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CONDUCT PROBLEMS AND HYPERACTIVITY AMONG SCHOOL CHILDREN AND ITS ASSOCIATION WITH PATERNAL TOBACCO ADDICTION AND ALCOHOL CONSUMPTION

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ABSTRACT

OBJECTIVES

The aim of the study is to assess the Conduct problems and Hyperactivity among school children with parent reported Strength and difficulties questionnaire and its association with Paternal Tobacco Addiction and Alcohol Consumption.

METHODS

School children were assessed for conduct problem and hyperactivity using parent reported Strength and difficulties questionnaire. A data about alcohol consumption and tobacco addiction was obtained through a semi structured questionnaire along with sociodemographic data. The analysis was done using Microsoft Excel and SPSS software.

RESULTS

The results showed that 137 (68.8%) school children were normal on conduct problem scale of parent reported SDQ, while remaining 24(12.1%) were borderline and 38(19.1%) children were abnormal. For hyperactivity symptoms only 197 parents responded. Parent reported hyperactivity scale of SDQ showed that out of total parents, who responded for hyper activity 179 (58.9%) children were normal while 15 (4.9%) study subjects were borderline for hyperactivity, and only 3 (1%) were abnormal. Lying and cheating, a conduct problem symptom, was found significantly associated with the paternal alcohol consumption (p=0.02), overall conduct problems were not found significantly associated with the paternal alcohol consumption (p=0.07) statistically significant relation was found between paternal alcohol consumption and overall hyperactivity problems (p=0.02).

C**ONCLUSIONS**
Over all conduct problems were found significantly associated with the paternal tobacco addiction. The Lying and cheating, a conduct problem symptom as well as hyperactivity, was found significantly associated with the paternal alcohol consumption. No significant association was found between paternal tobacco addiction and Hyperactivity.

KEY WORDS: Strength and difficulties questionnaire (SDQ), hyperactivity, conduct problem, school children.

INTRODUCTION

Substance use among parents, like alcohol consumption and tobacco addiction are proven to affect the lives of their children. Children having a parent with an SUD (Substance Use Disorder) are at risk of experiencing direct effects, such as parental abuse or neglect, or indirect effects, such as fewer household resources. Previous research indicates that the negative effects of parent SUDs may differ depending on the type of SUD the parent has (i.e., alcohol or illicit drug).[1,2] School going children are very much affected by the negative environment at home, and it can reflect through their conduct and behaviour in the school. Previous research shows that compared to other children, children of alcohol abusers exhibit lower academic achievement.[3,4] This vulnerability is also reflected by their elevated risk for conduct problems, attention problems, hyperactivity, impulsiveness, delinquency, and un-employment.[5,6-10] Different effects of maternal and paternal alcoholism are understudied.[10] though the topic of parental alcohol consumption and tobacco use and its association to the mental and behavioural problem among their children is being studied extensively worldwide, research on this topic is very much limited in developing countries. Current study aimed at the paternal alcohol and tobacco use and its association with conduct problem and hyperactivity among their school going children.

METHODOLOGY

A cross-sectional school-based study was conducted on school children studying in 8th and 9th standard in municipal schools around a tertiary care centre in Mumbai. The permission to conduct the study was sought from the school authorities and the local education department after taking informed consent from the parents to interview their children, Permission to interview the children after their teaching hours was sought from the school authorities. Parents were approached at the parent teacher meetings. The study was approved by institutional ethical committee. Considering the prevalence of behavioural problems which includes conduct problems and hyperactivity as high as 15%[11,12] at 5% margin of error, at 97 % confidence level the sample size calculated was 240. The data was collected by stratified sampling technique help of the Semi-structured proforma which includes socio-demographic characteristics along with information about paternal alcohol and tobacco use and parents reported Strength and difficulty Questionnaire was used to study the conduct problems and hyperactivity. Statistical analysis was done by using SPSS software. Descriptive statistics for Socio-demographic factors was done using Microsoft office.

