Original Research Article

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Injury and violence related behaviour among school-going adolescents in Jammu region

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ABSTRACT

Background: Adolescence is a transition period of rapid growth and development which makes this age group more vulnerable. These vulnerabilities manifest in risk behaviours that predispose them to injuries, violence, suicidal tendencies and sexual abuse in adolescence and in later stages of life. The objective of present study was to assess the health risk behaviour of rural and urban male adolescents concerning injuries, violence and sexuality.

Methods: This cross sectional study was conducted among 848 school going adolescents (15-19 years) over a period of one year (2014-2015). Schools were randomly selected using multistage simple random sampling. The youth risk behaviour survey (YRBS) questionnaire was used for data collection. Behaviours regarding driving, carrying weapons, violence, suicidal thoughts and sexual activities were explored. Descriptive statistics was used in form of percentages and proportions. Chi square test was used as a test of significance.

Results: Less than half of adolescents surveyed used helmet and seatbelt while 22% reported using mobile phone while driving. Out of total adolescents, 13.7% carried weapons to school while 23.8% damaged or stole other students' property. Adolescents in the urban area were more often threatened or injured with a weapon by someone on school premises as compared to rural counterparts. Nearly half of (47%) urban and 33% of rural ever felt so sad leading to stoppage of usual activities. Only 10.7% adolescents reported having first sexual intercourse out of which nearly one third (38.4%) had not used any method to prevent pregnancy.

Conclusions: Adolescents frequently reported high risk behaviour regardless of place of residence and type of school.

Keywords: Adolescents, Injuries, Risk behaviour, Violence

INTRODUCTION

Many adolescents face physical, psychological and social challenges of various kinds. They usually start experimenting with risky health behaviours on certain occasions before intensifying and consolidating it. These high-risk behaviours include those which contribute to unintentional injuries, violence, alcohol and other drug use, and tobacco use, sexual behaviours related to unintended pregnancy and sexually transmitted

infections, Unhealthy dietary behaviours and inadequate physical activity. Such behaviours often continue in adulthood and can lead to increased morbidity and mortality.

Unintentional injuries are the largest source of premature morbidity and mortality and the leading cause of death among adolescents 10–19 years of age.² Adolescents tend to be impulsive; vulnerable to peer influences and prone to indulge in health risk behaviours of various kinds. Dissatisfaction with life and bullying by fellow friends

may lead to self-inflicted violence like suicide and interpersonal violence like involvement in physical fight.³

As the entire gamut of health risk behaviour is beyond the scope of this paper, so here we have focussed on the results concerning reported observance of safety measures by adolescents, behavioural vulnerability and involvement with regards to injuries and violence in school environment and behaviour regarding sexuality of rural and urban male adolescents. Health risk behaviour pertaining to alcoholism, drug and substance abuse is published elsewhere.⁴

METHODS

A cross sectional study was conducted over a period of one year (2014-2015) in rural and urban areas of district Jammu among all male adolescents studying in 9th to 12th class in a sample of higher secondary schools (HSSs) of RS Pura and Jammu city after taking approval from Institutional Ethics Committee (IECGMCJ) Govt. Medical College Jammu and permission of the concerned heads of the schools. Females were excluded in the study since we got permission to conduct the study only in boys higher secondary schools of RS Pura (rural area) from concerned heads. So it would have introduced bias in results if females from rural schools were excluded and those of urban schools were included. An updated list of all government and private schools of RS Pura block (rural) and Jammu city (urban) was procured from the office of the Chief Education Officer (CEO). Out of total 79 schools, 12 schools were selected using multistage simple random sampling technique. All male students studying in 9th to 12th class (15-19 years) of these schools constituted the potential participants for the study. The younger children (10-14 years) were excluded since it was assumed that these younger adolescents may not have gone through certain experiences to answer certain questions included in the questionnaire.

