



Children of HIV Positive Injectable Drug Users (IDUs): A Study into their Psychopathology

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Abstract

Aim: To examine the association between psychopathology in children whose parents/parent is HIV positive injecting drug user (IDU).

Methods: HIV seropositive parents (N = 48) of mean age 37.6 years (SD 6.2, range 26–55) were drawn from De-addiction OPD of the department of Psychiatry and the ART centre of excellence of Sir Sunderlal Hospital, Institute of Medical Sciences, Banaras Hindu University who were registered from July 2019 to July 2021. Their socio-demographic details, current drug use status and activities of daily living were assessed using Instrumental Activities of Daily Living Scales (IADLs). In a single cross-sectional interview children were screened using Child Behavior Check List (CBCL). This scale gives scores for the symptoms which are internalized and those that are externalized.

Results: All seropositive parents were taken at the time of study out of which 48% had CD4 count below 200 cells/mL and 52% had above it. 43.8% parents reported to abuse illicit drug mostly heroin and sedatives. Parental CD4 counts and health status variables, medical illness were significantly co-relating with internalized symptoms in the offspring of the parenteral drug users (OR 4.67, $p < 0.025$). Total no. of children included were 52 boys and 35 girls. Their mean age was 12.5 years (SD 2.0, range 6–16). Child CBCL scores indicates that 23.5%, 31.0%, and 25.5% fell in the at-risk range for symptoms which are internalized, externalized, and the total CBCL scores respectively.

Conclusion: Parental HIV seropositivity status does not have much impact on child's health but it does have apparent risk of developing psychopathological and behavioral problems in children which can pose future challenges for this group of children.

INTRODUCTION

HIV diagnosis has a profound impact on a person's life.¹ With an estimated prevalence of 0.2% among adults, India ranks third in the world with regards to the HIV epidemic, with 2.1 million people suffering from HIV positive status.¹ The most vulnerable people include sex workers, men who have sex with men (MSM), migrant laborers and drug users, although the factors that fuel the large scale infection vary considerably.^{1,2}

Injecting drug users or persons who inject drugs (PWID) are considered to be the primary source for spreading HIV infection in northern India. Injectable

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drug users (IDUs) amount to 6.3% of those suffering from HIV in 2017.³ The IDUs are susceptible to a variety of medical ailments along with the Human immunodeficiency virus infection and acquired immune deficiency syndrome (HIV-AIDS) infection, in addition they are also known to have psychiatric disorders also.⁴ The children of such parents are affected by their parents drug usage, as well as their chances of developing mental health problems.⁴

These children are frequently made to live away from their parents, either voluntarily or are placed outside by social services, who place them in foster care. The chances of children staying with their parents is higher in the Indian family system, as found in sample surveyed by United Nations Children's Fund (UNICEF) wherein 21% to 58% children of parenteral drug user fathers and mothers resided with their parents.^{4,5}

According to studies on children of physically ill parents, their disease had a negative effect on child's adjustment usually as internalizing problems or negative emotional status however; extent to which these children are affected differs among studies.^{6,7} Anxiety, despair, inadequate education, poverty and lower self-esteem were shown to be more common in children aged 5 to 16 years.⁸ Since HIV infection has a wide range of manifestations ranging from mild asymptomatic to being life threatening, the seriousness of parent's illness will have variable effects on their offspring.⁹

Children of alcoholics and cancer patients have received a lot of attention in Indian literature.¹⁰ However, this significant group of children of IUDs have not been adequately studied, so fill this lacuna the present study was undertaken.

METHOD

This study was conducted at the Sir Sunderlal Hospital, Institute of Medical Sciences, Banaras Hindu University, Uttar Pradesh. the institute is a tertiary care facility in north India that serves a broad catchment region. The data was gathered from Psychiatry department, which is a centre of excellence and the 'ART' center which is a nodal centre and the centre of excellence. It was a cross-sectional study. The data was collected based on the purposive sampling method. The study comprised

HIV positive individuals who had children and who had registered with the ART centre in the past two years (July 2019–July 2021) and had concomitant substance misuse in the form of injecting drug use as defined by ICD-10.

