

Prevalence, Pattern and Factors Associated with Substance Abuse Among Young Adolescents in Malir Karachi, Sindh

Riaz Ahmed Bhutto¹, Razi Ullah Riaz², Shahid Kamran³, Rakhshinda Younus⁵, Nazia Qamar⁶ and Pavan Kumar⁴

ABSTRACT

Objective: To find out the prevalence and pattern of substance abuse among young adolescents and the associated risk factors at Malir Karachi.

Study Design: Cross Sectional Study

Place and Duration of Study: This study was conducted at the Al-Tibri Medical College, Karachi from July 2021 to December 2021.

Materials and Methods: We have used the Self-Administered WHO Model Core Questionnaire to collect information on use of various substances among adolescents within Malir district Karachi. Data was analyzed by using SPSS version -25.

Results: A Total number of male adolescents were n=518 (100%) and no females were questioned due to socio-demographical environments and ethical view. Out of the 518 participants, 67 (12.7%) were addicted of Gutka, panmasla and mainpuri along with smoking, 108 (20.9%) used tranquillizers without a medical recommendation. 103 (19.9%) consumed cannabis and bhang. 18 (3.7%) young boys had tried heroin. 112 (21.6%) adolescents had used other opiate drugs their own on advice of friends for recreational purpose. Study showed significant positive but weak linear correlations between recreational and dependent use ($r=0.161$, $p=0.003$).

Conclusion: Study indicates a high prevalence of tobacco and inhalants use among adolescents in Malir Karachi.

Key Words: Substance, Substance Abuse; Prevalence; Factors; Young adolescents

Citation of article: Bhutto RA, Riaz R, Kamran S, Younus R, Qamar N, Kumar P. Prevalence, Pattern and Factors Associated with Substance Abuse Among Young Adolescents in Malir Karachi, Sindh. Med Forum 2022;33(12):91-96.

INTRODUCTION

Substance abuse is a convincing and out of control substance utilize. Substance abuse, also described as neurotic substance utilize, is characterized as an individual's inability to control his or her utilization of the substance, which over time presents obstacles in a man's life on the mental, social, academic, and professional levels¹. The term of substance dependency or neurotic reliance has served as the foundation for the representation of substance addiction. It offers qualities like distraction, state of mind adjustment, resilience, withdrawal and practical impairment².

¹. Department of Community Medicine / Medicine² / Forensic Medicine³, Anesthesiology⁴, Al-Tibri Medical College, Karachi.

⁵. Department of Pathology, Baqai Medical College, Karachi.

⁶. Department of Pathology, Fazaia Ruth Pfau Medical College (FRPMC), Karachi.

Correspondence: Dr. Riaz Ahmed Bhutto, Associate Professor of Community Medicine, Al-Tibri Medical College, Karachi.
Contact No: 0345-2751689
Email: drrkb@hotmail.com

Received: July, 2022

Accepted: September, 2022

Printed: December, 2022

Like different addictions, moreover, substance mishandle has been connected to an assortment of problems and issues. The use of alcohol, cigarettes, cannabis, and other psychoactive substances by young people worldwide is one of the most significant public health issues³. In Pakistan it is now growing problem. Before it was considered a problem of working and street children or children who were involving in substance trafficking business but it is currently affecting school going children as well. Researches in Pakistan have demonstrated that there is an expanding occurrence in the utilization of substances, and a diminishing age of onset, of these substances⁴. Most young children start their utilization of substances with cigarettes and later advance to more unsafe substances, for example, cannabis and cocaine⁵. Vartika Saxena in his research revealed a considerably higher prevalence of substance misuse among school-age teenagers from economically secure families who receive pocket money from their families and who develop a habit of substance abuse as their literacy levels rise. Most of them use drugs in the late afternoon or evening⁶. The majority of the illicit substances originate from the neighboring Afghanistan. As indicated by the UN estimate, 6.7 million individuals in the nation are substance users⁷. Substances of choice used are Supari, gutka, pan followed by hashish (cannabis), sedatives

and tranquilizers, opium, injecting drug use, ecstasy and solvent Abuse among school Children⁸. Researchers discovered that factors like joint families, parental control status, and employment status were associated with much greater levels of substance misuse⁹. Therefore this turns out to be more vital to analyze these elements in the quick changing social milieu.

A basic source of information to identify the high-risk pattern, example, and connections between drug use and sociodemographic factors is provided by understudy substance use research.

