

Original Research Article

Prevalence of substance abuse among adolescents of urban and rural community in Surendranagar district, Gujarat

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Received: 12 March 2019

Accepted: 28 March 2019

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ABSTRACT

Background: According to the World Health Organization (WHO), substance abuse is “persistent or sporadic drug use inconsistent with or unrelated to acceptable medical practice.” Recently, substance abuse has been increasing among children and adolescents. Alcohol is one of the leading causes of death and disability globally and in India. Tobacco consumption is a major preventable cause of death, accounting for 13,000 deaths per day globally. This study was conducted to identify the prevalence of substance abuse and its pattern among adolescents in rural and urban community of Surendranagar district.

Methods: It was a cross-sectional study carried out among 300 rural (150 from school and 150 from community) and 300 urban (150 from school and 150 from community) adolescents selected by simple random sampling. Data was collected and analysed by Statistical Package for Social Sciences and Microsoft excel have been used to generate graphs, tables, etc.

Results: Prevalence of substance abuse in our study was 30.17%. Adolescents from rural community had higher prevalence (37.67%). Prevalence was significantly higher in males (55.33%) than compared to females (5%). Tobacco was most common substance abused by the adolescents.

Conclusions: Prevalence of substance abuse was higher in rural compared to urban community and in males compared to females. Chewing form being the most common form of abusing the tobacco followed by smoking and drinking form in our study.

Keywords: Substance abuse, Adolescents, Prevalence, Tobacco

INTRODUCTION

According to the World Health Organization (WHO), substance abuse refers to the harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs. Substance abuse is “persistent or sporadic drug use inconsistent with or unrelated to acceptable medical practice.”¹ In present scenario, substance abuse has been increasing among children and adolescents. Late

childhood and adolescents are periods of explorations and sizeable proportions of adolescents in many states of India experiment with drugs quite early in life.²

Worldwide, alcohol is one of the leading causes of death and disability. In India, it is estimated that 75 million people are alcohol abusers and nearly 3 million are opioid abusers.³ About 13,000 deaths per day Worldwide occur due to consumption of tobacco, which is a major

preventable cause of death. It has been predicted by the World Health Organization (WHO) has predicted that tobacco use will kill more than 500 million people by 2030 and it will become the single leading cause of death.⁴ Worldwide, tobacco is consumed mostly in smoking form.⁵ It has been observed that adolescence is the period during which majority of the smokers get into the habit of smoking. There is an alarming increase in the social acceptance of alcohol. Easier access to 'hard drugs' like opioids is now accountable for driving adolescents toward substance abuse. There is a concerning increase in alcohol and opiod use at lower ages. As per the report of National institute on drug abuse (NIDA), most of the marijuana use begins in adolescence. 2.4 million People began using alcohol and opiod in the year 2013 and among them, 78% were aged 12 to 20.⁶

The United Nations Sustainable Development Goals (SDGs) are 17 goals with 169 targets that all 191 UN member states have agreed to try to achieve by the year 2030. In these SDGs, Goal-3 (Target-5) narrates that "Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol." Adolescents are the most misunderstood and underserved populations in society. Childhood antisocial behaviours are a major constituent in the development of adolescent alcohol abuse.⁷

In this context, this study was conducted to find out the prevalence of substance abuse among adolescents and to understand the epidemiological features of substance abuse in this district.

METHODS

This was a cross-sectional study carried out in urban and rural areas of Surendranagar district from August 2015 to March 2016. Main study participants were adolescents aged 10-19 years (except those who were absent and not giving consent). 300 adolescents from urban and 300 from rural were selected so that the total sample was 600 adolescents. The rural and urban sample has included 150 adolescents from the community through household survey and 150 from school survey. Confidentiality issues have been maintained and appropriate oral/written consent was taken in appropriate language from parents or school principles. The study was carried out through oral questionnaire method using pre designed and pretested questionnaire. The data was analyzed by Statistical package for Social Sciences (SPSS) and Microsoft Word and Excel have been used to generate graphs, tables etc.

