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"DOES CURRENT CRIMINAL BEHAVIOR HAVE ITS ORIGIN IN CHILDHOOD TRAUMA?" – A CASE CONTROL STUDY.

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ABSTRACT

Background: The study explores the psychology behind anti-social behavior via an endeavor to establish a positive association between criminal activities and adverse childhood experiences. **Methods:** The study has been conducted in the case control format. Case sample (n=66) included prison inmates convicted under either S.302, I.P.C (Indian Penal Code) or S.376, I.P.C. Individually matched controls (n=66) were selected based on the criteria of age, sex, domicile, highest level of education completed and marital status. Structured interview involved administration of the WHO (World Health Organization) Adverse Childhood Events- International Questionnaire (ACE-IQ) to each participant to obtain an ACE score ranging from 0 to 13, the score being proportional to severity of childhood trauma. Statistical analysis involves calculation of odd's ratio, exposure rates, p-value, standard deviate and chi-square test of significance. **Results:** Exposure rate was higher in cases (63.63%) as compared to controls (10.60%). Odd's ratio is 14.75 at 95% confidence interval. **Conclusion:** A positive association ($p < 0.001$) was established between exposure to childhood trauma and acts of criminality. Results suggest that exposure to dominant ACE categories has a profound impact on an individual and contributes to increased risk of criminal behavior. It is highly significant to provide appropriate and timely intervention to mitigate the effects of childhood trauma and possibly contribute towards alleviating crime in the society.

INTRODUCTION

Marvin L. Minsky, in his book "The Society of Mind" wrote, "The principal activities of brain are making changes in themselves."

Introduction to The Study

Primary hypothesis is based on the view that no one is born a criminal and any act of delinquency, risk or anti-social behavior may be the result of a person's experiences, especially during the formative years of one's life. The purpose is to get more insight in the root cause of criminal behavior, the quest for which can be initiated by establishing a link between childhood trauma and crime.

To do so, the Adverse Childhood Events- International Questionnaire (ACE-IQ) was considered to be a suitable screening tool published by the WHO.[1] It is intended to measure adverse childhood events (ACE) in all nations. Therefore, aiding in analysis of ACE and risk behaviors in later life. The questionnaire is meant to be administered to people aged 18 years or older. Questions are categorized into- Family dysfunction; physical, sexual, emotional abuse and neglect by parents or caregivers; peer violence; witnessing community violence and exposure to collective violence.

If a positive association can be established, it could aid in reforming the legal structure of our nation. Since centuries, the word "crime" has always been followed by the term "justice", which is achieved by punishing the defaulter. However, a major shift in perspective can be achieved by asking the question "Why does one commit a criminal act in the first place?" Various issues can be improved upon by addressing the above question.

A major report of concern this year was our nation's position in the **World Happiness Report, 2021** wherein India ranked at a disappointing figure of 139.[3] Although the happiness index of a nation is determined by a variety of factors, it is noteworthy to realize its relationship with the crime rates of the country.[4]

- Finland ranked first for the 5th time in a row with a happiness index of 7.809, its crime rate being 27.01 %.
- Afghanistan was at the bottom of the happiness report with an index of 2.567 and crime rate of 76.97%
- Elaborating a bit more on India, from 2020 to 2021 our ranking on the world happiness report jumped from 144 to 139. While our crime rates dropped from 50.04% (2020) to 44.72% (2021).

These statistics should encourage us to think more on the lines of welfare of individuals in order to promote a safe and healthy society and also improve the quality of our abundant human resource.

Another important concept is that of **Prison Reforms**. Prison reform measures can be considered to be a form of tertiary prevention. However, in the medical parlance, we all are well aware of the benefits of primordial or primary prevention over tertiary steps. Same holds true for the judicial set up as well. There are three main functions of a modern prison organization- Custody, Care and Treatment.[5] For a very long-time focus has primarily been on custody. Current prison reforms however, seek to rehabilitate convicts into society where they can endeavor to be socially responsible and law-abiding citizens. If we go one step further and intervene at the primordial level itself by targeting vulnerable groups (juveniles, children from broken homes, victims of community violence and war, refugees, immigrants, etc.), we can save the immense long-term costs of imprisonment and the multifaceted collateral expenditures that follow. By taking care of this aspect, we could prevent certain dents that our economy suffers on an annual basis.

