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EFFECTS OF ADVERSE CHILDHOOD EXPERIENCES ON DEPRESSION AND SUICIDAL BEHAVIOR: A CROSS SECTIONAL STUDY

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ABSTRACT

Objective: To investigate adverse childhood experiences with depression and suicidal ideation among Pakistani adults.

Methodology: In this cross-sectional study, a convenient sampling method was used to collect information from 400 participants. In this study, both males and females (n=200) between the ages of 20 and 50 were considered. We recruited 400 people from Peshawar's drug recovery institutes and 400 people from other institutions (Pakistan). Each person who agreed to take part received a booklet with demographic questions, the ACEs-IQ ($\alpha = 0.86$), the Center for Epidemiological Studies-Depression (CES-D, $\alpha = 0.76$), and the Suicidal Behavior Risk-R ($\alpha = 0.76$) questionnaires.

Results: The dataset was examined using a t-test and a regression analysis. In this study, 44% of the subjects reported having traumatic events in their formative years. Moreover, a t-test reveals a significant difference between ACEs patients and non-ACEs sufferers on depression ($t = -18.27$, $P = .001$) and suicidal thoughts ($t = -11.81$, $P = .001$). Regression analysis indicated a relationship between home dysfunction and depression and between household dysfunction and suicidal thoughts [$F(3, 175) = 12.439$, $P = .001$, $R^2 = .176$].

Conclusion: The results of the study concluded that 44% of the participants experienced ACEs as children. Significant predictors of depression and suicidal thoughts include family dysfunction and emotional neglect. However, sexual abuse is underreported in the present investigation.

Keywords: Adverse childhood experiences (ACE); Depression; Suicidal Ideation; Drug Rehabilitation Centers; University Students.

INTRODUCTION

Early childhood years play a major role in the growth and development of skilled life. Adverse events at the house, at academic institutes, or in the community may have a negative impact on the child's cognitive, behavioral, and emotional development.¹ The term "adverse childhood experiences" (ACEs) refers to a broad category that includes stressful situations that happen before a person becomes 18 years old and may increase their risk of future problems. These unpleasant incidents may occur in the house or family circles like emotional, sexual, and physical abuse and neglect such as emotional and physical neglect, family malfunction like a family member in prison, drug abuse, family violence, and parent separation or divorce.² Unpleasant childhood experience is a general problem of a society that plays a major role in making the threat for mental health problems across the lifetime. Several types of research described the relationship between child

abuse and acute and lifelong psychological illness. The outcomes of childhood unpleasant experiences can be prompt or can emerge in later life.^{3,4} The most recurrent and instant impacts are hurtful injuries (e.g., wounds, scraped spots, hematomas, fracture, brain injury) and psychosomatic problems related to distressing experiences (e.g., sleep or dietary problems, tension). Therefore, in youth or later in adulthood, psychological well-being problems may emerge.^{5,6}

The ACEs studies illustrate that several number of abuse, exposure to any kinds of family dysfunction, and household violence during the early life of a child has a high connection to a diversity of social and health problems containing anxiety, suicide, depression, panic reactions, hallucination, memory and sleep disturbances from adolescence to later life.⁷ Psychological problems common in children who experience adversity include depression, anxiety, post-traumatic stress disorder, substance abuse problem, and aggressive

behavior.^{8,9} A study of ACE confirmed that neglect, abuse, and family dysfunction are related to various physical, behavioral, social, emotional, and mental health problems that arise in youth as they grow. For instance, early childhood experiences are connected to depression, suicidality, smoking, alcohol abuse, and prohibited drug abuse.¹⁰ A strong relationship between acute childhood events and mental disorders, such as post-traumatic disorder (PTSD) and depression has been documented.¹¹

Depression is a mental illness that has harmful impact on one's thinking, feeling, and actions. It generates a loss of interest/pleasure and feelings of sadness in daily activities once they take pleasure. It can also cause physical and emotional problems in persons and diminish an individual's potential for different functioning at home and work.¹² ACEs exposed individuals with depression and at jeopardy of some other critical clinical outcomes e.g suicidal attempts.¹³ Specifically, epidemiological studies have shown that the pervasiveness of self-destructive ideation and actions is essentially higher among grown-ups with a background marked by antagonistic childhood incidents including sexual misuse, physical violence, and openness to parental domestic savagery. In order to address the identified gap in the literature, the current study try to investigate the following research questions: Is there any relationship between ACEs and suicidal behavior? Are sexual abuse, household dysfunction, and emotional neglect potential predictors of depression and suicidal behavior?