RESULTS

The study shows that out of total 600 study participants, 25.67% (154) were in the age group of 17-19 years, followed by 19.83% (119) in the age group of 14-16 years and 4.50% (27) in the age group of 10-13 years in urban area respectively. In the rural area, 23.50% (141) were in the age group of 17-19 years, followed by 22% (132) in the age group of 14-16 years and 4.50% (27) in the age group of 10-13 years respectively. Majority of the study participants were in the age group of 17-19 years in both urban and rural area (Table 1).

Table 1: Distribution of adolescents according to their age, sex and school and community among urban and rural areas (n=600).

Age groups (in years)	School (n=150)		Community (n=150)		Total
	Male (n=75)	Female (n=75)	Male (n=75)	Female (n=75)	
	N (%)	N (%)	N (%)	N (%)	N (%)
Urban (n=300)					
10 to 13	2 (0.33)	8 (1.33)	11 (1.83)	6 (1)	27 (4.50)
14 to 16	50 (8.33)	35 (5.83)	28 (4.67)	6 (1)	119 (19.83)
17 to 19	23 (3.83)	32 (5.33)	36 (6)	63 (10.5)	154 (25.67)
Rural (n=300)					
10 to 13	3 (0.50)	6 (1)	10 (1.67)	8 (1.33)	27 (4.50)
14 to 16	50 (8.33)	26 (4.33)	24 (4)	32 (5.33)	132 (22)
17 to 19	22 (3.67)	43 (7.17)	41 (6.83)	35 (5.83)	141 (23.50)
Total	150 (25)	150 (25)	150 (25)	150 (25)	600 (100)

Figure shows that out of 600 adolescents, around 30.17% (181) were abusing or taking any substance (Figure 1).

Around 37.67% (113) adolescents were abusing any substance in the rural as compared to the urban area which is 22.67% (68) and the difference between rural and urban area for substance abuse was found statistically significant. There was also significant difference between prevalence of substance abuse in school and community;

around 44.33% (133) adolescents were addicted in community and 16% (48) in the school. About 55.33% (166) males were addicted to the substance as compared to females which were only 5% (15), and the difference between male and female was also found statistically significant (Table 2).

Nicotine/tobacco was most common substance abused by the adolescents. It was mostly used in rural area (31.67%)

as compared to urban area (20%). Alcohol was also most commonly abused in rural area (3%) as compared to urban area (1.33%). Opioid/afin was most common in rural area (1.67%) than in urban area (0.33%). Bhang was equally abused in rural (0.67%) and urban (0.67%) area, while hashis/charas was more common in rural area (0.67%) than in urban (0.33%) area (Table 3).

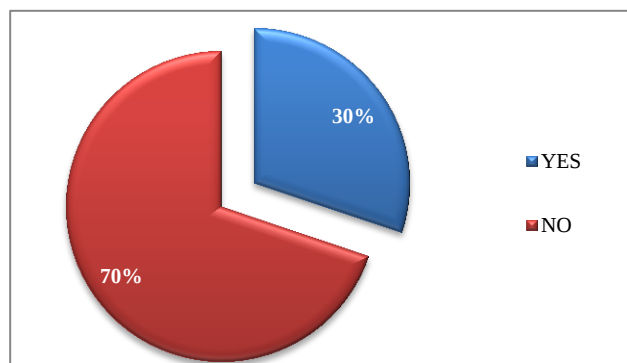


Figure 1: Prevalence of substance abuse among adolescents (n=600).

Out of the 181 substance abuser, majority 72.93% (132) were abusing substance by chewing pattern or form (Figure 2).

Figure revealed various forms or patterns for abusing tobacco/nicotine amongst 155 adolescents, in which majority 45.81% were using mava, followed by gutkha (16.13%), cigarette (14.84%), miraj/khaini (9.68%), pan masala (9.03%) and beedi (4.52%) (Figure 3).

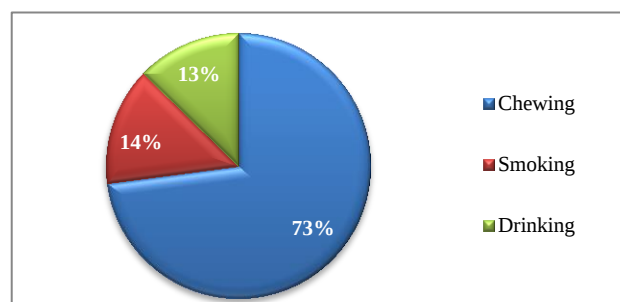


Figure 2: Distribution of the adolescents according to their patterns/forms of abusing the substance (n=181).