Historical Review

"Maybe they can study me and find out what makes people like me do the things they do."

-Edmund Kemper[6]

The origins of research on developmental psychology can be traced back to the 1960's, when a prominent British psychologist, Hans j. Eysenck described that the personality of an individual was determined by two major factors- biological predisposition and the learning experiences obtained via one's social environment.[7]

Trauma And Its Consequences

Further, delving into the subject proper. Research has shown that there is credible association between negative outcomes in adulthood and adverse childhood events. These outcomes include somatic disorders, mental illnesses as well as acts of delinquency.[8] Gross social impairment often lays down the

pathway to anti-social behavior. A 12-year prospective study has shown that maltreatment during adolescent years led to withdrawn behavior including increased absenteeism from school, lack of motivation for higher studies as well as a rise in college drop-out incidence. Also, such adolescents showed higher levels of aggression, post-traumatic stress disorder symptoms, mood disorders and social withdrawal.[9]

Implications Of Physical Abuse

Certain researches have focused primarily on a specific type of ACE and measured its outcomes. A study by Tracie O. Afifi and colleagues has elaborated on the association between antisocial behavior and harsh physical punishment and child maltreatment. Results showed that 47.3% of antisocial behavior incidents among females and 45.5% among males were attributed to some form of physical childhood abuse.[10]

Another study sought to compare children's externalizing behavior in response to spanking by caregiver across different ethnic groups. Interestingly, it was only the frequency of such punishment that differed across different ethnic groups. The incidence of externalizing behavior was uniform in all such children irrespective of their background.[11]

One of the researchers addressed the issue of corporal punishment lent out by parents and caregivers. It was established that it was not the frequency of such punishment but the very nature of it that was deterministic in anti-social behavior by the victimized child. The study has also brought out the pressing need to educate and counsel caregivers in order to improve the child's wellbeing.[12]

The Evil Of Childhood Sexual Abuse

Another category of childhood abuse that calls for stern attention is sexual abuse. A retrospective cohort study in 2003 reported significant association between childhood sexual abuse and other forms of ACE's. There was observed an increased strength of association with an increase in severity of sexual abuse, thus pointing out the intricate relationship between the two. Thus, one way to lessen the incidence and impact of ACE is to increase attention towards victims of childhood sexual abuse.[13]

Sexual abuse in the early years also has a stronger and more definite association with mental health problems during the adult years of life. Effects of childhood physical abuse on the other hand had determinants other than just its incidence. The consequences varied with changing family context and environment.[14]

Childhood sexual abuse has multifaceted consequences at both personal as well as social levels. A study has brought to light that often perpetrators of child sexual abuse aren't adults but other juveniles themselves. However, identifying these offenders and their victims requires straightening out major loopholes like ineffective interagency communication, spreading awareness and acceptance, gaining effective cooperation from law enforcement agencies and overcoming hurdles in accessing professional services. All these obstacles create an ice berg phenomenon wherein majority of the victims go unnoticed.[15]

Neurobiology Of Trauma

Studies have explored the neurobiological basis of the outcomes of childhood trauma and neglect. Research at molecular level has pointed out that negative past experiences can be detrimental to health and behavior patterns of adults. This process is a twin mechanism of collective damage over the years and by biological embedding of adverse events during the developmental years.[16]

Another study combining epidemiological and neurobiological data showed impairment in various selected outcomes of brain function with respect to increase in ACE Score. There was a three-fold increase in mean comorbid outcomes across the range of ACE Scores obtained. Thus, proving that extrinsic experiences influence the neurobiology of the developing brain.[17]