The adolescents present on the day of collection of data were administered a pretested, semi-open ended, self-administered 2011 youth risk behaviour survey (YRBS) questionnaire. The YRBS questionnaire is a National school based 97-item questionnaire designed to collect data about six categories of risk behaviour. The six categories were unintentional injuries, violence, alcohol and other drug use and tobacco use, sexual behaviours related to unintended pregnancy and sexually transmitted infections, including HIV infection, Unhealthy dietary behaviours and inadequate physical activity. In the present study we have included components of Personal safety, unintentional injuries and violence and sexual behaviour and orientation.

Before administering the questionnaire, the students were briefed about the questionnaire in local language, so that they could easily understand and fill it. The questionnaire was translated from English to Hindi and back translated. They were assured that privacy and confidentiality shall not be breached and requested to respond as fully as they could. The results were expressed in the form of either percentages or proportions and Chi Square test/ Fisher's exact test was used to evaluate statistical significance. Two tailed p value was considered significant.

Sampling strategy

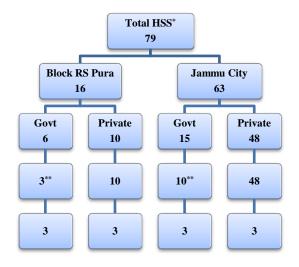


Figure 1: Sampling strategy.

*HSS = Higher secondary schools

**3 schools in RS Pura and 5 schools in Jammu city were exclusively for girls, hence excluded.

RESULTS

Of the total 848 adolescents studied, 438 (51.7%) belonged to urban and 410 (48.3%) to rural area. The mean age of urban versus rural students was similar (16.5±1.5 vs. 16.4±1.6 years). Majority of adolescents studied were Hindus (83%) followed by Sikhs (14.7%). 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 of rural adolescents were illiterate. The parents of around two-thirds adolescents had total family income of less than Rs. 15,000/- per month. The fathers of nearly half of the adolescents studied were engaged in private jobs while 30% were doing Government jobs. Majority of the mothers were housewives.

Table 1 depicts observance by adolescents of safety measures while driving/riding with someone else. Comparatively significantly higher proportion of rural adolescents (47.3% versus 32.4%) did not wear a seat belt while riding in a car driven by someone else. Similar picture emerged with regards to helmet use (27% versus 23%). Overall 14.7% adolescents rode with a driver who had been drinking alcohol, during the past 30 days. Almost quarter of both rural and urban adolescents were involved in texting while driving a car or other vehicle at least up to 10 days during the past 30 days. All the above results were statically significant (p<0.05).

Table 1: Reported observance of safety measures by adolescents while driving/riding with someone else.

	Urban (N=438)	Rural (N=410)
	N (%)	N (%)
Wore a seat belt while riding in a car driven by someone else.		
Rarely	38 (8.6)	52 (12.6)
Sometimes	186 (42.4)	112 (27.3)
Most of the time	21 (4.7)	11 (2.6)
Always	51 (11.6)	41 (10.0)
Never	142 (32.4)	194 (47.3)
Chi square=31.92, p<0.01 (highly significant)		
Texting or emailing while driving a car or other vehicle during past 30 days		
1-2 days	56 (12.7)	22 (5.3)
3-5 days	23 (5.2)	31 (7.5)
6-9 days	9 (2.0)	15 (3.6)
≥10 days	11 (2.5)	19 (4.6)
0 days	339 (77.4)	323 (78.7)
Chi square=19.12, p <0.01 (highly significant)		
Wore a helmet		
Rarely	7 (1.6)	8 (1.9)
Sometimes	80 (18.2)	55 (13.4)
Mostly	33 (7.5)	5 (1.2)
Always	43 (9.8)	4 (0.9)
Never	103 (23.5)	111 (27.0)
Did not ride during past 12 months	172 (39.2)	227 (55.3)
Chi square=64.72, p<0.01 (highly significant)		
Rode with a driver who had been drinking alcohol during past 30 days		
1 time	28 (6.3)	2 (0.4)
2- 3 times	6 (1.3)	5 (1.2)
4-5 times	40 (9.1)	19 (4.6)
≥6 times	16 (3.6)	9 (2.2)
0 times	348 (79.4)	375 (91.4)
Chi square=9.74, p<0.05 (significant)		

Table 2: Adolescents'reporting behavioural vulnerability and involvement with regards to injuries and violence in school environment.

