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Psychology & Psychological Research International Journal
ISSN: 2576-0319

Prevalence and Determinants of Neglect and Physical Abuse among Adolescents Living with Human Immunodeficiency Virus (HIV) Infection in Lagos State, Nigeria

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Research Article

Volume 3 Issue 6

Received Date: June 12, 2018

Published Date: June 28, 2018

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Abstract

Background Neglect and physical abuse are common important modifiable psychosocial causes of comorbidity in adolescent living with HIV infection. These adverse childhood experiences can lead to poor adherence to treatment plan and a subsequent development of complications from HIV infection. The purpose of this study was to assess the prevalence of Neglect and Physical abuse in adolescents living with HIV and to determine the variables that are associated with them. Method this was a cross-sectional study carried out among 201 adolescents living with HIV who had a laboratory-confirmed diagnosis of HIV, caregivers' signed consent and were attending an adolescents' out-patient HIV clinic in Lagos state, Nigeria. Data were collected using Socio-demographic Questionnaire, OSLO-3 item social support and Adverse Childhood Experience Scale (ACE). The Statistical Package for Social Sciences (IBM-SPSS) version 24 was used to analyze all collated data. Result Mean age was 13.88 (± 2.53) years, 73.6% of the participants had a history of Physical abuse, while 29.4% had a history of Neglect. Mean age in years (p=0.05), Fathers Occupation (p=0.09), Route of infection (p=0.045) and HIV status of parents (p= 0.021) were significantly associated with Neglect. While Mean age at diagnosis (p=0.016), relationship with mother (p=0.012), death of parent due to HIV infection (p=0.037), and social support (p= 0.003) were significantly associated with Physical Abuse. Conclusion Adolescent living with HIV infection

will need to have regular assessment for the presence of Neglect and physical abuse so as to ensure early intervention in order to prevent the development of any psychological distress that can worsen their illness.

Keywords: Immunodeficiency; Adolescents; Infections; Regression; Neglect

Introduction

According to the World Health Organization; adolescent age is the period between ages 10 to 19 years, these period is associated with biological changes such as puberty, social and psychological changes associated with awareness of sexuality [1,2]. Adolescents living with Human Immune-deficiency Virus (HIV) infection are faced with difficulties accepting their HIV status and the need for lifelong treatment [1], and have also been reported to be more likely to witness the death of their parent or loved ones on account of HIV/AIDS compared to general population; these makes them easily prone to neglect and/or physical abuse by caregivers who may not be their biological parents [3,4]. The presence of chronic illness and infections like HIV have been reported to be associated with higher rate of ACE (neglect, abuse) when compared to general adolescent population [5].

Neglect and physical abuse are common important modifiable psychosocial causes of comorbidity in adolescent HIV/AIDS [6,7]. The rate of abuse in general population was reported to be as high as 25%, but found to be higher among people living with HIV/AIDS [8,9]. In previous studies, the prevalence of Neglect among people living with HIV was reported to be between 36.9% (emotional neglect) and 46.8% (physical neglect), while the rate of physical abuse was reported to be as high as 51% [10,11]. Factors like male gender, age, level of education, and living with non-biological caregivers, have been shown to be associated with abuse in adolescents [3,5].

It has also been reported in previous studies that the experience of abuse in childhood can lead to poor adherence to treatment plan in individual living with HIV, and that this may eventually results into development of complications from the infection [6,8,12,13]. Some literatures reported that child abuse may result into the development of poor coping styles and poor self-assessment, which both then leads to poor adherence [6,9].

In spite of the high prevalence of abuse in people living with HIV, studies on factors associated with Neglect and physical abuse among adolescents with HIV in sub-Saharan African is scarce, Hence the need for the current study to bridge the gap in knowledge. The objective of this study was to assess the prevalence and correlates of Neglect and physical abuse in adolescents living with HIV in Lagos state, Nigeria. The findings from this study will identify variable that may predispose these group of adolescents to abuse, as well as help indicate the importance for the need to formulate specific child abuse prevention plan in adolescents living with HIV infection.

Methodology

This was a cross-sectional study carried out among two hundred and one (201) adolescents living with HIV, and attending the outpatient clinic of two western Nigerian health institutions; Lagos state University Teaching Hospital and the Nigerian Institute of Medical Research. Only adolescents; within the ages 10 and 19 years, with laboratory confirmed diagnosis of HIV, who gave an assent, and had caregivers' signed consent to participate in the study, were recruited into the study.