Scope For Management

A noteworthy study by Emalee G. Flaherty and colleagues in 2013 homes in onto the importance of intervention in the early childhood and adolescent years. The longitudinal study provides evidence that effects of childhood adversities may start to show well in early adolescence period itself and that, efforts to lessen the impact of trauma at this delicate juncture can prevent major health issues in adulthood.[18]

A study has focused on the importance of clinical management of youth who are victims of abuse and neglect. It states that failure in timely intervention leads to a string of unhealthy behavioral patterns like self-harm, suicide attempts, drug abuse, running away and so on. All of these reinforces impulsive behavior which continues well into adulthood.[19]

An interesting outlook was provided by Melissa Jonson-Reid et al in a 2012 study which followed 5994 children from low-income families for a period of 17 years. Out of these, 3521 reported childhood maltreatment. The organic outcome of trauma being psychiatric disorders, suicide attempts and drug abuse among the others. The study was not just analytical but interventional as well. An important conclusion that can be drawn is that robust tertiary management even during the mature years of adulthood can significantly reduce the negative physical, psychological and social outcomes.[20]

MATERIALS AND METHODS

MATERIALS

The following documents were used during the conduct of the study:-

- Adverse childhood Events- International Questionnaire.[2]
- Participant information sheet.[21]
- Informed consent form.[22]
- Binary score assessment sheet.[23]

Research Tool

The Adverse Childhood Experiences International Questionnaire (ACE-IQ), is a questionnaire published by the World Health Organization.[2] The questionnaire seeks to record various adverse childhood events during the course of childhood and adolescence. All questions are directed at incidents that the participant had experienced before 18 years of age.

METHODOLOGY

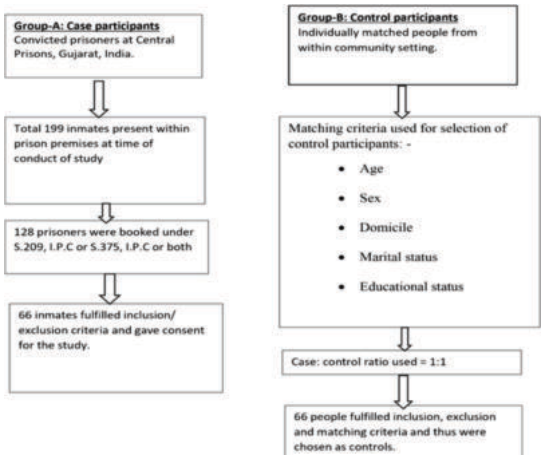

Figure 1: Procedure for selection of case and control participants

Approvals

The study was initiated after taking due approval from all concerned authorities. Institutional Ethics Committee approval taken from XXXX, prior to conduct of study (IHEC/Protocol number-BHR/22). Date of approval: 24/06/2020. [Details disclosed in title page].

Study Design

The concerned study is a qualitative research, sub-type being an analytical study. It was conducted in the case-control study format. Purposive sampling was applied to obtain a sample size consisting of 66 case participants. The case-control ratio is 1:1. Thus, two groups of participants were obtained. Group-A includes case participants and Group- B includes controls, as elaborated in Figure 1.

Procedure

Procedure of the study was conducted in two parts. 66 Case participants were interviewed within prison premises. Each inmate was given a verbal explanation regarding the details and purpose of the study. This was followed by providing participant information sheet and informed consent form in their preferred language. The structured verbal interview included administering the ACE-IQ. Answers were duly recorded by myself in the questionnaire. Confidentiality of each participant has been maintained and names or any other identification details have not been recorded in any document. For ease of data collection, each subject was assigned a 6-digit code comprising of the date, month and serial number in which they were interviewed. For example, the first subject interviewed on the 15th of January would be assigned a code "150101". Interview was conducted once the participant had given written informed consent.

The second part of the study includes interview of the control participants. This section was a community-based study, wherein individually matched controls from within the community were interviewed. They too were assigned unique identification codes corresponding to the case subject with whom they had been matched. For example, a person fulfilling matching criteria for case subject 150101 would be assigned a code 150101-C.