Table 2: Prevalence of substance abuse among adolescents.

Prevalence of substance abuse	Yes	No	Total	Statistical value
	N (%)	N (%)	N (%)	
Association between urban and rural				
Urban (n=300)	68 (22.67)	232 (77.33)	300 (100)	$\chi^2=16.02$ Df=1 P<0.05
Rural (n=300)	113 (37.67)	187 (62.33)	300 (100)	
Total (n=600)	181 (30.17)	419 (69.83)	600 (100)	
Association between school and community				
School (n=300)	48 (16)	252 (84)	300 (100)	$\chi^2=57.16$ Df=1 P<0.05
Community (n=300)	133 (44.33)	167 (55.67)	300 (100)	
Total (n=600)	181 (30.17)	419 (69.83)	600 (100)	
Association between male and female				
Male (n=300)	166 (55.33)	134 (44.67)	300 (100)	$\chi^2=180.39$ Df=1 P<0.05
Female (n=300)	15 (5)	285 (95)	300 (100)	
Total (n=600)	181 (30.17)	419 (69.83)	600 (100)	

Table 3: Prevalence of substance abuse according to various types of substances among urban and rural areas.

Substance of abuse	Urban (n=300)		Rural (n=300)		Total (n=600)	
	No.	%	No.	%	No.	%
Tobacco/nicotine	60	20.00	95	31.67	155	25.83
Alcohol	4	1.33	9	3.00	13	2.17
Opioid/afin	1	0.33	5	1.67	6	1.00
Bhang	2	0.67	2	0.67	4	0.67
Heroin	0	0.00	0	0.00	0	0.00
Cocain	0	0.00	0	0.00	0	0.00
Hashis/charas	1	0.33	2	0.67	3	0.50
Marijuana	0	0.00	0	0.00	0	0.00
Steroids	0	0.00	0	0.00	0	0.00
Other*	0	0.00	0	0.00	0	0.00
Total	68	22.67	113	37.67	181	30.17

*Other includes stimulants, hypnotics, OTC drugs, anxiolytics, hallucinogens etc.

Table 4: Reason for starting the substance use (n=181).

Reasons	Urban (n=68)		Rural (n=113)		Total (n=181)	
	No.	%	No.	%	No.	%
Depression	2	2.94	1	0.88	3	1.66
Emotional disturbance	3	4.41	2	1.77	5	2.76
Tension of study/grades	8	11.76	7	6.19	15	8.29
Peer pressure	36	52.94	61	53.98	97	53.59
Family problems/stress	5	7.35	7	6.19	12	6.63
For pleasure	9	13.24	30	26.55	39	21.55
Other*	5	7.35	5	4.42	10	5.52
Total	68	100	113	100	181	100

*Other include curiosity, desire for substance abuse, experimentation etc.

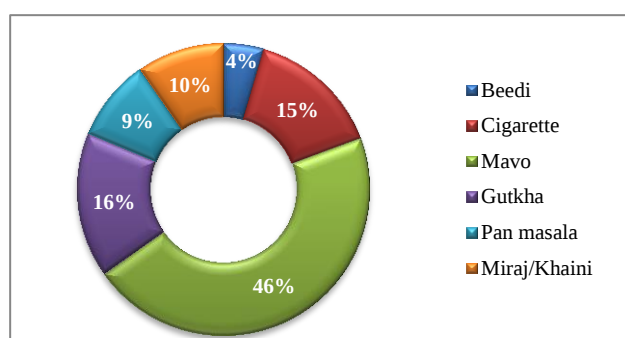


Figure 3: Distribution of the adolescents according to their patterns/forms for abusing/taking tobacco/nicotine (n=155).

Table revealed that most common reason for starting the substance abuse in both rural (53.98%) and urban (52.94%) areas was the peer pressure, followed by pleasure in rural (26.55%) and in urban (13.24%) area. Tension of study/grades was more common in urban (11.76%) than in rural (6.19%) area as a reason for starting substance abuse (Table 4).

