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The Relationship of Childhood Maltreatment and Household Dysfunction and Drug Use in Later Life in Iran

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Abstract: Few studies have examined the relationship between childhood maltreatment and substance use in later life considering household dysfunction variables especially in Eastern Mediterranean countries. The study was conducted to explore the relationship between adverse childhood experiences and substance misuse during later life in an Iranian sample. A case control study was conducted in Kerman, a city located in southern Iran in 2005. Cases were 200 men and women referred to outpatient clinics of the city seeking treatment for substance use disorder. Controls (n = 200) were selected from the general population. With emphasizing the confidentiality and obtaining oral consent the subjects were asked to fill out a questionnaire including demographic variables and 27 questions concerning all types of child abuse/neglect and household dysfunction. Using multivariate logistic regression the associations between baseline characteristics, childhood maltreatment and household dysfunction variables and substance use disorder were analyzed. The mean age of case group was 32.5±8.3 and in control group was 28±9.3 (p<0.01). Most of subjects in both groups were male. The prevalence of sexual abuse, household substance use and household criminality were higher in substance dependent patients comparing to control group. The highest odds of substance use disorder was associated with household substance abuse (OR: 2.50, 95% CI: 1.53-4.10) and sexual abuse was the only type of childhood maltreatment which showed significant association with substance use disorder in later life (OR: 1.73, 95% CI: 1.03-2.92). The related factors uncovered by the study conduct us to early interventions among dysfunctional families to decrease the maladaptive lives and stressful household environments.

Key words: Substance-related disorders, adolescent, child abuse, Iran

INTRODUCTION

Child maltreatment was a terrible problem for people since ancient period to late modern period. A good deal of studies used to explain the association between maltreatment and drug use in the later life (Hussey *et al.*, 2006). All types of maltreatment including emotional abuse are related to higher level of substance use and should be considered as a risk factor for substance use during later life (Moran *et al.*, 2004; Dube *et al.*, 2003). Although the relationship between substance abuse and child maltreatment has been relatively established, it is not a simple cause-effect relationship (MacMillan *et al.*, 2001). Meanwhile few studies have examined the relationship between illicit drug use and childhood maltreatment considering other social factors (Dube *et al.*, 2003). A study explored the relationship among substance abuse, family functioning and abuse/neglect in a clinical sample in which generally high percentages of parental substance

abuse, neglect and low level of family competence were identified (Dube *et al.*, 2003). In the study the relationship between illegal drug use and categories of Adverse Childhood Experiences (ACEs), childhood abuse, neglect and household dysfunction including divorce and parental separations were examined and each category of ACEs was associated with 2-4 fold increase in likelihood of illicit drug use (Dube *et al.*, 2003). Replicating these results in other communities will further strengthen the importance of childhood maltreatment.

Considering the alarming state of illicit drug use in Iran (Meimandi *et al.*, 2005), we conducted this study to further clarify the relationships of ACEs to substance misuse in an Iranian sample.

MATERIALS AND METHODS

A case control study was conducted in Kerman, a city located in southern Iran in 2005. Cases were

200 men and women referred to outpatient clinics of the city seeking treatment for substance use disorder. The diagnosis of substance use disorder was made by means of semi-structural clinical interview for DSM-IV axis I disorder (DSM-IV-TR, 2000). Controls were selected from the general population and were individually matched to cases on 5 year age intervals. With emphasizing the confidentiality and oral consent the subjects were asked to fill out a questionnaire including demographic variables and 27 questions concerning 2 categories of ACEs according to Dube *et al.* (2003). The categories investigated were classified as: 1) questions about child maltreatment including abuse (physical, emotional, or sexual) and neglect (physical or emotional); and 2) questions measuring household dysfunction including household substance abuse, mental illness or suicidal attempt among household members, criminality of household members and parental separation or divorce.

The validity of questionnaire was acceptable according to the reference (Dube *et al.*, 2003) and an expert panel and Cronbach's alpha in items measuring childhood maltreatment was calculated as 0.81 as a whole. Mental health status of the subjects was measured by General Health Questionnaire (GHQ-12) (Montazeri *et al.*, 2003). Using multivariate logistic regression the associations between sociodemographic, childhood maltreatment and household dysfunction variables and substance use disorder were analyzed. The Hosmer-Lemeshow test was used to assess model fit. Statistical analyses were performed using SPSS for Windows software (version 13.0).

RESULTS

Totally 400 subjects enrolled in the study. The mean age of case group was 32.5±8.3 and in control group was 28±9.3 (p<0.01). The mean number of children in case group was 7.3±2.6 and 6.8±2.2 in control group (p>0.05).

Subjects in the case group were mostly opium user (43.5%), other drugs were heroin (24.5%), Shirea (opium extract) (9.5%), a combination of them (19.5%) and other substances (3%). Baseline characteristics of 2 groups are shown in Table 1.

Only the prevalence of sexual abuse was higher in substance dependent patients. Meanwhile household substance use and household criminality were more prevalent in the case group (Table 2).

The final results of the multivariate logistic regression analyses are shown in Table 3. The highest odds of

substance use disorder was associated with household substance abuse (OR: 2.50, 95% CI: 1.53-4.10). Sexual abuse was the only type of childhood maltreatment which showed significant association with substance use disorder (Table 3). GHQ score more than 12 may be a related factor for substance use disorder.