RESULTS

When parents either mother or father or other guardian whoever attended parent teacher meet were interviewed with the help of parent reported SDQ. Only 200 parents out of total calculated sample size attended the parent teacher meeting as remaining were absent due to multiple personal reasons. Most of the parents who attended the meetings, did not responded to all the questions of SDQ as they were unsure of the exact answers. Hence the total sample (N) varied according to their response. Only 199 parents responded for the conduct problems out of 199 study subjects 137 (68.8%) were normal on conduct problem scale of parent reported SDQ, while remaining 24(12.1%) were borderline and 38(19.1%) children were abnormal. For hyperactivity symptoms only 197 parents responded. Parent reported hyperactivity scale of SDQ showed that out of total parents, who responded for hyper activity

179 (58.9%) children were normal while 15 (4.9%) study subjects were borderline for hyperactivity, and only 3 (1%) were abnormal. Who were later combined to the borderline or abnormal for the ease of statistical analysis. Pearson's chi square test and its variant Fisher exact test was used to assess the statistical significance the P value of <0.05 was considered significant. A conduct problem symptom, fights/Bullies others, was found significantly associated with paternal tobacco addiction (p= 0.001) and over all conduct problem were also was found significantly associated Paternal tobacco addiction (p=0.01) (Table 1). The Lying and cheating, a conduct problem symptom, was found significantly associated with the paternal alcohol consumption (p=0.02), overall conduct problems were not found significantly associated with the paternal alcohol consumption (p=0.07) (Table 2). Statistically significant relation was found between paternal alcohol consumption and overall hyperactivity problems (p=0.02) (Table 4) but no significant association was found between Paternal tobacco addiction and Hyperactivity. (Table 3)

Conduct Problem Symptom*		**Paternal Tobacco addiction Frequency (%)**		**Total**	**Pearson Chi-Square P Value**
		Yes	**No**		
Temper	Not True	40(29.5)	96(70.5)	136(68)	0.389
	Somewhat True	16(40)	24(60)	40(20)	
	Certainly True	9(37.5)	15(62.5)	24(12)	
	Total	65(32.5)	135(67.5)	200(100)	
Obedient	Not True	41(32.1)	87(67.9)	128(64)	0.921
	Somewhat True	17(34.7)	32(65.3)	49(24.5)	
	Certainly True	7(30.4)	16(69.6)	23(11.5)	
	Total	65(32.5)	135(67.5)	200(100)	
Fights/Bullies	Not True	47(29)	115(71)	162(81.4)	0.001*
	Somewhat True	10(37.7)	18(64.3)	28(14.1)	
	Certainly True	8(88.9)	1(11.1)	9(4.5)	
	Total	65(32.7)	134(67.3)	199(100)	
Lies Or Cheats	Not True	47(31.1)	104(68.9)	151(75.5)	0.465
	Somewhat True	14(41.2)	20(58.8)	34(17)	
	Certainly True	4(26.7)	11(73.3)	15(7.5)	
	Total	65(32.5)	135(67.5)	200(100)	
Steals	Not True	55(30.9)	123(69.1)	178(89)	0.356
	Somewhat True	5(50)	5(50)	10(5)	
	Certainly True	5(41.7)	7(58.3)	12(6)	
	Total	65(32.5)	135(67.5)	200(100)	
Overall Conduct Problem	Normal	37(27)	100(73)	137(68.8)	0.01*
	Borderline /Abnormal	28(45.2)	34(54.8)	62(31.2)	
	Total	65(32.7)	134(67.3)	199(100)	

Table 1: Association of Conduct Problem Symptoms with paternal tobacco addiction using parent reported SDQ

*p Value of <0.05 is considered statistically significant

Conduct Problem Symptom*		**Paternal Alcohol Consumption Frequency (%)**		**Total**	**Pearson Chi-Square P Value**
		Yes	**No**		
Temper	Not True	61(44.9)	75(55.1)	136(68)	0.482
	Somewhat True	14(35)	26(65)	40(20)	
	Certainly True	9(37.5)	15(62.5)	24(12)	
	Total	84(42)	116(58)	200(100)	
Obedient	Not True	52(40.6)	76(59.4)	128(64)	0.317
	Somewhat True	19(38.8)	30(61.2)	49(24.5)	
	Certainly True	13(56.5)	10(43.5)	23(11.5)	
	Total	84(42)	116(58)	200(100)	
Fights/Bullies	Not True	67(41.3)	95(58.7)	162(81.4)	0.873
	Somewhat True	13(46.4)	15(53.6)	28(14.1)	
	Certainly True	4(44.4)	5(55.6)	9(4.5)	
	Total	84(42.2)	115(77.8)	199(100)	
Lies Or Cheats	Not True	63(41.7)	88(58.3)	151(75.5)	0.02*
	Somewhat True	19(55.9)	15(44.1)	34(17)	
	Certainly True	2(13.3)	13(86.7)	15(7.5)	
	Total	84(42)	116((58)	200(100)	
Steals	Not True	75(42.1)	103(57.9)	178(89)	0.728