After recording all data, the ACE Score of each participant (case and control) was calculated using the Binary Score assessment sheet. It consists of 13 categories of adverse childhood events corresponding to the ones in the ACE-IQ. In the binary version a score of 1 is assigned to an affirmative answer which includes the options: 'once'; 'few times'; or 'many times' and a score of 0 will be assigned if the answer is 'never' or 'refused'. Thus, a final score is obtained which ranges from 0 to 13.

Data And Statistical Analysis

Categorical variables were reported as frequencies and percentages as represented in subsequent tabulations.

Statistical analysis: Data were analyzed using MedCalc Statistical Software v19.6.2. It includes calculation of odd's ratio, exposure rates and p-value at CI=95%.

The significance level was established as α=0.05.

RESULTS

I. Data formulation of the scores has been represented in Table I.

Table I: Tabulation based on cut-off ACE-IQ score.

Ace Score	Cases	Controls	Total
>= 4	42	7	49
<4	24	59	83
Total =	66	66	132

- [ACE: Adverse Childhood Events
- ACE-IQ: Adverse Childhood Events- International Questionnaire.]

II. Table II shows the Adverse Childhood Experiences (ACE) Scores of the case sample in comparison to the normative sample (control participants). Data points out that control participants collected scores in the range of 0 to 3, with very few of them reaching a score of more than 4. The scenario is starkly different for the case participants, majority of whom have acquired an ACE score between 2 to 5.

Table II: Adverse Childhood Experiences Questionnaire Score and comparison with control sample

Ace Score	Case Sample N(%) [N=66]	Control Sample N(%) [N=66]
0	3(4.54)	28(42.42)
1	0(0.00)	15(22.72)
2	8(12.12)	10(15.15)
3	13(19.69)	6(9.09)
4	13(19.69)	4(6.06)
5	18(27.27)	1(1.51)
6	6(9.09)	2(3.03)
7	3(4.54)	0(0.00)
8	2(3.03)	0(0.00)

- [ACE: Adverse Childhood Events]

III. Table III elaborates on the various categories of Adverse Childhood Experiences prevalent in both the case as well as control samples. It is not only the numerical value or the severity of ACE score but also the type of trauma that a person has endured which might reflect on their behavior.

Table III: Categorical prevalence among both samples.

Ace Category	Case Sample N(%) [N=66]	Control Sample N(%) [N=66]
Physical Abuse	15(22.72)	8(12.12)
Emotional Abuse	32(53.03)	14(21.21)
Contact Sexual Abuse	2(3.03)	0(0.00)
Alcohol And/Or Drug Abuser In Family	19(28.78)	4(6.06)
Incarcerated Household Member	8(12.12)	0(0.00)
Mentally Ill Or Institutionalized Or Suicidal Family Member	5(7.57)	1(1.51)
Household Member Treated Violently*	32(48.48)	17(25.75)
One Or No Parents, Parental Separation Or Divorce*	24(36.36)	10(15.15)
Emotional Neglect*	54(81.81)	18(27.27)
Physical Neglect	25(37.87)	1(1.51)
Bullying	13(19.69)	2(3.03)
Community Violence	36(54.54)	6(9.09)
Collective Violence	4(6.06)	3(4.54)

- [ACE: Adverse Childhood Events]
- **(*major contributors of ACE especially in case sample.)**

IV. From table III, we can deduce that the dominant adverse childhood events encompass emotional abuse 35(53.03%) and neglect 54(81.81%), physical neglect 25(37.87%), community violence 36(54.54%), household member being treated violently 32(48.48%) and alcohol/drug abuse 19(28.78%) to some extent. Physical abuse 15(22.72%), bullying 13(19.69%) and parental death/separation/divorce 24(36.36%) also have considerable contributions.

The dominant categories which are shared by both the groups are emotional neglect, violence against a family member and parental death/separation/divorce. However, it is noteworthy to observe the difference in their prevalence among the two

groups, value being much higher for the case sample (*marked text in Table II).