■ METHODOLOGY

The convenient sampling was used in this correlational cross-sectional study. The sample size of 128 was determined using G power version 3.1, with an error probability of .05 and a sample power of 0.8. However, we approached 400 individuals as opposed to the

needed 164, with 200 coming from various university settings and the other 200 coming from the drug rehabilitation programs at Lady Reading Hospital (LRH), Peshawar. The PJMI Institutional Review Board Ethical Committee (IRB-PJMI) gave their approval for this study to gather data (IRB-PJMI reference number. 2206/Dy/REG/PGMI). Dated: 18/02/2021. Age, sex, education, occupation, marital status, socioeconomic position (SES), and family structure (joint/nuclear) were some of the categories included on the sheet used to collect sociodemographic data.

Participants (N=400) were recruited from a drug treatment center and several educational institutions in Peshawar City. Participants ages ranged from the mid-20s to mid-50s. Those who met the inclusion and exclusion criteria, such as an age range of 20–50, willingness to engage, and a requisite level of education, were invited to take part in the study. However, only people who used drugs while indoors were removed from treatment facilities. Chronic physical or mental health conditions disqualified participants from the research.

The Adverse Childhood Experience International Questionnaire was developed by the World Health Organization to assess traumatic events that occurred throughout adolescence (ACE-IQ)

Subcategories of abuse, family dysfunction, neglect, and violence are all evaluated in question 13. The level of trust established by Cronbach's alpha was zero in the present investigation. The Center for Epidemiologic Studies of Depression (CES-D)¹⁴ was established to assess depression symptoms throughout the course of the previous week. There are 10 questions, and each one can be answered "rarely or none of the time (0), a few or little of the time (1), at times or a substantial measure of the time (2), and most or all of the time (3)" on a 4-point Likert scale. Out of the five measures, three evaluate the

impact of depression, and one gauge the extent to which it manifests physically. However, the scores for items 5 and 8 are highly regarded. The current investigation found alpha reliability of .76 for this scale. The short variant of the SBQ-R is commonly used to measure suicidal ideation in both adults and adolescents. High scores on the four-item short form indicate a significant risk of suicidal behavior. In this investigation, the alpha reliability of this scale was determined to be .76.

Participants in this study came from several Peshawar institutions of higher education (n=200) and drug treatment facilities (n=200) (Pakistan). Participants were contacted after receiving approval from the appropriate authorities, and they were given a thorough explanation of the study's goals and reassurances that their data would be held in strict confidence and used for scientific inquiry only. Participants who agreed to take part in the study were given a packet of questionnaires that included a written consent form, a socio-demographic sheet, the ACE-IQ, the CES-D, and the SBQ-R. All volunteers were appreciated for their time and effort.

■ RESULTS

The sample of the present comprised of 400 individuals with 75% dominant ratio of men participation. The mean age of the sample was 25.89, SD 7.17. Among these 62.5% were unmarried, 53% population belongs to middle SES, whereas 50.3% were students and 45.3% were employed, 44.7% participants experiences ACE in their life. The findings further highlights subcategories of ACE reported by the data i.e 15.3 were emotionally neglected, 10.8% were physically neglect, drug abuse in the house hold were 12.8%. Mental illness depression or suicidal ideation are 9%, incarcerated household members are 7.8%, Parents marital status (divorced, separated) 10.5%, Household

Table 1: Mean Comparison of Adults with adverse childhood experiences and without adverse childhood experiences on Suicidal Ideation, and CES-D. (with ACE (N=179), Without ACE (N=221))