	Urban (N=438)	Rural (N=410)
	n (%)	n (%)
Carried a weapon during the past 30 days		
1 time	32 (7.30)	7 (1.71)
2-3 times	12 (2.73)	7 (1.71)
4-5 times	19 (4.33)	9 (2.19)
≥6 times	18 (4.10)	13 (3.17)
0 time	357 (81.50)	374 (91.21)
Chi square=25.3, p<0.01 (highly significant)		
Not went to school as they felt unsafe there		
1 time	32 (7.3)	30 (7.3)
2-3 times	63 (14.3)	37 (9.0)
4-5 times	5 (1.1)	4 (0.9)
≥6 times	19 (4.3)	13 (3.1)
0 time	319 (72.8)	326 (79.5)
Chi square=7.2, p=0.12 (not significant)		
Threatened or injured with a weapon on school property during the past 30		
days		
1 time	62 (14.1)	41 (10.0)
2-3 times	58 (13.2)	32 (7.8)
4-5 times	2 (0.4)	1 (0.2)
6-7 times	3 (0.6)	3 (0.7)
Chi square=11.83, p<0.05 (significant)		

Property stolen or deliberately damaged during the past 12 months		
1 time	83 (18.9)	57 (13.9)
2-3 times	59 (13.5)	49 (11.9)
4-5 times	23 (5.3)	12 (2.3)
≥6 times	5 (1.1)	2 (0.4)
Chi square=10.05, p<0.05(Significant)		
Involvement in a physical fight during the past 12 months		
1 time	83 (18.95)	50 (12.20)
2-3 times	75 (17.12)	67 (16.34)
4-5 times	40 (9.13)	29 (7.07)
6-7 times	24 (5.47)	13 (3.17)
8-9 times	12 (2.75)	10 (2.44)
≥10 times	4 (0.91)	3 (0.73)
Chi square=16.3, p<0.05(Significant)		
Ever bullied on school property		
Yes	142 (32.42)	87 (21.22)
No	296 (67.58)	323 (78.78)
Chi square=13.48, p<0.01(Highly Significant)		
Ever felt so sad that some usual activities were stopped		
Yes	206 (47.03)	136 (33.17)
No	232 (52.97)	274 (66.83)
Chi square=16.91, p<0.01 (Highly Significant)		

Table 3: Adolescents' behaviour with regards to sexuality.

	Urban (N=438)	Rural (N=410)
Age at first sexual intercourse		
≤11 years old	6 (13.9)	3 (6.25)
12 years old	7 (16.2)	6 (12.5)
13 years old	9 (20.9)	9 (18.7)
14 years old	10 (23.2)	10 (20.8)
15 years old	6 (13.9)	8 (16.6)
16 years old	3 (6.9)	7 (14.5)
≥17 years old	2 (4.6)	5 (10.4)
Chi square=4.7, p=0.6 (not Significant)		
Method used to prevent pregnancy	n =43	n =48
Birth control pills	11(25.5)	6 (17.1)
Condoms	24 (55.8)	14 (40.0)
Withdrawal	1 (2.3)	0 (0.0)
No method used	7 (16.2)	28 (58.3)
Chi square=7.2, p=0.06 (not Significant)		
Ever taught about HIV/AIDS in school		
Yes	166 (37.9)	138 (33.6)
No	210 (47.9)	194 (47.3)
Not sure	62 (14.1)	78 (19.0)
Chi square=4.12, p=0.12 (not Significant)		