Another interesting observation lies with two categories namely, contact sexual abuse and incarcerated family members. The prevalence of both is nil in the control sample as compared to a relatively alarming 2(3.03%) and 8(12.12%) in the case subjects respectively.

Statistical analysis of the data includes tests appropriate for qualitative case-control study, encompassing calculation of odd's ratio, exposure rates and chi-square test of association Considering a score of 4 as a cut-off for high ACE value, participants were divided into 4 categories (Refer Table I).

V. Results Of Statistical Tests

Based on above data (table I), exposure rate of cases (to high ACE-IQ Score>=4) is 42(63.63%) while that of controls is 7(10.60%), the odd's ratio is 14.75 at a confidence interval of 95% and all findings were significant at the p< 0.001 level. Thus, a strong and graded relationship exists between adverse childhood events and criminal activities in adulthood. An ACE-IQ score of less than 4 is significantly associated with controls in the study.

DISCUSSION

The study sought to establish a relationship between adverse childhood experiences and criminal activities in adulthood based on a relatively compact sample of 66 participants each (cases and controls), over a short duration of 2 months. The prevalence of more than four types of ACE was very high in the case sample as compared to the control one, exemplified by the high exposure rate of 42(63.63%) among the cases viz a viz 7(10.60%) among the controls.

Majority of the convicts obtained a score of 5 (27.27%) followed by two groups with equal prevalence circling around scores of 3 and 4 respectively. Thus, the findings are consistent with previous studies aimed at investigating a link between ACE and criminality, which determined that there was high propensity of criminal involvement in people who had been exposed to one or more ACEs during the course of growing up. The relationship was independent of sociodemographic factors. A similar study in 2017 study by Hanie Edalati and colleagues zoomed in on the effects of ACEs specifically in homeless people. The results however were independent of their income or duration of homelessness.[24] Exposure to an adverse childhood event affects the psyche of the individual irrespective of the socioeconomic conditions or social status. It is the lack of parental attachment, concern and guidance, dysfunctional relationship with caregivers and constant victimization that takes a toll on the developing mind. The control sample in the present study were matched using such sociodemographic criteria to eliminate confounding.

The frequency of scores obtained by the control participants shows a distinct pattern of the predominant scores ranging from 0 to 3. Only 13(19.6%) of the controls had experienced four or more ACEs and there were none with extreme scores of 7 or 8.

Comparison of various categories of adverse childhood experiences

As evident from Figure 2, the predominant categories of ACEs in descending order of prevalence among the case subjects are- **Emotional neglect 54(81.81%), community violence 36(54.54%), emotional abuse 35(53.03%), violent treatment of household member 32(48.48%) and alcohol/drug abuse 19(28.78%).**

A 2003 study on **child abuse and neglect** worked on similar lines as the current research and used individuals as study units. It demonstrated that emotional abuse and neglect had various deleterious effects on the young victims majorly including mood disorders and aggressive behavior in later years. However, an important factor of social support was pressed upon in the study. Increased levels of social support helped mitigate the severity of violent behavior among such victims.[25]

It has been established that the effects of abuse and neglect are not just superficial in terms of initial visible distress or discomfort. But such events leave a neurobiological imprint causing changes in various brain regions and pathways. Incidents of neglect and abuse reflect on the general parenting and attachment styles, thus having great influence on how the developing brain of the child perceives experiences, social and interpersonal relationships. Studies have shown that disconnected parental behavior impacts the prefrontal cortex, orbitofrontal cortex, corpus callosum pathways, amygdala responses and hippocampal connections. All these changes by default have more effect on the rapidly developing brain of a child.[26] Similar findings have been brought to light in this study as well, with emotional abuse and neglect contributing to a major chunk of the adverse childhood experiences of the case participants.

