

PREVALENCE OF SUBSTANCE ABUSE AMONG ADOLESCENTS AND YOUNG ADULTS IN RURAL BANGALORE- AN EPIDEMIOLOGICAL STUDY

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ABSTRACT

BACKGROUND

According to world drug report, youth from urban settings have been topping the charts for drug abuse. The alarming rate of drug abuse and especially the increase of drug abuse among youngsters has had detrimental effects on the society. There have been very few studies indicating whether the same facts hold true in rural settings too or not. Our study aimed at studying clinical details of substance abuse in adolescents and young adults in a fixed population rural Bangalore.

MATERIALS AND METHODS

It was a cross sectional study conducted at Nandaguri village, Hoskote Taluq, rural Bangalore, Karnataka. 175 houses, assigned to the community health center, were marked and door to door survey was done. Convenient and purposive sampling were used. The study participants were screened with WHO ASSIST questionnaire.

RESULTS

175 individuals between the age groups of 13-30 were screened. 86.9% were males and 13.1% were females. 62.9% of the individuals screened had some substance abuse. 90% of the population screened satisfied lifetime use of substance.

CONCLUSION

The sample was comparable in terms of age group, gender, type of substance, pattern of usage of substance with the other studies. The study also found significant association between male gender and usage of substance. However, another uniqueness was that there was no significant association between the substances prevalent in the Rural Bangalore and type of family and educational status.

KEYWORDS

Lifetime Use, Abuse, Adolescents and Young Adults.

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BACKGROUND

There are 243 million in India. Of the total adolescent population, 54% belong to 10-14 age group and nearly 46% are in the 15-19 age group.¹ Use of tobacco, alcohol, and other substances among adolescents and young adults is a public health concern in several parts of the world, including India. World Health Organization (WHO) estimates that world over 25 to 90% of adolescents have ever used at least one substance of abuse.² In the recently released Center for Disease Control (CDC) report on U.S. school students from grade 9-12, the ever use of alcohol was 70%, binge drinking 22%, cannabis use 40%,

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inhalants 11.4%, heroin 3%, injection use 2.3% and prescription drugs 20%.³ As per the NCPCR survey the pattern, profile and correlates of substance use among children in India, 2013 were studied. This survey was done in 27 states and 2 union territories. 4024 children were studied. The mean age of the children was 15.6±2.1 years (range 5-18 years). Of the total sample, 69.8% children were living in an urban area while 30.2% were from rural areas. The commonest substance used was alcohol after tobacco in this survey.⁴ Early initiation of substance use is usually associated with a poor prognosis and more serious impact on health, education, familial or social relationships. Substance use may lead to behavioural problems, relationship difficulties and may cause disruption in studies, and even dropping out of school.⁵ At times, anti-social behaviours e.g. lying, stealing, pick pocketing may occur in association with early-onset substance use. Further, adolescents using substances may tend to engage in several sexual (e.g. unprotected sex) and other high-risk behaviours (e.g. driving under influence, violence), predisposing them further to the negative consequences of substance use. The drop-out rates in classes I to V is



around 30%, which increases to 50% by class X. The chief reasons cited for drop outs are finances, not interested in studies, required for household work and education not considered necessary. The formal school system has little to offer to the dropouts and out-of-school adolescents. Being out of school, boys often enter into unskilled work force. Nearly 9% of children in urban areas and 13% in rural areas perform paid or unpaid work, which is a predisposition for entering into vicious circle of substance abuse.^{6,7,8} Uttar Pradesh, Bihar and Manipur were the areas with high cannabis dependence but however such patterns are seen in rural regions of Karnataka as well which is relatively unexplored.⁹ The adolescents comprise over 20% of the total population of India and relatively similar proportion of adolescents and young adults was found in our study.¹⁰

The following table shows the substances abused in Karnataka-

Tobacco	Thambaku, Hoggesuppa
Alcohol	Madhyapana, Henda, Hanne
Cannabis	Bhang, Ganja
Inhalants	Glue, Petrol, Ink Eraser
Opioids	Brown Sugar, Pentazocine, Propoxyphene, Tramado
Sedatives	Diazepam, Nitrazepam, Alprazolam

Table 1. Commonly Used Substances in Karnataka

There are very few studies on prevalence of substance abuse in adolescents and young adults in Rural Bangalore, which motivated us to take up this study. Our study aimed at studying clinical details of substance abuse in adolescents and young adults in Nandagudi, Rural Bangalore.

MATERIALS AND METHODS

Methodology- This was a cross sectional study done on a fixed population covered in Nandagudi primary health centre done over a period of 1 year. The houses with adolescents and young adults ranging 13 to 30 years were approached as per the data of the Primary health center. The subjects were explained the nature of study and were asked to give consent for the study. Only the subjects who consented, participated in the study. Of nearly 304 houses of the above-mentioned areas, 175 participants agreed to participate in the Questionnaire based study, the confidentiality of the information obtained was maintained. The individuals WHO ASSIST version 3.0 was administered in the study. The ASSIST is the Alcohol, Smoking and Substance Involvement Screening Test. It is a brief

screening questionnaire to know the use of psychoactive substances by people. It was developed by the World Health Organization (WHO) and an international team of researchers on the use of substances as a simple method to detect the dangerous, harmful and dependent consumption of alcohol, tobacco and other psychoactive substances. Contains queries related to: tobacco, alcohol, cannabinoids, cocaine, stimulants, sedatives, hallucinogens, and other medicines. The data was entered into the MS Excel and result was analysed using SPSS.