MATERIALS AND METHODS

It is a cross-sectional study. Young adolescents from public and private secondary schools, employed in private and public sectors, shops located in rural and urban areas of district Malir, Karachi were randomly selected for inclusion in the study. Study duration was from July 2021 to December 2021. Total 518 adolescents were selected by using simple random sampling technique. We have used the Self-Administered WHO Model Core Questionnaire to collect information. Inclusion criteria were adolescents from age between 11-20 years. Adolescents below 10 years of age or having any mental deformities, or unwilling to participate were excluded from study. All participants i.e. Parents/Guardian/Headmasters were asked for a written consent before participation in the study. Data was analyzed by using SPSS version 25.

RESULTS

Total number of male adolescents were n=518 (100%) who selected for study belong to Malir district including city, towns, and rural areas answered the questionnaire, majority among them were students, others were employed in various public and private institutions and shops, and no females were questioned due to socio-demographical environments and ethical view.

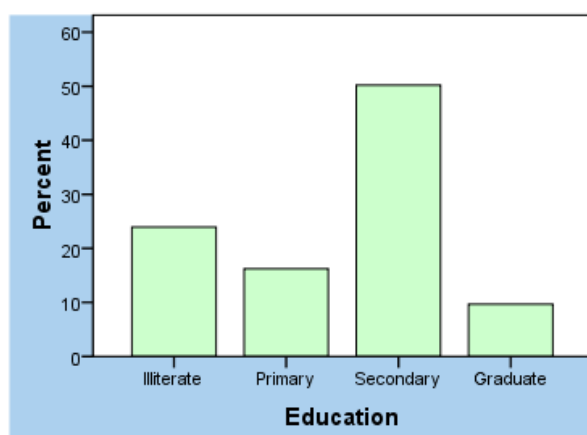


Figure No.1: Education Status of Study Participants

Study sample were distributed into two categories, having age less than 12 years and age more than 12 years. $15.16 \pm 2.256(11-20)$. 96 study participants were unemployed or doing their own business, some of among them were doing nothing.

Educational, marital, occupation and residence status of the study samples was divided into different categories as shown in Table I and in Figure 1.

Table No.I: Socio-demographic Characteristics of Study Subjects (N = 518)

Variables		Frequency (n)	Percentage (%)
Age	15.16 ± 2.256(11-20)	518	-
Gender	Male	518	100
	Female	0	0
Education	Illiterate	124	23.9
	Primary to Matric	80	15.4
	Intermediate	264	51.0
	Graduate	50	9.7
Marital Status	Married	37	7.1
	Un-Married	481	92.9
Occupation	Students	364	70.2
	Unemployed	96	18.6
	Employed	58	11.2
Residence	City	178	34.4
	Town	218	42.1
	Rural	122	23.5

Majority of study participants' were having joint family system n=448 (86.5%). As regards to parent's education of participant, most of mothers were illiterate or middle standard education while majority of their fathers were matriculate, only 6 (1.1%) mothers and 27 (5.2%) of participants' fathers were higher education. Majority of respondent was starting smoking after 12 years of age and was taking one to five cigarettes daily, and 141 (27.2%) respondents has been smoking more than two years. 39 (7.5%) adolescents are regular and chain smokers. 67 (12.7%) were also addicted of Gutka, panmasla and mainpuri along with smoking, among them 48 (9.3%) study participants started taken chewing tobacco before age of twelve years. 110 (21.2%) respondents had had alcoholic drinks among them 28 (25.5%) adolescents had taken before age of 12 years. Of the responders, 108 (20.9%) used tranquilizers without a medical recommendation, among them 19 (3.7%) were having less than 12 years of age mostly taking tranquilizers by mean of eating, swallowing and in form of injection. Luckily only one individual had been taking amphetamine stimulants without prescription of doctor by mouth. When questioned about consuming of cannabis and bhang 103 (19.9%) accepted that they had tried these addictive, 11 of them had been taking six to nine days in a month in the form of eating or swallowing. It is contented to

know that only one respondent had used cocaine on insists of friends. It was shocked to learn that 18 (3.7%) young boys accepted that they have had tried heroin, one of them was less than 12 years of age they had taken it in form of smoking, sniffing and injection. 103 (19.9%) young boys had used opium after the age of twelve years, while 15 boys had used it below the age of twelve years. 112 (21.6%) adolescents had used other opiate drugs their own on advice of friends for recreational purpose and 66 (58.9%) are still using these drugs since more than one year, 3 to 5 days

averagely per month in form of eating, smoking, sniffing and by means of other ways. 69 (13.2%) respondents acknowledged that when they wanted to pleasure themselves, they would periodically sniff glue, breathe aerosol spray, or inhale any other gases, sprays, or vapors from substances. The interviewees' most frequent justifications for using drugs were to fit in with their friends, to feel like an adult, and for recreational purpose. Any type of tobacco, inhalants, and opium and other opiate narcotics were the most frequently used substances among the participants (10.7%).