Subjects who were current or previous (within the last two years) IDUs and were identified as HIV positive based on enzyme-linked immunoassay (ELISA) test and confirmed by Western Blot test were included in the study. Inclusion criteria included the subject to be at least 18-year-old and have at least one biological child aged 5 to 16 years who was living with them. The subjects gave a written informed consent for their children to participate the study. In cases where parent's HIV status was unknown to the children, confidentiality was maintained. Incomplete data sheets and HIV positive children of these subjects were excluded from the study. The ethical committee of Institution provided its approval.

For the convenience of the participants, all efforts were made to complete the interview in one cross-sectional interaction. In case the children's behavior could not be assessed in the first interview, it was scheduled on the day of their parent's next ART appointment. The study included 52 parents who met the criteria; 48 parents and their 87 children were able to complete the study protocol.

Tools

The following instruments were used:

- *Socio-demographic Data Sheet*
- *Child Behavior Check List (CBCL)* - was used to assess children who are vulnerable for developing psychopathology.¹¹ The tool has good psychometric properties, has wide usage in research, and can assess the problems associated with emotion and abnormality in behavior among children. The scale can be used in hospital and field settings. Apart from giving a cumulative psychopathology score the scale gives separate scores for the internalizing and externalizing symptoms. Disruptive behaviours correspond to the externalizing symptoms whereas the internalizing symptoms to the anxiety and depressive syndromes.
- *Instrumental Activities of Daily Living Scales (IADLs)*– this scale measures the capability of

individuals to perform day to day activities. Scores are given to assess the level of disability. The scale has been designed by Lawton and Brody.¹² An inability to perform any of the five activities like housework/housecleaning, grocery shopping, cooking, cleaning clothes, using public modes of travel are rated to arrive at a score. The response to the questions is in yes/no pattern.

Apart from the above scales, information regarding pattern, type of drug usage was ascertained and HIV sero status was obtained from the records. Subject's co-morbid medical illnesses like type 2 diabetes mellitus (T2DM), chronic liver diseases, infections and lung diseases, hepatitis, Koch's, carcinomas, and cardiac disorders were considered for the level of parent's physical health.

Table I: Socio-demographic characteristics of the sample

Characteristics	N (%)
<i>AGE in years</i>	
>35	19 (39.5)
<35	29 (60.4)
<i>GENDER</i>	
Single male parent	28 (58.3)
Single female parent	20 (41.6)
<i>EDUCATION</i>	
>12	18 (37.5)
<12	30 (62.5)
<i>EMPLOYMENT STATUS</i>	
Employed	27 (56.2)
Unemployed	21 (43.7)
<i>CD4 COUNT</i>	
CD4<200 cells/mL	23 (48)
CD4>200 cells/mL	25 (52)
<i>MEDICAL ILLNESS</i>	
Yes	18 (37.5)
No	30 (62.5)
<i>IADL</i>	
Any difficulty	29 (60.4)
No difficulty	19 (39.5)
<i>DRUG USE</i>	
Current	32 (66.6)
Past 2 years	16 (33.3)

Self-reporting was used to determine current drug usage, which was quantified by the question, "Are you presently using any psycho active drugs?"

STATISTICAL ANALYSIS

We took the total CBCL scores and the score of two scales as dependent variables, the score of above 60 was the cut off to denote "at risk", the scores were correlated to assess any correlation between the parent's characteristics and the three scores which were dependent variables. T-test was used for correlation and SPSS 16 was used for windows. Socio-demographic variables, HIV status, CD4 count, status of any physical ailments were also taken into consideration, level of activity using IADL was assessed, current illicit substance usage was also considered in the subjects.

RESULTS

The subjects were 37.6 years old on average (SD 6.2, range 26–55 years). Maximum number of respondents belonged to the Hindu (90.4%) children and (93.2%) parents. All children had one parent who was HIV positive. The CD4 count of 48% of the patients was less than 200 cells/mL, whereas the rest were higher. A total of 32 parents stated that they were currently using illicit drugs (43.8%). The two most common substances were heroin and sedatives. 52 boys and 35 girls were among the children (Table I). The youngest ranged from 6 to 16 years, with a mean age of 12.0 years (SD 2.0). Internalizing, externalizing, and total scores were all in the "at-risk" range for 23.3, 31.5, and 26.0% of children, according to their CBCL scores (Table II). In the children of IDUs, none of the demographic characteristics were significantly linked to psychopathological symptoms.