Data collection

Data was collected with; socio-demographic questionnaire, oslo-3 item social support scale and adverse childhood experience questionnaire.

1. Socio-demographic and illness variable questionnaire detailing (a) child variables like current age, age at diagnosis, gender, level of education, route of infection (b) family variables like HIV status of parent and sibling, who the primary care giver was, family type, loss of parent (s) to HIV
2. Social support was assessed using the "OSLO-3 item social support scale" which has been used by previous Nigerian studies [14].
3. Neglect and Physical abuse were measured with the Adverse Childhood Experience Scale (ACE), which uses a simple scoring method to determine the extent of exposure to childhood trauma. The responses are in "Yes" or "No" format. It has also been used in previous Nigerian study [15,16].

Ethical approval: Ethical approval was obtained from the research ethics committees of the Lagos State University Teaching Hospital, and the Nigerian Institute of Medical Research. All the participants knew their HIV status prior to their participation in the study, and were all adequately informed about the nature of the study.

Procedure: adolescents at the HIV clinic who met the inclusion criteria were recruited into the study. Between 3 to 4 recruited adolescents seen per clinic day were taken into a separate consulting room where they were allow to fill the socio-demographic, oslo-3 questionnaire and the ACE questionnaire with assistance from their caregiver, and occasional seeking clarifications from the researcher when necessary. All participants were assured of confidentiality.

Statistical Analysis: The Statistical Package for Social Sciences (IBM-SPSS) version 24 was used to analyse all collated data. A frequency table was generated to determine the rate of neglect and physical abuse in the participants. A chi-square test and t- test was used to analyse the association between the independent variables (socio-demographic/ illness related variables) and dependent variable (Neglect, Physical Abuse). A further analysis was done using a regression analysis to identify which of the associated independent variables was predictive of the dependent variable.

Result

The ages of the participants ranged from 10-19 years, with a mean age of 13.88 (± 2.53) years (Table1). The mean age at diagnosis was 4.43(±4.69).About six out of every ten (61.7%) participants were male while 38.3% of the participants were female. The majority (87.1%) of the adolescents were born with the HIV infection, 12.9% contact the infection through blood transfusion or sharing of sharp object (Table 1). Over seven out of ten (73.6%) participants had a history of physical abuse, while 29.4% had history of neglect childhood (Table 2).

Variables	Frequency	Percentage (%)
Mean Age (±SD)	13.88±2.531	
Mean Age at diagnosis (±SD)	4.43±4.689	
Gender		
Male	124	61.7
Female	77	38.3
Level of education		
Primary	38	18.9
Secondary school	152	75.6
Post-secondary school	11	5.5
Primary care giver		
Biological parent (at least one)	159	79.1
Others	42	20.9
Family type		
Monogamous	137	68.2
Polygamous	64	31.8
Fathers' occupation		
Manager	35	17.4
Professional	52	25.9
Technicians	28	13.9
Clerical worker	20	10
Sales worker	33	16.4
Craft and related worker	22	10.9
Elementary occupation	6	3
Armed forces occupation	5	2.5
Mothers' occupation		
Manager	13	6.5
Professional	36	17.9
Technicians	6	3

Clerical worker	9	4.5
Sales worker	65	32.3
Skilled agricultural/forestry worker	4	2
Craft and related worker	57	28.4
Elementary occupation	8	4
Armed forces occupation	3	1.5
Relationship with father		
Not applicable	69	34.3
Cordial	123	61.2
Not cordial	9	4.5
Relationship with mother		
Not applicable	56	27.9
Cordial	145	72.1
Death of parent due to HIV		
Both parent alive	111	55.2
Father dead	31	15.4
Mother dead	41	20.4
Both parent	18	9
Route of contact		
Born with it	175	87.1
Other route (blood, sharp object)	26	12.9
HIV of Parent		
One parent positive	92	45.8
Both parent positive	27	13.4
Both negative	82	40.8
HIV status of sibling		
Positive	43	21.4
Negative	158	78.6
Oslo score		
Poor social support	75 37.3	
Moderate social support	86	42.8
Strong social support	40	19.9

Table 1: Socio-demographic/illness related variables of adolescents with HIV infection