Regarding behavioural vulnerability and involvement with regards to injuries and violence in school environment (Table 2). Out of total urban adolescents 18.5% carried a weapon to school while 27% who were enrolled in school did not feel like going to school as they felt school environment unsafe at one or other point of time. Adolescents in the urban area were significantly (p<0.05) more threatened or injured with a weapon by someone on school property and as compared to those in the rural areas. Around 48% of total adolescents were involved in physical fight during the past 12 months. The

adolescents whose 'property was stolen or damaged by someone during the past 12 months were 38.8% in urban areas as compared to 28.5% of rural adolescents. Nearly half of the urban and one-third of the rural male adolescents ever felt so sad that it affected their usual activities during the past 12 months. Regarding sexual behaviour (Table 3), overall 10.7% of adolescents were sexually active with rural adolescents outnumbering the urban adolescents. Regarding contraceptive use majority were using condoms. Only 35.8% adolescents were taught about HIV/AIDS in school.

DISCUSSION

The present study was conducted to study and compare the behaviour regarding injuries and violence and sexuality among urban and rural male adolescents. The relevance of the subject to present policy initiatives vis-àvis adolescents cannot be underestimated. Even though it is not an exhaustive investigation into the behavioural profiling, the findings that have emerged can be gainfully considered while framing interventions at family and school level. Further, use of standardized survey instrument and high response rate (>93%) allows valid comparisons to be made.

Reports of risky behaviour among adolescents from nuclear families and poor socioeconomic status have been widely reported. There are indications that the changing family structure traditions might exacerbate this behaviour which otherwise have been frequent among adolescents from lower socioeconomic strata. It is becoming increasingly apparent that children from nuclear families are getting more prone to engage in high risk behaviour due to lack of supervision, family values and brittle family ties. Injuries and violence seem predominant risk behaviours. Suicidal tendencies and depression are giving way to the newer phenomena of Injuries and violence. It is indeed a worrisome situation.

Further the urban-rural disparity observed with respect to personal safety may be due to lack of imposition of traffic rules and careless attitude of the drivers in the rural areas.

Early use of alcohol is associated with multiple risk behaviours and detrimental impacts including sexual risk behaviour, sexually transmitted infections, substance use, criminal and violent behaviour, academic underachievement, mood disorders, injury and high levels of alcohol-related attendances at hospital.¹²

The present study revealed that maximum adolescents were around 14 years of age at the time of sexual contact and more than half of urban adolescents (55.8%) had used condom as a method to prevent pregnancy. Majority of workers including us have reported higher proportion of rural adolescents indulgent in the behaviour listed above. The implication for this behaviour on the spread of HIV/AIDS has been studied by various workers. ^{13,14}

In the current scenario where adolescents spend most of the time without adult supervision and due to changing lifestyle they are more likely to engage in risk-taking behaviours.

The present study revealed that nearly half of adolescents were involved in physical fight during the past one year. Comparable figures were reported by various authors. ^{6,15}¹⁷ However this is slightly higher than reported by other studies. ¹⁸⁻²⁰ In our study higher proportion of urban adolescents (18.5%) carried a weapon. This figure is slightly higher as compared to study done by Kishore et

al who found that 12.5% urban adolescent had carried a weapon. In another study when considering weapon carrying, rural males were more likely to report carrying a weapon than urban males. The present study might have overestimated weapon carrying among adolescents since Sikhs are religiously bound to carry weapons (Kirpan) and this study included only males. Adolescents in the urban area were more threatened or injured with a weapon by someone on school property and as compared to those in the rural areas. These figures are slightly higher as compared to study done by Sharma. But the results corroborated with published literature. But the results corroborated with published literature. The likely reason may be urban adolescents are more exposed to environments like negative cinema and media conducive for such violent behaviours.