Variables	M (SD)	M (SD)	t	p	Cohen's d
CES-D	14.4(3.86)	8.44(3.28)	-18.27	0.001	1.82
Suicidal Behavior	7.28(3.08)	4.33(1.86)	-11.81	0.001	1.15

Table 2: Regression analysis summary for sexual abuse, household dysfunction and emotional neglect for predicting depression. (95% CI)

Variable	B	LL	UL	β	t	P
Abuse	2.96	-0.36	0.951	0.064	0.891	0.374
Household Dysfunction	0.99	0.45	1.53	0.285	3.617	.001
Neglect	0.614	-0.244	1.472	0.11	1.413	0.16

Table 3: Regression analysis summary for sexual abuse, household dysfunction, and emotional neglect for predicting suicidal behavior. (95% CI)

Variable	B	LL	UL	β	t	P
Abuse	-0.714	-5.393	3.965	0.117	1.683	0.094
Household Dysfunction	-1.421	-4.132	1.29	0.28	3.642	0.001
Neglect	1.088	0.137	2.04	0.173	2.287	0.001

members violence was reported 26%, community violence witness 34.4% , and war/collected violence was 15%. For in depth analysis t-test, regression analysis, were applied using the SPSS22 version. The table 1 results show the significant difference of both groups (ACEs and non-ACEs) on depression and suicidal behavior. Regression analysis indicated a relationship between household dysfunction and depression, and between household dysfunction and suicidal thoughts [F (3,175) = 12.439, P.001, R².176].

A multiple linear regression analysis was calculated to predict depression based on sexual abuse, household dysfunction and emotionally neglect. A regression equation was found [F (3, 175) = 8.77, P .< .001], with an R² of .131, which indicates 13.1% of variance in the dependent variables by these independent variables. The findings of the table further explains household dysfunction as a significant predictor of depression.

A multiple linear regression analysis was calculated to predict depression based on sexual abuse, household dysfunction, and

emotional neglect. A significant regression equation was found [F (3,175) = 12.439, P .< .001], with an R² of .176, which indicates 17.6% of variance in the dependent variables by these independent variables. The results highlighted that household dysfunction and emotional neglect significant predictors of suicidal behavior.

DISCUSSION

This study found that 44.7% of individuals had ACE in their early life. Table 1 results indicates that those who experience ACE are more vulnerable to developing depression and suicidal behavior as compared to non ACEs. The findings are in line with a previous study reported the ACE association with depression 16. Another study conducted by Vitriol, et al¹⁷ on the patients with depressive diagnosis in a primary care center, reported one third patients with depression have early acute experience, predominantly child sexual abuse. Bellis et al¹⁸ conducted a meta analysis and reported significant contribution of ACE in developing clinical presentation of depression. Multiple linear

regression analysis showed that exposure to household dysfunction during early years of life may have detrimental effects on the individual's mental health. Such experiences may perhaps leads to pathological alteration in later life. Results of the table 2 further extend our understanding that house hold dysfunction is the major causal factor to predict depression. Table 3 results expand the ACE impact on gradient the suicidal ideation. The depressed population experience acute early experiences accompanying with suicidal ideation.¹⁹ Research findings from South Africa reported that those individuals experience sexual abuse and emotional neglect add on to inflate suicidal ideation.²⁰ Damian, et al²¹ suggests emotional neglect as strong predictions of suicidal ideation among ACE sufferers. It is noteworthy that in the present study we found household dysfunction and emotional neglect as a predictors of depression and suicidal ideation, whereas insignificant effect of sexual abuse. Participants of the current study did not report sexual abuse experience. This might be due to the fact that we belong to very conservative society, where discussing sex and related things are

against to the cultural norms. It might be possible that either they were in denial face or need confidence to share their personal experience irrespective how bitter or against the cultural norms.

CONCLUSION

The study concluded association between ACE, depression and suicidal behavior. Additionally, household dysfunction, and emotional neglect are significant predictors for developing depression and suicidal behavior in ACEs individuals.

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Author's Contribution

UK conceived the idea and wrote the manuscript. OA Contributed in data collection and interpretation of data. Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Conflict of Interest

Authors declared no conflict of interest

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None

Data Sharing Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.