demonstrating higher drug abuse.^[23] This phenomenon has largely been reported from studies conducted in western world, and whether the same holds true for Indian

adolescents is difficult to comment upon, because we did not have a sizable number of adolescents in this group to generate any such conclusion.

As far as tobacco consumption is concerned, the results indicated that rural adolescents were significantly more likely to be ever smokers, current smokers, and ultimately to be regular smokers than their urban counterparts. This pattern is substantiated by many others.^[20,22,24] We feel various characteristics of the rural region may contribute to increased rates of tobacco use, for example, easier access and availability of tobacco products and less exposure to antitobacco advertising campaigns, to name a few. It is possible that rural adolescents might have reported such behavior more often owing to lesser stigma associated with tobacco consumption in rural area.

However, the evidence with regard to consumption of alcohol is inconsistent. Binge drinking and higher consumption of cannabis observed in rural adolescents might have to do with scarce availability and less restrictive practices on festivities.^[22] This is a matter of great concern as few initial attempts of cannabis use at an early age of life might give way to the abuse of other illegal drugs later in life. Fortunately, none of the adolescents studied were found to take illegal drugs by intravenous route.

Higher frequency of unfavorable risk behavior observed among adolescents simply cannot be washed away. The major limitation of the study arguably relate to its self-reported nature, recall, and social desirability bias. The study, on the other hand, offers a fresh look into urban rural differentials not reported widely. Furthermore, it gives the planners a window of opportunity to revisit IEC plans currently in vogue. Still the magnitude of adverse risk behavior calls for urgent action by families, community, schools, and organized and unorganized health-care sectors including NGOs and voluntary agencies. A good start has already been made by incorporating these elements in the newly launched Rashtriya Kishor Swasthya

Table 1: Sociodemographic characteristics of study subjects

Sociodemographic parameters	Male adolescents (848)	
	Urban (438), ? (%)	Rural (410), ? (%)
Age (in completed years)		
15	99 (22.60)	100 (24.39)
16	110 (25.11)	111 (27.07)
17	131 (29.90)	116 (28.29)
18	98 (22.37)	83 (20.24)
Mean age \pm SD	16.5 \pm 1.55	16.4 \pm 1.65
Religion		
Hindu	395 (90.18)	307 (74.88)
Muslim	10 (2.28)	6 (1.47)
Sikh	29 (6.62)	96 (23.41)
Christian	4 (0.92)	1 (0.24)
Type of family		
Nuclear	281 (64.16)	194 (47.32)
Joint	157 (35.84)	216 (52.68)
Parent education		
Father		
Illiterate	63 (14.38)	110 (26.83)
Literate	375 (85.62)	300 (73.17)
Mother		
Illiterate	86 (19.63)	111 (27.07)
Literate	352 (80.37)	299 (72.93)
Type of school		
Government	241 (52.97)	214 (47.03)
Private	197 (50.13)	196 (49.87)

Table 2: Smoking and tobacco chewing behaviors of the studied adolescents

Smoking behavior	Area		Statistical significance
	Urban, ? (%)	Rural, ? (%)	
Ever tried cigarette smoking			
Yes ^a	91 (20.78)	159 (38.78)	HS, $P < 0.001$
No	347 (79.22)	251 (61.22)	
Age at which smoked a whole cigarette for the first time (years) ^b			
≤ 8	6 (6.59)	11 (6.92)	NS, $P = 0.21$
9–10	8 (8.79)	13 (8.18)	
11–12	16 (17.58)	27 (16.97)	
13–14	24 (26.37)	31 (19.50)	
15–16	12 (13.19)	29 (18.24)	
≥ 17	8 (8.79)	16 (10.06)	
Never smoked a whole cigarette	17 (18.69)	32 (20.13)	
Tobacco chewing status during the last 30 days			
Yes	198 (45.21)	213 (51.96)	S, $P = 0.04$
No	240 (54.79)	197 (48.04)	

HS, highly significant; NS, nonsignificant; S, significant.

^aEven 1–2 puffs of cigarette smoking.

^bFor the purpose of analysis, the age groups were clubbed as ≤ 14 and > 14 years.

Table 3: Alcohol intake behavior among the studied subjects

Alcohol intake behavior	Area		Statistical significance
	Urban, ? (%)	Rural, ? (%)	
Ever tried alcohol			
Yes	123 (28.08)	82 (20)	HS, $P < 0.0003$
No	315 (71.92)	328 (80)	
Age at which first drink of alcohol was taken (years) ^a			
≤8	8 (06.50)	5 (06.10)	HS, $P < 0.002$
9–10	11 (08.94)	9 (10.98)	
11–12	34 (27.65)	32 (39.02)	
13–14	33 (26.83)	25 (30.49)	
15–16	30 (24.39)	9 (10.98)	
≥17	7 (05.69)	2 (02.44)	

^aFor the purpose of analysis, the age groups were clubbed as ≤14 and > 14years.

Table 4: Adolescents reportedly using cannabis (bhang, ganja, and charas) during lifetime

Number of times cannabis used during lifetime ^a	Urban, ? (%)	Rural, ? (%)	Statistical significance
≤2	31 (7.08)	40 (9.75)	HS, $P = 0.0005$
3–9	19 (4.34)	34 (8.29)	
≥10	2 (0.46)	12 (2.20)	
0	386 (88.12)	324 (79.02)	
Total	438 (100)	410 (100)	

^aFor the purpose of analysis, the groups were divided as ≤ 2times and > 2times.
HS, highly significant.

Karyakaram (RKSK).^[25] It remains to be seen, however, how convergent community action can be effectively implemented and inclusiveness can be ensured. In this connection, the study results could serve as a benchmark for evaluating the success of RKSK in near future as well.

Conclusion

A higher proportion of rural adolescents who have ever tried smoking than their urban counterparts with the first exposure at an early stage of life is of great concern. Similarly, a higher proportion of adolescents drinking alcohol points toward an urgent need of scaling up of anti-tobacco and anti-alcohol activities for rural people, with more emphasis on behavior change either through group or personal approach. Commencement of multidisciplinary preventive programs is the need of the hour including increased school-based educational efforts and active involvement of parents, peers, and the community.

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