Table 1: Characteristics of substance use patients (n = 200) and controls (n = 200)

Characteristic	No (%)		p-value
	Case	Control	
Sex			
Male	167 (83.5)	149 (74.5)	0.03
Female	33 (16.5)	51 (25.5)	
Education			
≤Primary school	33 (16.5)	30 (15.1)	0.03
Secondary	141 (70.5)	117 (58.3)	
College	26 (13.0)	53 (26.6)	
Marriage			
Single	68 (34.0)	82 (41.0)	0.06
Married	114 (57.0)	110 (55.0)	
Divorced or separated	18 (9.0)	8 (4.0)	
Residence			
Urban	130 (65.0)	135 (67.5)	0.60
Rural	70 (35.0)	65 (32.5)	

Table 2: Prevalence of each type of childhood abuse/neglect and the household dysfunction variables in substance use patients (n = 200) and controls (n = 200)

Characteristic	No (%)		p-value
	Case	Control	
Emotional abuse	51 (25.5)	36 (18)	0.07
Physical abuse	71 (35.5)	65 (32.5)	0.53
Sexual abuse	80 (40.0)	51 (25.5)	0.002
Emotional neglect	59 (29.5)	48 (24.0)	0.21
Physical neglect	70 (35.0)	56 (28.0)	0.13
Household substance abuse	120 (60.0)	70 (35.0)	<0.001
Mental illness among household members	84 (42.0)	79 (39.5)	0.61
An incarcerated household member	66 (33.0)	12 (6.0)	<0.001
Parental separation/divorce	20 (10.0)	16 (8.0)	0.48

Table 3: Logistic regression analysis to assess the association between subject's report of childhood maltreatment, household dysfunction variables and substance use disorder

Characteristic	Adjusted odds ratios	95% confidence intervals	p-value
Age	1.07	1.04-1.1	0.001
Sex			
Female	1.00	-	-
Male	1.99	1.08-3.68	0.026
Education			
≤Primary school	1.00	-	-
Secondary	0.59	0.24-1.44	0.25
College	0.40	0.15-1.05	0.06
Sexual abuse			
No	1.00	-	-
Yes	1.00	-	-
Household substance abuse			
No	1.00	-	-
Yes	2.50	1.53-4.10	0.001
GHQ score	1.08	1.01-1.16	0.02

DISCUSSION

Although substance abuse is not a novel issue in Iran, it has had an increasing rate during the recent years (Mokri, 2002), so that in some studies about 21% of university students in Iran had a history of opium abuse during the last 6 months (Ghanizadeh, 2001). It is necessary for the government to have comprehensive information about the risk factors of drug abuse to control it (Jenkins, 2001). Childhood abuse has been considered as a pervasive and devastating predictor of drug use during adolescence and later life in a substantial body of research which most of them has been conducted in Western countries (Moran *et al.*, 2004; Dube *et al.*, 2003). To our knowledge this is the first study to examine the link between all types of child maltreatment and substance use disorder in later life in an Eastern Mediterranean country.

Before interpreting the results of the study, its main limitations should be stated here: First, the study was based on a clinical sample which may limit generalizability. Second, childhood events were questioned via self-report retrospective questions which may be underreported owing to recall bias.

Data gathered from a clinical sample provided new information on the link between all types of abuse, neglect, age, gender, educational level, household functioning and substance abuse. The results indicated sexual (40%) and physical abuse (32.5%) the most frequent type of abuse/neglect in the substance dependent and control group, respectively (Table 2). Self report studies conducted in US show that 25-35% of women report childhood sexual abuse (Downs and Harrison, 1998). So the prevalence of sexual abuse seems to be high in the substance dependent group in comparison to both the control group and other relevant studies. Although other types of child abuse and neglect showed no statistically significant difference between the two groups but the overall prevalence of all types of childhood maltreatments were to some extent higher in the substance dependent subjects. Sixty percent of substance dependent subjects reported household substance use which was two times higher than findings by Dube *et al.* (2003). The difference may be due to hidden of sexual abuse by victim and his/her family, because the problem is the stigma.

After adjusting for age, sex and other baseline characteristics the only variables that showed a significant relationship with drug use in later life were household substance abuse, sexual abuse and GHQ score in order of strength of association (i.e., OR) (Table 3).

According to Moarn *et al.* (2004) sexual abuse was a potent predictor of substance use in later life comparing to other types of childhood maltreatment (Moran *et al.*, 2004). The association with higher score of GHQ-12 confirms the relationship of psychiatric morbidity and substance dependency which may be a mutual correlation (MacMillan *et al.*, 2001).

Although the subject's educational status showed no significant association statistically but the figures are in favor of its protective effect (Table 3). The higher risk of drug use in subjects who reported childhood sexual abuse may be an indirect clue to the household dysfunction (Dube *et al.*, 2003). In many cases, the experience of abuse appears to lead in later life to increased feelings of depression and anxiety which, while not sufficient to result in the diagnosis of a mental health. Disorders may place the victims at greater risk of developing substance abuse or dependency, as a result of self medication (Stein *et al.*, 2003). Finally it should be emphasized that some variables we studied, such as household dysfunction seem to play a causal role in the occurrence of other exposures which should be considered in the interpretation of the results.

In conclusion the related factors uncovered by the study conduct us to early interventions among dysfunctional families to decrease the maladaptive lives and stressful household environments.

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