RESULTS

In our study, 56 individuals (32%) belong to age group of 20- 24 years, 63 (36%) belong to age 25-30 years, 37 (21.1%) belong to 16- 19 years, 19 (10.9%) belong to age group 13-15 years. When data was analysed, the following results were seen:

- Alcohol use: 96 participants (54.8%) of the participants were using alcohol alone or along with some other substance.
- Tobacco use: 133 participants (76%) were using tobacco alone or along with other substances.
- Cannabis use: 5 (2.9%) of the participants were using cannabis along with other substances.
- Varnishes and inhalants: around 4 (2.3%) of the participants were using varnishes with other substances.
- Areca nut use: 5 participants (2.9%) were using areca nut only.
- Caffeine use: 153 participants (87.42%) were taking caffeine either alone or in combination with some substances.

Substances	Frequency	Percent
Caffeine Only	28	16.0
Areca Nut Only	5	2.9
Alcohol and Tobacco Only	17	9.7
Tobacco and Caffeine only	46	26.3
Tobacco, Alcohol and Caffeine only	61	34.9
Alcohol, Tobacco, Caffeine and Cannabis only	5	2.9
Tobacco, Alcohol, Caffeine, Varnishes and Betel Nuts only	4	2.3
Alcohol and Caffeine Only	9	5.1

Table 2. The Prevalence of Substance Abuse in Adolescents and Young Adults

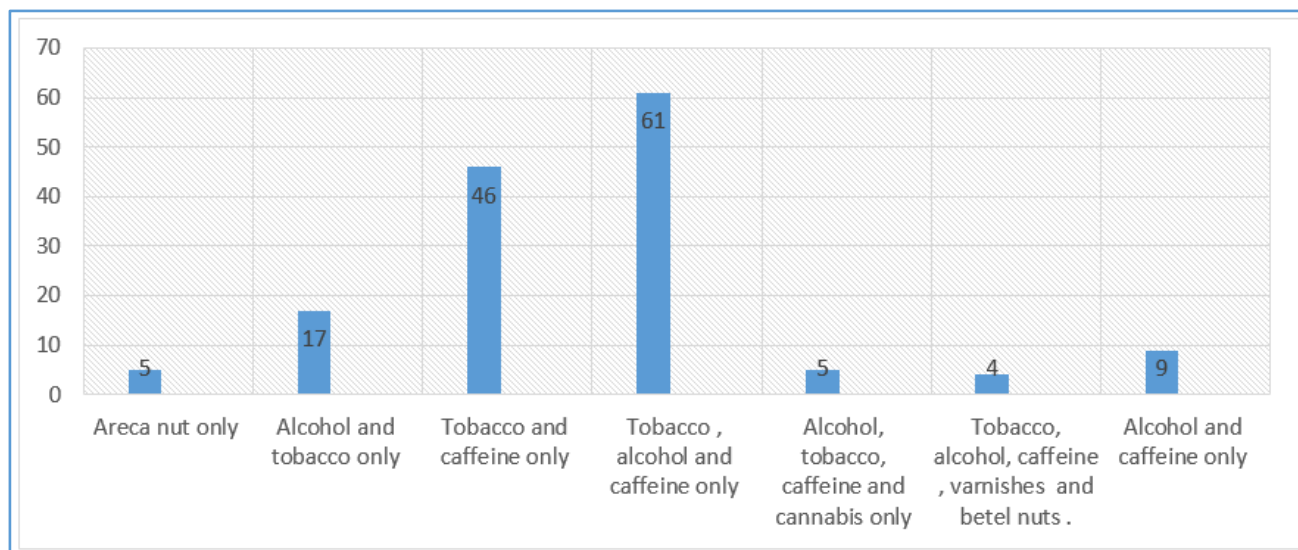


Figure 1

Figure 1 shows the Pattern of distribution of substance abuse in adolescents and young adults among the study subjects using substances whether severe or not, 110 (62.9%) were using the substance in dependence pattern. In 65 (37.1%), the dependence pattern could not be established.

DISCUSSION

In our study, 175 subjects participated who belonged to age group of 13 to 30 years. 100 participants belonged to age group of 20 to 30 years (68%) and 75 participants belonged to age group of 13 to 19 years (32%). As per national household survey, by ray et al in 2004, 21.8% of adolescents and young adults belonging to age group 12-18 years, which was almost comparable to our sample. Among the participants males were 152 (86.9%) and females constituted 23 (13.1%). In our study, door to door survey was done. The data was collected over a period of one and a half year after obtaining consent from the individuals who wished to participate in the study. There are various other surveys done previously in which house to house sampling was done including National Family Health Survey in 2005-06, which was a part of Government Of India project and NCPDR project, in both the studies the sample size was 124, 385 females and 74, 369 males aged 15-54 years and 4, 024 children between 5-18 years of age respectively. As per the National Commission for Protection of Child Rights (NCPDR), 2013 survey, 169 girls were using substances in mild or moderate severity, which constituted about 4.3% of the sample. The higher representation could be due relatively smaller sample size and inclusion of milder substances like tea, coffee and areca nut as well which are culturally sanctioned substances which commonly prevail in the community.