	Somewhat True	5(50)	5(50)	10(5)	
	Certainly True	4(33.3)	8(66.7)	12(6)	
	Total	84(42)	116(58)	200(100)	
Overall Conduct Problem	normal	52(38)	85(62)	137(68.8)	0.07
	Borderline /Abnormal	32(51.6)	30(48.4)	62(31.2)	
	total	84(42.2)	115(57.8)	199(100)	

Table 2: Association of Conduct Problem Symptoms with Paternal Alcohol Consumption using parent reported SDQ

*p Value of <0.05 is considered statistically significant

Hyperactivity Symptoms*		**Paternal Tobacco Addiction Frequency (%)**		**Total**	**Pearson Chi-Square P Value**
		Yes	**No**		
Restless	Not True	28(37.8)	46(62.2)	74(37)	.317
	Somewhat True	24(32.4)	50(67.6)	74(37)	
	Certainly True	13(25)	39(75)	52(26)	
	Total	65(32.5)	135(67.5)	200(100)	
Fidgety	Not True	45(32.8)	92(67.2)	137(68.8)	.871
	Somewhat True	14(30.4)	32(69.6)	46(23.2)	
	Certainly True	6(37.5)	10(62.5)	16(8.0)	
	Total	65(32.7)	134(67.3)	199(100)	
Easily Distracted	Not True	26(31.3)	57(68.7)	83(41.5)	.817
	Somewhat True	25(31.6)	54(68.4)	79(39.5)	
	Certainly True	14(36.8)	24(63.2)	38(19)	
	Total	65(32.5)	135(67.5)	200(100)	
Reflect	Not True	38(32.2)	80(67.8)	118(59.6)	.210
	Somewhat True	24(38.7)	38(61.3)	62(31.3)	
	Certainly True	3(16.7)	15(83.3)	18(9.1)	
	Total	65(32.8)	133(67.2)	198(100)	
Good Attention Span	Not True	41(31.3)	90(67.3)	131(65.5)	
	Somewhat True	20(36.4)	35(63.6)	55(27.5)	
	Certainly True	4(28.6)	10(71.4)	14(7)	
	Total	65(32.5)	135(67.5)	200(100)	
Overall Hyperactivity	Normal	61(34.1)	118(65.9)	179(90.9)	.308
	Borderline /Abnormal	4(22.2)	14(77.8)	18(9.1)	
	Total	65(33)	132(67)	197(100)	

Table 3: Association of Hyperactivity symptoms with paternal tobacco addiction using parent reported SDQ

*p Value of <0.05 is considered statistically significant

Hyperactivity symptoms		**Paternal Alcohol Consumption Frequency (%)**		**Total**	**Pearson Chi-Square P Value**
		Yes	**No**		
Restless	Not True	28(37.8)	46(62.2)	74(37)	.238
	Somewhat True	29(39.2)	45(60.8)	74(37)	
	Certainly True	27(51.9)	25(48.1)	52(26)	
	Total	84(42)	116(58)	200(100)	
Fidgety	Not True	53(38.7)	84(61.3)	137(68.8)	.275
	Somewhat True	22(47.8)	24(52.2)	46(23.2)	
	Certainly True	9(56.3)	7(43.8)	16(8.0)	
	Total	84(42.2)	115(57.8)	199(100)	
Easily distracted	Not True	33(39.8)	50(60.2)	83(41.5)	.733
	Somewhat True	33(41.8)	46(58.2)	79(39.5)	
	Certainly True	18(47.4)	20(52.6)	38(19)	
	Total	84(42)	116(58)	200(100)	
Reflect	Not True	49(41.5)	69(58.5)	118(59.6)	.952
	Somewhat True	25(40.3)	37(59.7)	62(31.3)	
	Certainly True	8(44.4)	10(55.6)	18(9.1)	
	Total	82(41.4)	116(58.6)	198(100)	
Good attention span	Not True	51(38.9)	80(61.1)	131(65.5)	.064
	Somewhat True	23(41.8)	32(58.2)	55(27.5)	
	Certainly True	10(71.4)	4(28.6)	14(7)	
	Total	84(42)	116(58)	200(100)	
Overall Hyperactivity	Normal	7039.1)	109(60.9)	179(90.9)	.024*
	Borderline /Abnormal	12(66.7)	6(33.3)	18(9.1)	
	Total	82(41.6)	115(58.4)	197(100)	