It has been seen that the odds of fighting at school are increasingly greater as children's frequency of carrying weapon at school.²³ In our study around 34% of total adolescents had their property stolen. This frequency is comparatively less as compared to Paul et al as they had reported 55% adolescents whose property was stolen.¹⁹

A cross-sectional study conducted in South Delhi and Canada found that 20% of respondents had ridden in a motor vehicle in the previous 30 days with an intoxicated driver as compared to our study in which 14.7% rode with a driver who had been drinking alcohol during past 30 days with more percentage of urban adolescents as compared to rural counterparts. ^{22,24} This suggests that adolescents still undermine the detrimental effect of alcohol in causing road traffic accidents.

There has been tremendous rise in road traffic accidents over the past few years especially among adolescents with most important determinant being indulgence in risk behaviour. This aspect can be dealt with increasing awareness among adolescents about etiology and risk factors which can make them prone for road traffic accidents. The target areas for interventions should be school, colleges, peer groups, media and social networking sites since they leave a strong impact on adolescent mind and behaviour.

In present study nearly half of rural and thirty percent of urban adolescents reported that they had never wore a seat belt while riding in a car driven by someone else. The frequency was higher than reported by Sharma and Hetal. Similarly more rural adolescents reported the behaviour of not wearing helmet (23.5%) as compared to urban adolescents (27%). This figure was comparable to studies. The reason for low percentage is lack of awareness among young adolescents regarding protective role of helmet from serious head injuries and comparatively more strict enforcement of traffic rules in urban areas as compared to rural areas. Disregard for traffic rules, risk and adventure taking behaviour on roads among the adolescents is responsible for such risky behaviours. More initiatives are required from

government, policy makers, educational institutions for creating awareness on road traffic accidents.

Regarding sexual behaviour, nearly five percent were in early adolescence at the time of first sexual intercourse. Rural male adolescents were more likely to report ever having sexual intercourse. More HIV/STD awareness and knowledge needs to be imparted among adolescents. Overall 40% adolescents ever felt so sad that they had stopped some usual activities. This phenomenon was more significant among urban adolescents (p<0.01). The present finding was in contrast to findings of another study.²⁵

The limitation of present study is that the YRBS questionnaire was only employed to male school going adolescents and thus we cannot generalize the results to females and those adolescents who did not attend the school. Students may be reluctant to admit to illegal behaviours in the school. Being a cross sectional study design, it is difficult to make statements about cause-and effect relationships between psychosocial characteristics and behaviours. Although the relationship between variables can be examined to certain extent.

CONCLUSION

Adolescents frequently reported high risk behaviour regardless of place of residence and type of school.

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Institutional Ethics Committee

REFERENCES

- 1. Sygit K, Kollataj W, Wojtyla A, Sygit M, Bojar I, Owoc A. Engagement in risky behaviours by 15-19-year-olds from Polish urban and rural areas. Ann. Agric Environ Med. 2011;18(2):404-9.
- 2. Sleet DA, Ballesteros MF, Borse NN. A review of unintentional injuries in adolescents; Annu Rev Pub Health. 2010;31:195-212.
- 3. Chatterjee C, Paul S, Basu, Mukherjee GA. Study on inter-personal violence among school going adolescents in a rural block of West Bengal. J Den Med Sci. 2012;3(3):41-4.
- Kumar V, Kumar D, Shora TN, Dewan D, Mengi V, Razaq M. Prevalence of tobacco, alcohol, and other drug abuse among school-going male adolescents in Jammu. Int J Med Sci Public Health. 2016;5(2):246-51.
- CDC- 2011 National YRBS Questionnaire. Available at: ftp://ftp.cdc.gov/pub/data/yrbs/2011/ 2011_xxh_questionnaire.pdf. Accessed on 25 August 2016.
- 6. Sharma R, Grover VL, Chaturvedi S. Risk behaviors related to inter-personal violence among school and