In our study 96 participants (54.8%) were using alcohol along with some other substance. The studies by Elanger et al and Nandi et al in West Bengal, Dubey and Handa, and Thacore revealed that alcohol was the commonest substance abused around 60-98%. The

percentage of the alcohol use by our study samples was comparable to other studies which included all age groups. In our study 133 participants (76%) were using tobacco alone or along with other substances. As per NCPDR survey, 2013, Meghalaya reported past month use of tobacco (96.4%) followed by Nagaland (95.8%), Sikkim (93.1%), Uttaranchal (90.0%). Goa (36.7%). The Global Youth Tobacco Survey in 2006 showed that 3.8% of students smoke and 11.9% currently used smokeless tobacco. In our study 5 participants (2.9%) were using cannabis in combination with other substances including tobacco, alcohol and caffeine. Reduction of tobacco consumption will require a redoubling of efforts to prevent initiation and promote cessation among the large proportion of young people who currently use tobacco. Second hand smoke suggests a need for countries to pass strong and effective smoke-free policies.¹¹ As per NCPDR survey, 2013, 70% were using cannabis in Uttaranchal, followed by Haryana 63.3%, followed by Meghalaya, 50.9%. but as per study done in Chandigarh by Chavan et al, 0.46% of individuals were using cannabis in combination with other substances. As per NHS survey done on 40,697 males, 3% were using cannabis which is closer to our percentage of subjects. As per NCPDR, 2013 survey, the usage of inhalants in Tripura was 68.3% followed by Madhya Pradesh (66.5%), followed by Maharashtra (60.6%), Sikkim (49%), Haryana (46.7%), Orissa (40%), Delhi and Rajasthan (39%), Manipur (32.3%), Meghalaya (30.9%). In our study, 4 participants (2.3%) were using the paints and varnishes as the inhalants for substance abuse. Mostly they were working as painters and had easy accessibility of the substances. Inhalants were used with tobacco, alcohol, caffeine and betel nuts. As a study in Delhi, by Mridul Gera et al, of 300 participants (median age 15 year, 174 boys), 291 (97%) were consuming caffeine. In our study, 153 participants (87.42%) were taking were taking caffeine regularly. this percentage was lower than the percentage in New Delhi, this could be due to the fact our sample belonged to rural area, but still the

consumption of caffeine is significantly high. In a study on school children belonging to 14-18 years of age done by Rahul Srivastava et al on 3513 students, a significant number from Kanpur were chewing sweet supari (89.1%) i.e. Areca nut followed by pan masala (4.79%) i.e. Betel nut. In our study 5 participants (2.7%) used areca nut which was probably due to culturally sanctioned use. They were used in combination with other substances. This is the first study to our knowledge to find pattern of caffeine and areca nuts use in adolescents and young adults in fixed population in Nandagudi, Rural Bangalore.

The adolescents and young adults are quite vulnerable to substance abuse, which can lead to poor mental health in later part of the life. This area of study is especially neglected in the rural population. Our study has found that overall prevalence of tobacco use was 76%, followed by alcohol (58.45%), cannabis (2.9%), and varnishes (2.9%). The substances like caffeine are also quite prevalent (87.5%) in this age group which also needs recognition and further exploration Early intervention can bring a significant impact on the problem of the substance abuse in them. Early onset of substance use is seen among adolescents. Low educational status and the nuclear family are associated with their substance use. Friends are the key source of substances and their initiation of substance use.¹²

Unique Aspect of our Study

This is the first study to our knowledge to find prevalence of caffeine and areca nuts use in adolescents and young adults in Nandagudi, Rural Bangalore. This is one of the few studies in which the prevalence of dependence pattern in Rural Bangalore was found in a fixed sample.

CONCLUSION

The adolescents and young adults are quite vulnerable to substance abuse, which can lead to poor mental health in later part of the life. This area of study is especially neglected in the rural population. Our study has found that overall prevalence of tobacco use was 76%, followed by alcohol (58.45%), cannabis (2.9%), and varnishes (2.9%). Substances like caffeine are also quite prevalent (87.5%) in this age group which also needs recognition and further exploration. Early intervention can bring a significant impact on the problem of the substance abuse in them.

Limitations

1. Population size was small so data cannot be generalized to the community.
2. It was a cross sectional study so screening was done at one point of time, when all the population might not be available.
3. Subject bias was present since the interview was conducted in home environment and individuals might not completely tell about all the substances used by him/her.
4. Selection bias was present during the sampling procedure.

5. In our study we only could study the individuals who gave consent and hence the overall prevalence of substance abuse could not be found out in the community.

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