Table No.2: Comparison of Socio-Demographic Characteristics with prevalence of substance abuse

Characteristics		High Prevalence N (%)	Low Prevalence N (%)	Odds Ratio	95% CI	p-value
Age (year) (15.16 ± 2.256)	Less than 12	8 (36.4)	6 (70.5)	1	-	0.05
	More than 12	19 (37.2)	14 (63.6)	0.83	0.29 - 2.16	
Gender	Male	40 (39.6)	21 (20.4)	0.66	0.36 – 2.06	0.03
	Female					
Education	Illiterate	11 (17.7)	09 (82.3)	0.21	0.10 - 1.13	0.80
	Primary to Secondary	13 (32.5)	07 (47.5)	1	-	
	Intermediate	52 (39.4)	20 (40.4)	0.56	0.32 – 2.32	
	Graduate	6 (64.0)	4 (26.0)	0.18	0.15 – 1.07	
Marital Status	Married	28 (34.3)	16 (65.7)	1	-	0.37
	Un-Married	44 (39.3)	27 (60.7)	1.25	0.29 – 1.72	
Occupation	Students	53 (26.4)	18 (53.6)	0.15	0.06 – 0.48	0.03
	Unemployed	39 (67.2)	09 (32.8)	0.12	0.11 – 0.76	
	Employed	28 (57.1)	29 (43.2)	0.10	0.08 – 0.66	
Residence	City	51 (46.0)	48 (54.0)	0.58	0.25 – 1.31	0.26
	Town	43 (39.4)	26 (60.6)	0.73	0.36 – 1.71	
	Rural	48 (13.1)	33 (86.9)	1	-	

Table No.3: Comparison of Socio-Demographic Characteristics with pattern of substance abuse

Characteristics		Recreational use N (%)	Dependent use N (%)	Odds Ratio	95% CI	p-value
Age (year) (15.16 ± 2.256)	Less than 12	5 (16.4)	3 (54.5)	0.42	0.18 – 0.90	0.32
	More than 12	16 (37.2)	10 (33.6)	1.20	0.58 – 1.90	
Gender	Male	60 (49.2)	18 (22.1)	0.50	0.22 - 1.51	0.65
	Female	-	-	1.19	0.59-1.96	
Education	Illiterate	15 (19.9)	13 (72.2)	1.61	0.80 - 1.22	0.45
	Primary to Secondary	23 (31.1)	10 (54.4)	0.67	0.31 - 1.82	
	Intermediate	41 (31.1)	24 (64.4)	0.65	0.27 – 1.55	
	Graduate	8 (55.2)	3 (36.1)	0.36	0.17 – 1.41	
Marital Status	Married	28 (34.3)	16 (65.7)	0.95	0.41 – 1.85	0.22
	Un-Married	44 (39.3)	27 (60.7)	0.47	0.19 – 1.22	
Occupation	Students	73 (67.8)	45 (50.0)	0.93	0.57 – 1.22	0.46
	Unemployed	53 (26.4)	18 (53.6)	1.20	0.60 – 1.91	
	Employed	39 (67.2)	09 (32.8)	0.16	0.15 – 0.92	
Residence	City	51 (46.0)	48 (54.0)	0.53	0.22 – 1.41	0.23
	Town	43 (39.4)	26 (60.6)	0.78	0.39 – 1.79	
	Rural	48 (13.1)	33 (86.9)	0.17	0.08 – 0.89	

Table No.4: Comparison of Socio-Demographic Characteristics with factors associated with substance abuse