Community violence has a unique mechanism of causing an effect on the child. First-hand experience of the incident has a direct impact, but changed behavior of caregivers, neighbors and society in general also has a profound impact on the child. A significant number of the case participants had experienced community violence during their childhood. Interviews revealed that the first response of their caregivers would be to restrict them indoors thus naturally hampering their social interaction. More importantly, it was the apprehensive and petrified behavior of the caregivers that had the most impact on them. Sudden change in emotion and normal behavior patterns of parents led them to become more anxious, angry, irritable and disconnected to the children. Often such uncertainty and fear lead to physical abuse meted to the child as well as other members of the family. A significant study in July, 2005 revealed that there needs to be a paradigm shift in the way we look at and manage the effects of community violence. There needs to be an increased focus on delivery of mental health services not just at the individual level but also to parents, family and community in general. The study has brought out that coping with community violence is not an individualistic process but has an interdependent relationship with the people one is related to and surrounded with.[27]

Moving on to **violent physical/verbal abuse of household members**, interaction with the participants revealed a thought-provoking observation that verbal abuse was as scarring as physical abuse and often had deeper impact on the young minds. Four main groups who tend to become victims of household violence are- children, siblings, women and elderly. Effect of witnessing violence works through a mechanism of secondary trauma wherein the child is affected by observing a family member endure violent acts. This kind of victimization has a long-lasting impact on the child's behavior. During, the process of growing up, such children tend to subconsciously categorize some people as victims and others responsible for their adverse experiences, leading to justification of their delinquent acts, a phenomenon witnessed very commonly amongst convicts.

A common belief prevails that **domestic violence** is often strongly linked to **alcohol and/or drug abuse**. However, data obtained from the current study shows that alcohol and/or drug abuse contributes to an overall 19(28.78%) of the ACEs among convicts, while concurrent intoxication and domestic violence was witnessed by 11(16.6%) of the cases. The encouraging fact about the data is that by taking measures against drug or alcohol abuse, 34.37% cases of domestic violence can be catered to."Violence is a global humanitarian catastrophe that affects all continents, countries and

communities." Management and reduction in the incidence and severity of interpersonal violence is a multi-layered process. **The International Federation of Red Cross and Red Crescent Societies (IFRC)** has launched an **IFRC Strategy 2020** to mitigate the effects of violence at the family and interpersonal level. Their principal pillars of action are based on a community-based approach and partnerships.[28] Such efforts are required at a global level to lessen the physical, psychological, social and financial burden created due to acts of violence. Success of such strategies however lies in meticulous execution of the policies at community, organizational and individual levels.

With regards to the control sample, the list of categorical prevalence is topped by **emotional neglect 18(27.27%)**, however there is a huge difference between its prevalence in the normative and case sample. This clarifies the direct link between increased incidence of neglect and delinquency. In comparison terms, statistics of emotional abuse, domestic violence and parental death/separation/divorce have unfolded on similar lines with the prevalence being much higher in the case sample. (Table III)

There are two categories which draw special attention due to the staggering difference in their prevalence among cases and controls- **contact sexual abuse and incarcerated household member.** in both these categories the prevalence among cases is 2(3.03%) and 8(12.12%) respectively as against zero prevalence in the control sample.

While it is a known fact that majority of the victims of child sexual abuse are females, same is not the case for the offenders, the latter being dominated by the male sex. Studies have sought to establish a relationship between exposure to child sexual abuse and conversion into a sexual offender. In case of females, no such credible link was found. However, in case of males, sexual offenders had exposure to some kind of abuse during their childhood. **This gives rise to vicious cycle of the victim becoming the offender.**[29] In case of contact sexual abuse in children starting from an early age, the victims often tend to internalize what is happening to them and justify their abuser's behavior. Thus, the offending behavior is reinforced with every such incident.