Variables	Frequency	Percentage (%)
Physical abuse		
Yes	148	73.6
No	53	26.4
Neglect		
Yes	59	29.4
No	142	70.6

Table 2: Prevalence of Neglect and Physical Abuse in adolescents with HIV infection

Chi-square test/ T-test

Mean age in years (p=0.05), Fathers Occupation (p=0.09), Route of infection (p=0.045) and HIV status of parents (p= 0.021) were statistically associated with Neglect. While, Mean age at diagnosis (p=0.016), relationship with mother (p=0.012), death of parent due to HIV infection (p=0.037), and social support (p= 0.003) were the only variable with a statistically significant association with Physical Abuse (Table 3).

Variables	Neglect(X2)	Physical Abuse(X^2)
Mean age	1.975*1t	0.843t
Mean age at diagnosis	-1.8.2t	-2.430*at
Gender	0.037	1.183
Level of education	1.969	0.174
Primary care giver	0.787	3.761
Family type	0.542	0.091
Fathers' occupation	18.340*2	5.669
Mothers' occupation	8.83	3.128
Relationship with father	1.041	4.474
Relationship with mother	0.45	8.866*b
Death of parent due to HIV	1.967	8.508*c
Route of infection	8.056*3	1.354
HIV status of parent	7.683*4	0.338
HIV status of sibling	0.361	0.067
Social Support	1.191	11.489*d

*; significant variable, *1; p= 0.05, *2; p=0.019, *3; p=0.045, *4; p=0.021, *a; p=0.016, *b; p=0.012, *c; p=0.037, *d; p=0.003. t; T-test,

Table 3: Chi square and T-test to analysis of variable associated with Neglect and Physical Abuse in adolescents with HIV infection

Regression Analysis

Only variable that had significant association in previous analysis (chi-square test, T-test) were entered into the model. The model fitting information shows a significant final model (x^2=24.092, p=0.001) with a 16.5% variance (Nagelkerke R^2 =0.165). Only age at diagnosis and social support showed a significant relationship with physical abuse in the final model. For every unit increase in age at diagnosis, there is a 7.5% chance of not being physically abuse (OR= 0.925, p=0.031). Those with poor social support had a 205% (OR= 3.055, p=0.012) chance of being physically abused compared to those with strong social support, also, those with moderate social support had a 245% (OR=3.452, p= 0.005) chance of being physically abuse compared to those with strong social support (Table 4).

physical abuse[a] (YES)	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
							Lower Bound	Upper Bound
Age at diagnoses	-0.078	0.036	4.652	1	**0.031**	**0.925**	0.862	0.993
Relationship with Mother								
Not applicable	-0.568	0.461	1.513	1	0.219	0.567	0.229	1.401
cordial	0[b]	.	.	0	.	.	.	.
Experienced death of parent								
Both parent alive	0.836	0.662	1.594	1	0.207	2.308	0.630	8.456
Father dead	0.762	0.746	1.042	1	0.307	2.142	0.496	9.247
Mother dead	0.502	0.627	0.641	1	0.423	1.651	0.484	5.640
Both parent Dead	0[b]	.	.	0	.	.	.	.
Social support								
Poor	1.117	0.445	6.288	1	**0.012**	**3.055**	1.276	7.312
moderate	1.239	0.439	7.963	1	**0.005**	**3.452**	1.460	8.163
strong	0[b]	.	.	0	.	.	.	.

[a] The reference category is: NO

[b] this parameter is set to Zero because of redundancy

Table 4: Multinomial Regression analysis of variable associated with Physical Abuse.

Age in years, fathers' occupation, HIV status of sibling, HIV status of parent and route of contact were entered into a multivariate regression model for Neglect. The model fits appropriately (x^2=34.032, p=0.001) with a variance of 22.2% (Nagelkerke R^2= 0.222). Only age in years and route of infection had a significant association with Neglect in the final model. For every unit increase in age, there was a 24.5% of participant being neglected (OR=1.245, p=0.003). Also participants who were born with HIV infection had 4.258 odd of being neglected compared to those who contacted HIV through blood transfusion or sharing of sharp object (Table 5).