Table 4: Association of Hyperactivity symptoms with Paternal Alcohol Consumption using parent reported SDQ

*p Value of <0.05 is considered statistically significant

DISCUSSION

In our study out of 199 study subjects 137 (68.8%) were normal on conduct problem scale of parent reported SDQ, while remaining 24(12.1%) were borderline and 38(19.1%) children were abnormal while a study done by Sujit Sarkhel, Vinod Kumar Sinha, Manu Arora, and Pushpal DeSarkar on prevalence of conduct disorder in school children of Kanke Block of Ranchi District in India, on 240 school students in an age range of 10–15 years found prevalence of conduct disorder 4.58%, prevalence among boys being 6.81% (n=9) and girls being 1.85% (n=2). They collected information from child, teacher and both parents and the interviewer′s best judgments was applied to arrive at a conclusion.[11] This difference in the results could be attributed to variation of age group, informants, diagnostic system, diagnostic tools, and sampling techniques. In our study the questionnaire used (SDQ) is a screening tool for behavioural problems while the study tool used in above study was a specific for the diagnosis of psychiatric disorders and the calculated prevalence was based on overall impression and DSM-IV criteria for the diagnosis of Conduct disorders.[11] Another study conducted by Asmaa Abd Elhamid, Amanda Howe, Richard Reading (2008) in Egypt, found the much higher prevalence of conduct disorder as 6.6% (n =70/1,067) on Multi informant SDQ.[12] The difference might be because of difference in the socio-cultural environment.

Parent reported hyperactivity scale of SDQ showed that out of 197 total parents, who responded for hyper activity 179 (90.9%) children were normal while 15 (7.6%) study subjects were borderline for hyperactivity, and only 3 (1.5%) were abnormal. While a study done by Ehsanullah Syed and Sajida Abdul Hussein (2006) had done a cross-sectional survey of 5–11-year-olds students attending mainstream private and community schools in Karachi, Pakistan found that based on parent's ratings, 18.8% of children were 'abnormal' on the hyperactivity subset of the SDQ.[13]

In our study a conduct problem symptom, lying and cheating, was found significantly associated with the paternal alcohol consumption, but overall conduct problems were not found significantly associated with the paternal alcohol consumption. Similar results were found in a study done by Mahedy L, Hammerton G in US, (2017) their study concluded that Parental alcohol use and risk of behavioural and emotional problems in offspring that there is no support for an association between parental alcohol use during childhood and conduct and emotional problems during childhood or adolescence.[14] On the contrary, a study done by Kirsimarja Raitasalo on the effect of the severity of parental alcohol abuse on mental and behavioural disorders in children, results indicate that both maternal alcohol abuse and paternal alcohol abuse, regardless of severity, are associated with an increased risk of mental and behavioural disorders in children.[15]

In our study Paternal tobacco addiction was found significantly associated with the conduct problem among their children while a study done by Keiko Wada on Associations between Exposure to Tobacco Smoke and Behavioural Problems in Preschool Japanese Children concluded that Exposure to tobacco smoke in early childhood may be involved in the development paediatric behavioural problems.[16] In this study Statistically significant relation was found between paternal alcohol consumption and overall hyperactivity problems but paternal tobacco addiction didn’t affect the hyperactivity in their children.

CONCLUSION

Present study was done to assess Conduct problems and hyperactivity school children studying in municipal around a tertiary care centre in Mumbai. Sociodemographic and paternal tobacco addiction, alcohol consumption were also studies. Here we concluded that the prevalence of borderline and abnormal conduct problem were 22.1% and 19.1% respectively according to parent reported SDQ. While the prevalence of borderline and abnormal hyperactivity were 4.9% &1% respectively. Over all conduct problems were also found significantly associated paternal tobacco addiction. The Lying and cheating, a conduct problem symptom as well as hyperactivity, was found significantly associated with the paternal alcohol consumption.

Limitations

As this was a cross-sectional study design, we were unable to assess the stated problems in depth as it requires continuous monitoring and through clinical and psychological evaluation with the help of experts in the field to state any causality. Even though utmost efforts were taken to build rapport and confidence in the respondents, the sensitive nature of the study questions might have led to deliberate under reporting by the respondents. Hence a well-designed longitudinal study is needed for the assessment of the conduct problems and hyperactivity like behavioural problems of school children and its association with parental tobacco addiction and alcohol consumption is recommended.

Conflict of Interest: None.

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