- college-going adolescents in south Delhi. India J Com Med. 2008;33(2):85-8.
- 7. Barone C, Weissberg RP, Kasprow WJ, Voyce CK, Arthur MW and Shriver TP Involvement in Multiple Problem Behaviors of Young Urban Adolescents. J Prim Prev. 1995;15(3):261-83.
- 8. Phuong TB, Huong NH, Tien TQ, Chi HK, Dunne MP. Factors associated with health risk behaviour among school children in urban Vietnam. Glob Health Action. 2013;18(6):1-9.
- 9. Riley AW, Harris SK, Ensminger ME, Ryan S, Alexander C, Green B, et al. Behaviour and injury in urban and rural adolescents. Injury Prevent. 1996;2:266-73.
- Dunsire M, Baldwin S. Urban-rural comparisons of drink-driving Behaviour among late teens: a preliminary investigation. Alcohol and Alcohol. 1999;34(1):59-64.
- 11. Vijayakumar L. Indian research on suicide. Indian J Psychiatry. 2010;52(3):291–6.
- MacArthur GJ, Smith MC, Melotti R, Heron J, Macleod J, Hickman M, et al. Patterns of alcohol use and multiple risk behaviour by gender during early and late adolescence:the ALSPAC cohort. J Public Health (Oxf). 2012;34(1):20–30.
- Crosby RA, Yarber WL, Ding K, DiClemente RJ, Dodge B. Rural and Non-Rural Adolescents' HIV/STD Sexual Risk Behaviours: Comparisons From A National Sample. The Health Education Monograph Series. 2000;18(1):45-50.
- 14. Voeten HA, Egesah OB, Habbema J D. Sexual Behaviour is more risky in rural than in urban areas among young women in Nyanza Province, Kenya; Sex Transm Dis. 2004;31(8):481–7.
- Vanderschmidt HF, Lang JM, Knight-Williams V, Vandeschmidt GF. Risks among inner-city young teens: the prevalence of sexual activity, violence, drugs and smoking. J Adolesc Health. 1993;14:282-8
- 16. Miguel-Baquilod M. Global School-based student Health Survey (GSHS) in the Philippines. A Component Project of the World Health Organization and the U.S. Centers for Disease Control and Prevention's Global School-based Health Surveillance System. 2003-2004.
- 17. Ruangkanchanasetr S, Plitponkarnpim A, Hetrakul P, Kongsakon R. Youth risk behavior survey:Bangkok, Thailand. J Adolesc Health. 2005;36:227-35.
- 18. Springer AE, Selwyn BJ and Kelder SH.A descriptive study of youth risk behaviour in urban and rural secondary school students in El Salvandor. BMC International Health and Human rights. 2006;6:3.
- Lee LK, Chen PCY, Lee KK, Kaur J. Violence-Related Behaviours among Malaysian Adolescents: A Cross Sectional Survey among Secondary School Students in Negeri Sembilan. Ann Acad Med Singapore. 2007;36(3):169-74.

- 20. Eker HH, Tasdemir M, Ulger Z, Ozder A.Violence Related Behaviours among Adolescent Students and Factors Affecting Thereto. J Psychiatry. 2015;18:239.
- 21. Kishore J, Singh A, Grewal I, Singh SR, Roy K. Risk Behaviour in an urban and a rural male adolescent population. Natl Med J of India. 1999;12(3):107-10.
- 22. Sharma S, Grover VL, Chaturvedi S. Health risk behaviour related to road safety among adolescents. Ind J Med Sci. 2007;61(12):656-62.
- 23. Uka A. The Impact of Risk Behaviors on Violence among High School Students. J Educational Social Res. 2014;4(2):257-61.
- 24. Pickett W, Davison C, Torunian M, McFaull S, Walsh P, Thompson W. Drinking, Substance Use and the Operation of Motor Vehicles by Young

- Adolescents in Canada. PLoSONE. 2012;7(8):e42807.
- 25. Dubendris, H. Investigating Differences in Risk BehaviorsAmong Rural, Suburban, and Urban Adolescents (Doctoral dissertation). 2012.
- 26. Eiksund S.A geographical perspective on driving attitudes and behaviour among young adults in urban and rural Norway. Safety Sci. 2009;47(4):529–36.

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