TABLE II Externalizing, Internalizing and T scores (CBCL scale among children of affected parents)

Range	At risk range* n (%)	Normal range n(%)
Internalizing problems	23.8	<60
Externalizing problems	31.5	<60
Total problems	26.0	<60

*T score > 60- At risk; T score <60- Normal range



DISCUSSION

The present study was a cross-sectional study, undertaken to assess the impact of IDU parent's HIV positive status on the psychopathology of children. IDU parents pose a greater risk of developing psychological and behavioral problems in their children.^{1,4} IDU itself poses major threats to the development and psychological status of the children and compounded with HIV positive status, it can further deteriorate the already compromised status of the children in the family.⁵ In our study, 52 parents who were receiving ART treatment and were living with their children agreed to bring their child/children for interview.

The severity of parental illness showed increased correlation to the risk of developing internalizing symptoms among the children as compared to the externalizing symptoms. Developmental psychologists have discussed the greater likelihood of the risk of developing externalizing behaviors among such children during adolescence.^{13,14} Since our sample had more children of preadolescence age group (88%) which could explain the low incidence of externalizing symptoms.

The study showed that co-morbid parent's physical illness which are chronic in nature ranging from liver, lungs, heart involvement show an increase in the likelihood of children showing internalizing symptoms (OR 4.56, $p < 0.025$). The CD4 count level is also associated with child mental health with internalizing symptoms.¹⁵ CD4 count levels are an indication of the severity of the HIV AIDS and are also associated to the risk of development of secondary opportunistic infections which in turn lead to high risk of mortality in such individuals.² Individuals with CD4 counts \leq to 200 cells/L need intense medical interventions and are usually found to be suffering from opportunistic infections.² Status of parental chronic medical illnesses as indicative of the parental health status was also taken into consideration.³ The similar findings have been reported in the studies assessing children of parents suffering from chronic debilitating conditions like carcinomas.⁶ In the present study we could not find any association between the parental HIV status and internalizing symptoms in children. This could be due to the

smaller sample size and the stigma associated with the diagnosis of HIV, which leads to hiding the illness from the children.

AIDS was defined as the HIV-positive subjects who had CD4 counts equal to or less than 200 cells/L. On comparing between the low and high CD4 counts we could not find any difference; however, if a larger sample is studied and more sick parents are studied there might be some differences. In a case control study of methadone dependent mothers it was found that the children scored significantly higher on the externalizing as well as internalizing scales of the checklist.¹³ In another investigation to assess the psychopathology in 114 children of 69 parents who were on methadone maintenance treatment, it was found that their children especially belonging to the male gender had a higher risk of developing conduct disorders in comparison to the control and also had below average intelligence and social adjustment.¹⁴

Few reports have found that these children suffer from agony and sadness as they foresee parental bereavement and also because of the shame associated with this disorder.^{14,15} The parental health status, economic issues, societal stigma contribute to impaired emotional well-being in this group of children.¹⁵ In contrast to these findings, another study showed no impact of parental HIV infection on child's development, psychological or behavioral problems or parenting stress of drug-abusing mothers as most of them lived in the same situation plight.^{13,14} In the present study, we decided to maintain parental confidentiality, hence information regarding parental communication of HIV positive status was not considered; therefore true association of the parental HIV status to the children's psychopathology cannot be commented upon with certainty.

The study has many limitations like a small sample size, since many parents did not want their children to be examined as they were not comfortable disclosing their illness status to their children. Secondly the lack of awareness and the seriousness of the illness also prompted many parents to be uncomfortable in getting their children examined. According to the literature, HIV-positive parents rarely tell their children about their

status.¹⁵ Since, it was a cross-sectional study, so we could not assess whether there was any change in the psychopathology with the disclosure of the disease. Thirdly, this is a centre specific study which makes generalizability of the findings difficult.

A significant positive about this study is that it is first of its kind and the ability to look at the children by directly interviewing them and their needs to target this population in terms of rehabilitation and prevention strategies. Future studies should target to look at various sites like community and hospital settings. A bigger sample of children from HIV-positive and HIV-negative drug using parents need to be studied to determine if the correlations revealed here are causative or direct.

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