Neglect[a] (YES)	B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
							Lower Bound	Upper Bound
Age in years	0.219	0.074	8.734	1	**0.003**	**1.245**	1.076	1.439
HIV status of sibling								
Positive	0.465	0.648	0.516	1	0.473	1.593	0.447	5.668
Negative	0[b]	.	.	0	.	.	.	.
FATHERS Occupation								
Manager	-0.926	1.044	0.786	1	0.375	0.396	0.051	3.068
Professional	-1.97	1.032	3.646	1	0.056	0.139	0.018	1.053
Technicians	-1.313	1.073	1.498	1	0.221	0.269	0.033	2.202
Clerical workers	0.386	1.094	0.125	1	0.724	1.471	0.172	12.566
Sales workers	-1.182	1.066	1.228	1	0.268	0.307	0.038	2.481
Craft and related workers	-1.29	1.086	1.412	1	0.235	0.275	0.033	2.311
Elementary occupations	-0.746	1.328	0.315	1	0.574	0.474	0.035	6.404
Armed forces Occupation	0[b]	.	.	0	.	.	.	.
HIV status of Parents								
One Parent positive	-0.316	0.41	0.591	1	0.442	0.729	0.326	1.63
Both Parents positive	0.548	0.811	0.457	1	0.499	1.73	0.353	8.475
Both Parents negative	0[b]	.	.	0	.	.	.	.
ROUTE of infection								
Birth	1.449	0.656	4.875	1	0.027	4.258	1.177	15.408
Blood transfusion/ sharp object	0[b]	.	.	0	.	.	.	.

[a] The reference category is: NO; [b] this parameter is set to Zero because of redundancy

Table 5: Multinomial Regression analysis of variable associated with Neglect.

Discussion

The findings from a Nigerian National Survey carried out in 2015 to determine the prevalence of child abuse among children below the age of 18 years, shows that about six in ten (60%) children had a history of child abuse while, about one in two (50%) had history of physical abuse [17]. In the current study, a higher prevalence of physical abuse (73.6%) was found among adolescent with HIV infection; this may be an indication that adolescents living with HIV infection are more prone to physical abuse compared to adolescents in general population. It can also be explained by the fact that the presence of chronic illness like HIV infection increases the prevalence of physical abuse[5]. Inversely, the prevalence of neglect (29.4%) in the current study was lower than that reported among adolescent in general population and also among people living with HIV who were also illicit drug users [10,18].

This study shows that the older the age at diagnosis of participants, the lower the likelihood of being physically abused. Although age has been reported in previous studies to be associated with physical abuse, the direction of relationship was not specified in them [3,5]. Also, because participants with poor and moderate social support in the current study were more likely to be physically abused compared to those with good social

support, it is not surprising that relationship with mother and death of parent due to HIV/AIDS; which are two factors that may affect the strength of participants social support, were also significantly associated with physical abuse among participants. Although compared to social support, relationship with mother and death of parents were not predictive of physical abuse. It is important for clinicians to formulate a plan on how to encourage a strong social support for adolescent attending their HIV out-patient clinic.

Age of participants and route of infection was shown in the current study to be associated with Neglect. The older the age of participants, the more likelihood such an individual will be neglected by caregivers. Also participants who were born with HIV-infection had a tendency of being more neglected than those who were infected through blood transfusion or sharp object. This findings help emphasis similar report from previous studies [3,5,13]. Similarly, participants' fathers' occupation was found in the current study to be associated with Neglect. Although there was scarcity of study in this environment that assessed the association between fathers' occupation and Neglect among adolescents living with HIV infection, the findings in the current study has open up an opportunity for further studies.

Conclusion

This study reported a high prevalence of Neglect and physical abuse among adolescent living with HIV, it also shows that neglect can be modified by the presence of variable like age and being born with HIV infection. While, age at diagnosis and absent of good social support can predispose to physical abuse. The implication of these is that adolescent living with HIV needs to have regular assessment for the presence of Neglect and physical abuse especially those with predisposing factors; this will help in early detection of abuse, intervention and prevention of further worsen their illness [19].

Conflict of Interest

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Acknowledgement

This work was made possible by the help of all the members' of the paediatric and hematology department of Lagos State University Teaching Hospital (LASUTH), and of the adolescent clinic of Nigerian Institute of Medical Research Yaba (NIMR), Lagos. I want to sincerely appreciate you all for providing an enabling environment for this study.

My gratitude also go to all the participants in this study for their patient and understanding, and to Mr Oba of the NIMR for his support and guidance.
Thank you all for making this a reality.

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