DISCUSSION

Out of 600 adolescents about one-fourth were in the age group of 17-19 years, followed 19.83% in the age group of 14-16 years and 4.50% (27) in the age group of 10-13 years over urban area respectively. Quite similar age group was found in the study done by Tharappil in which, around 27% adolescents were 17 years old.⁸ The mean age of the participants was 15.03 ± 3.0 years in the study done by Prashant et al.⁹ The age of the respondents ranged from 14 to 19 years in the study done by Rahul Sharma.¹⁰

Out of 600 adolescents covered by the study, about 30.17% were substance abusers, which is lower than that reported in the study of Benegal et al.¹¹ Prashant et al reported overall prevalence of substance use was 32.7% in Andhra Pradesh.⁹ It is estimated that in India by the time most boys reach the ninth grade, about 50 percent of them have tried at least one of the substance of abuse nature.¹² Majra et al reported that tobacco use among

males was found to be significantly high (42.1%) when compared to that of females (17.0%) that was similar to our study result.¹³

In the present study, majority 25.83% (155) were abusing tobacco or nicotine as a substance, followed by alcohol (2.17%), opioid/afin (1%), bhang (0.67%) and hashis/charas (0.5%). Sinha had found prevalence of smoking to be 19.4% in school students of Bihar.¹⁴ Around 39.2% prevalence of tobacco use is observed by Kaur et al in North India.¹⁵ In Uttar Pradesh, Dube and Handa et al reported that 22.8 per 1000 were dependent on alcohol and drugs while Thacore from Lucknow gave a figure of 18.55 per 1000.^{16,17} Shukla et al reported that 38.3% of the rural population in Uttar Pradesh was habitual substance users.¹⁸ In a study conducted in rural community in Bihar, prevalence of alcohol/drug use was found to be 28.8% of the study population.¹⁹ Varma et al found that rates of current use of alcohol in Punjab were 45.9% in Jalandhar and 27.7% in Chandigarh whereas it was 28.1% in rural areas of Punjab.^{20,21}

Present study disclosed that out of 181 substance abusers, majority 72.93% were abusing substance by chewing form, followed by smoking and drinking form. Analysed data revealed about various forms or patterns for abusing tobacco/nicotine amongst 155 adolescents, in which majority were using mava followed by gutkha, cigarette, miraj/khaini, pan masala and beedi. The finding observed in the study done by Prashant et al revealed that the most common forms of tobacco consumed were khaini, cigarette smoking, gutkha consumption, and tobacco chewing, in decreasing order.⁹

Our study described that most common reason for initiation of substance abuse was peer pressure, followed by pleasure, tension of study/grades. Similar result was found in the study done in Andhra Pradesh. It shows that the important reasons for initiation of substance use were peer pressure (52.9%) in a significantly higher number of substance users, followed by the reason of enjoyment (21.1%) and Jain et al found curiosity in 68% of the cases.^{9,22} This difference may be due to the different study setting and different social environment. A study from East Sikkim by Barua et al. revealed that stress

reduction, relaxing effect and mere pleasure were considered to be the major reasons for alcohol consumption.²³

CONCLUSION

Overall prevalence of substance abuse was 30.17 percent. There was more prevalence in rural area as compared to urban area. More prevalence was found in the community as compared to the school. Also, there was more prevalence in males than in females. Majority of adolescents were abusing tobacco or nicotine as a substance, reason could be the easy availability in the regions in which study conducted. Chewing form was the most common form of abusing the tobacco followed by smoking and drinking form in our study.

Recommendations

Government should start prevention and awareness programs with community participation aiming to strengthen the families of the abusers and the society at large. Making adolescents aware of the risk related to substance abuse and reducing the exposure in them can drastically reduce the prevalence.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Jasani PK, Jadeja YM, Patel NM, Jadeja DY, Shrimali JB, Purani SK. Prevalence of substance abuse among adolescents of urban and rural community in Surendranagar district, Gujarat. Int J Community Med Public Health 2019;6:1970-4.