The prevalence of a previously **incarcerated family member** among the case subjects is a significant 8(12.12%). hence, indicating some correlation and impact of the event on the nascent brain of a child. The family members of an incarcerated person form a crucially vulnerable group referred to as the **'hidden victims'**.[30] Incarceration has effects on the psychological, social and financial well-being of the rest of the family members. More often than not, victory is announced at the conviction of an accused criminal. Such families form a demography that is more vulnerable to societal and economic biases, often causing them to resort to wrong means for sustenance of a livelihood. From the given data (Table III) it can be inferred that those children who have witnessed incarceration of a family member are more predisposed to commit criminal acts in adulthood.

CONCLUSION

The current study contributes to some extent in proving that there exists a link between adverse childhood events and criminal acts committed during adulthood. The findings of the study have shown strong association between dominant ACE categories and increased propensity towards criminal behavior. At the beginning of the study, the primary research question was whether ACEs have any contribution into the making of a criminal.

The scope of the study however is not limited only to the mere presence or absence of adverse childhood experiences. Isolation of the ACE categories to evaluate each category and its relationship with the type of offense will open up new avenues that will help to substantiate deeper insights into the impact of an adverse experience on the neurobiology. Without analyzing neurobiological findings, we would be at a loss in comprehending the psychology behind the crime in question.

Another area where colossal amounts of work is required are the prevention strategies. One cannot simply follow the successful policies of another country and hope to attain a drop in the crime rates. Every nation has its own unique geopolitical and economic aspects, many of which pose great obstacles to the smooth implementation of prevention strategies. In a nation like ours, cooperation of different agencies is of utmost importance in the success of the preventive measures. Execution of primordial prevention measures is required at all levels of the community. Pertaining to the clinical setup, question remains that to what extent can a mental health professional mitigate the issue of childhood trauma and how well can the system equip and support one in the process of doing so.

Limitations Of The Study

The very essence of the study relies on the information provided by the participants. Being a retrospective study at its core, one major limitation is recall bias. Moreover, the study tool is based on the subjective responses of the participants. Thus, the questionnaire cannot be utilized as a scientific assessment tool.

Another aspect which necessitates elaborate work on the subject is the limited sample size. The study population of the concerned study may not be representative of the entire population of either cases or controls. Additionally, analysis of individual pairs would require a more sophisticated study design. Study of the same provides scope for future improved study designs.

This has been a very limited study wherein assessment is restricted only to adverse childhood experiences and the study unit is an individual only. To reach to the roots of the issue, one will have to dig deeper into aspects like detailed socioeconomic analysis, assessment of the family members and their past experiences as well, the peer environment of the subject, the schooling system and so on. Each of these aspects opens up novel areas of investigation which would be of great help to integrate the assessment of a subject of interest.

Future Implications Of The Study

The crux of this study lies in the concept that "Prevention is better than cure". The target population of any further intervention would be children and adolescents. Every child is not uniformly vulnerable to childhood trauma. Similar concept has been explored in a 2002 study by Caspi et al concluding on a crucial finding that genotype of an individual does play a deterministic role in the effects of childhood maltreatment and that everyone is not equally susceptible to exogenous traumatic experiences.[30] Therefore, it is important to identify the high-risk groups and frame appropriate strategies to prevent exposure to adverse childhood experiences and also for damage control in case a minor has already been victimized by the same.

Another pressing requirement is the customization of intervention strategies. While general protocols are a guiding light for management of any issue, when it comes to psychology, certain things need to be tailored based on the experiences of the child. The kind of trauma that each child faces is not uniform and thus the management of each victim will also need individualization.

Furthermore, incorporation of mental well-being in the general clinical set-up is the need of the hour. Apart from the study in question, ample amount of research has been done to

prove that childhood trauma has negative health outcomes in both physical and mental parlance.[9,10,16,17,19,20] Thus, the grassroot level would be a good place to start with primary prevention measures which would include screening for such events, purposeful detection and analysis, and ultimately management of the same at an early stage. Child and adolescent psychiatry need to be incorporated in routine clinical practice in order to make sure that aspects of mental health are being taken care of for each and every child. This would also help to reinforce the fact that mental, physical and social wellbeing are closely intertwined with each other and issues of each area need to be addressed in a wholesome manner.

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