Characteristics		Good awareness about drug abuse N (%)	Bad awareness about drug abuse N (%)	Odds Ratio	95% CI	p-value
Age (year) (15.16 ± 2.256)	Less than 12	19 (03.7)	89 (17.2)	0.38	0.16 – 1.22	0.98
	More than 12	171 (33.0)	239 (46.1)	0.36	0.19 – 1.37	
Gender	Male	108 (20.8)	410 (79.2)	0.57	0.28 – 1.74	0.49
	Female	-	-	-	-	
Education	Illiterate	37 (07.1)	87 (16.8)	0.56	0.24 - 1.51	0.04
	Primary to Secondary	56 (10.8)	24 (04.6)	0.35	0.19 – 1.37	
	Intermediate	179 (34.6)	85 (16.4)	0.33	0.18 – 1.29	
	Graduate	36 (07.0)	14 (02.7)	0.29	0.17 – 1.12	
Marital Status	Married	19 (03.7)	18 (03.6)	0.37	0.22 – 1.47	0.24
	Un-Married	212 (41.7)	269 (51.0)	0.21	0.11 – 0.82	
Occupation	Students	212 (40.8)	152 (29.4)	0.14	0.21 – 1.33	0.28
	Unemployed	55 (10.7)	41 (07.9)	0.23	0.14 – 0.91	
	Employed	30 (05.8)	28 (05.4)	0.22	0.13 – 0.95	
Residence	City	116 (22.4)	82 (16.0)	0.20	0.15 – 1.01	0.18
	Town	112 (21.6)	106 (20.4)	0.32	0.17 – 1.11	
	Rural	43 (08.3)	79 (15.3)	1	-	

Table No.5: Correlation of Age & Education with Adequate Knowledge about substance abuse

Characteristics	Total	Adequate Knowledge N (%)	In-adequate Knowledge N (%)	Adjusted OR (95% CI) *	p-value
Age (year)	Less than 12	19 (03.7)	89 (17.2)	0.54 (0.23 – 1.56) 1	0.03 -
	More than 12	171 (33.0)	239 (46.1)		
Education	124	37 (07.1)	87 (16.8)	0.20 (0.09 – 0.54)	0.04
	80	56 (10.8)	24 (04.6)	0.88 (0.43 – 2.25)	0.20
	264	179 (34.6)	85 (16.4)	0.59 (0.33 – 1.59)	0.14
	50	36 (07.0)	14 (02.7)	0.27 (0.12 – 0.75)	0.07

Association of socio-demographic characteristics with dependent variables was explored using Pearson's correlation analysis with a p-value of ≤ 0.05 and 95% of CI taken as significant. Occupation was showed good association with adequate education whereas age and residence was found to be positively associated with adequate practice pertaining to pattern and factors associated with substance abuse respectively as indicated in Table 2 to 4.

Univariate analysis of age and occupation indicated those participants of age group less than 12 years hardly have good awareness and age group above 12 years of age also was not statistically significantly associated with adequate awareness about drug abuse.

To determine the correlation between substance use and socio demographic factors, association analyses were performed. Adolescents from nuclear families showed a higher prevalence of substance use. None of the other

demographic factors significantly correlated with the frequency of substance use among teenagers.

Following criteria were used to interpret correlations: Weak correlation is defined as 0.01 to 0.25, fair correlation as 0.25 to 0.50, good correlation as 0.50 to 0.75, and excellent correlation as 0.75 and beyond. This research revealed significant positive but weak linear correlations between recreational and dependent use ($r=0.161$, $p=0.003$). The study found that there is a substantial association between the utilization of awareness in this study and the relationship between recreational use and dependent use.

DISCUSSION

This survey is a self-reported questionnaire based study. Some of the respondents were hesitating to reply some questions and non-cooperative did not like to reply

properly though they voluntarily participated in survey without any fear or force. According to the study's findings, nearly half (51.8%) of the male teenagers admitted using one or more drugs at some point in their lives. Vartika Saxena in his study reveals that 46.9% prevalence of substance misuse among male adolescents, which is lower than the figures of 70.1% recorded. Although Juyal et al. observed a somewhat lower prevalence (45.8%) in their survey of intermediate school students in the same district four years back¹¹. The high frequency of drug and cigarette use among youth could be due to a number of factors. Students have easy access to smokes and smokeless tobacco products, and using them is acceptable in society¹¹. The significant conclusion in this study is that, compared to the results of the previous study, and over 50% of the respondents consumed solvents or other substances¹². However, only 20% of the subjects admitted to drinking, which was quite high compared to earlier research from the region¹³. Very few teenagers in our survey admitted using heroin, cocaine, or amphetamines. Similar to the results of the last survey, nearly half of the individuals claimed to have started using drugs after the age of 12¹⁴. This reflects how easily drugs are accessible to young people, and drug usage during festivals may also contribute to the increase prevalence. Friends and acquaintances sell drugs including betel nuts, tobacco, cigarettes, marijuana, and locally brewed booze. This is most common specified reason. Few of them reported being to feel like adult and like the effects of substances¹⁵. However, experimenting with drugs for fun or out of curiosity can be extremely risky since recreational use can develop into more severe use and dependence. In comparison to other investigations, the majority of the respondents (62.9%) reported using drugs once or twice each month. Adolescents from nuclear families showed a higher prevalence of substance use¹⁶. Lack of parental supervision and a lack of family members who may provide support could be the cause¹⁷. The reason could be a lack of supervision by their parents and no support members in the family to talk about issues related to substance use as reported by subjects who had less than two siblings in the family. Schools are frequently acknowledged as key locations for initiatives aimed at preventing teen substance use. An essential factor of school health promotion is the substance use policy.

CONCLUSION

According to our research, Malir Karachi's youth use of tobacco and inhalants is highly prevalent. Adolescent substance use is linked to low educational levels and fewer family members. Friends are the main supplier of drugs and the people who introduce them to drugs. We cannot establish temporal or causal relationship in descriptive cross sectional study; therefore no critical conclusion can be expected.

Author's Contribution:

Concept & Design of Study: Riaz Ahmed Bhutto
 Drafting: Razi Ullah Riaz
 Data Analysis: Riaz Ahmed Bhutto, Shahid Kamran, Rakhshinda Younus, Nazia Qamar, Pavan Kumar
 Revisiting Critically: Razi Ullah Riaz, Riaz Ahmed Bhutto
 Final Approval of version: Riaz Ahmed Bhutto

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

1. Moss HB, Chen CM, Yi HY. Early adolescent patterns of alcohol, cigarettes, and marijuana polysubstance use and young adult substance use outcomes in a nationally representative sample. *Drug and Alcohol Dependence* 2014;136:51-62.
2. Merikangas KR, McClair VL. Epidemiology of substance use disorders. *Human Genetics* 2012; 131(6):779-89
3. UNDCP, World Substance Report, United Nations Office on Drugs, Crime. World drug report 2010. United Nations Publications; 2010 Jun 1.
4. Mustafa A, Qazi N, Shah R, et al. Prevalence, Pattern & Risk Factors of Tobacco Smoking among Male Adult Population of Hayatabad Peshawar Khyber Pakhtunkhwa Pakistan. *Annals Romanian Society for Cell Biol* 2020;1321-32.
5. Degenhardt L, Stockings E, Patton G, Hall WD, Lynskey M. The increasing global health priority of substance use in young people. *The Lancet Psychiatry*. 2016 Mar 1;3(3):251-64.
6. Saxena V, Saxena Y, Kishore G, Kumar P. A study on substance abuse among school going male adolescents of Doiwala Block, District Dehradun. *Ind J Public Health* 2010;54(4):197.
7. World Health Organization: Guide to Drug Abuse Epidemiology Geneva: WHO; 2000.
8. Kokiwar PR, Jogdand GR. Prevalence of substance use among male adolescents in an urban slum area of Karimnagar district, Andhra Pradesh. *Ind J Public Health* 2011;55:42-5.
9. Chapman SL, Wu LT. E-cigarette prevalence and correlates of use among adolescents versus adults: a review and comparison. *J Psychiatr Res* 2014; 54:43-54.
10. Sarangi L, Himanshu P, Acharya O, Panigrahi P. Substance abuse among adolescents in urban slums of Sambalpur. *Ind J Community Med* 2008; 33: 265-7.
11. Juyal R, Bansal R, et al. Substance abuse among Intercollege students in District Dehradun. *Ind J Community Med* 2006;31:10-127.

12. Chavan BS, Arun P, Bhargava R, Singh GP. Prevalence of alcohol and drug dependence in rural and slum population of Chandigarh: A community survey. *Ind J Psychiatr* 2007;49:44-8.
13. Shahsavari Bami R, Khoshab H, et al. Prevalence and determinants of substance use among a sample of Iranian adolescents with ease of access to drugs: an application of Social Development Model. *Int J Health Promotion and Education* 2022;60(3): 178-90.
14. Costello EJ, Copeland W, Angold A. Trends in psychopathology across the adolescent years: what changes when children become adolescents, and when adolescents become adults? *J Child Psychol Psychiatr* 2011;52(10):1015-25.
15. Cranford JA, McCabe SE, Boyd CJ. Adolescents' nonmedical use and excessive medical use of prescription medications and the identification of substance use subgroups. *Addictive Behaviors* 2013;38(11):2768-71.
16. Wills TA, Knight R, Williams RJ, Pagano I, Sargent JD. Risk factors for exclusive e-cigarette use and dual e-cigarette use and tobacco use in adolescents. *Pediatr* 2015;135(1):e43-51.
17. Damiri B, Sandouka HN, Janini EH, Yaish ON. Prevalence and associated factors of psychoactive substance use among university students in the West Bank, Palestine. *Drugs: Education, Prevention and Policy* 2020;27(2):173-82.