



ISSN 2250-0774

## Advance Research in Pharmaceuticals and Biologicals

(A Peer Reviewed International Journal for Pharmaceutical and Allied Research)



USA CODEN: ARPBGZ

### PREVALENCE AND ASSOCIATED FACTORS OF ANXIETY AMONG AIDS ORPHAN ADOLESCENTS IN MEKELLE CITY, TIGRAY ETHIOPIA: A CROSS SECTIONAL STUDY

\*H. Berhe<sup>1</sup>, A. Aregay<sup>1</sup>, G. Bruh<sup>1</sup> and S. Asfawesen<sup>2</sup>

<sup>1</sup>Department of Nursing, College of Health Sciences, Mekelle University, Ethiopia

<sup>2</sup>SOS Nursing College, Mekelle, Ethiopia

Received on 10/05/2013

Revised on 21/05/2013

Accepted on 30/05/2013

#### ABSTRACT:

The objective of this study was to assess the prevalence and associated factors of anxiety among AIDS orphan adolescent's in Mekelle city, Tigray Ethiopia. Institution based cross-sectional study design was used. Two hundred ninety three subjects whose age is from 10-19 were included in this study. Data was collected using a pretested interviewer-administered structured questionnaire and scales including Hamilton-Anxiety and Rosenberg's rating scale where used to measure the orphans' level of anxiety. Among the study participants, 52(17.7%) orphan adolescents were anxious in the week before the survey. The main predictor variables of anxiety were their score of self esteem and employment opportunity. Factors such as community discrimination, counseling services, psychosocial support participation and access to healthcare were also identified as predictors. Generally this study contributes to our understanding of how children respond to parental death. Orphan adolescents are having psychological problems and may be particularly vulnerable group that can affect their present and future life. Thus, a more focused and concerted effort is needed to improve their mental health. In addition to providing material support such as educational materials, medical and food, further studies should be made to compare the psychological health of AIDS, non-AIDS and non-orphan adolescents.

**Keywords:** HIV/AIDS, Orphans, Anxiety, Ethiopia

#### \*Corresponding Author:

Mr. Hailemariam Berhe,  
Department of Nursing,  
College of Health Sciences,  
Mekelle University, Ethiopia  
[Email: aidhbk@gmail.com](mailto:aidhbk@gmail.com)

#### INTRODUCTION

Orphaned and Vulnerable Children are one of the most serious socio-economic and developmental challenges affecting developing countries worldwide. Orphan-hood is frequently accompanied with multidimensional problems. Common reactions of children to death of a parent include: anxiety, hopelessness, suicidal ideation, loneliness, anger, confusion, helplessness, and fear of being alone that can further jeopardize children's prospect. There were 15 million officially reported AIDS orphans globally in 2007<sup>1</sup>. The number of orphans from all causes has risen by more than 50% in sub-Saharan Africa, where an estimated 12 million children & youth have lost one or both parents related to AIDS. This makes the region home to 80% of children & youth in

developing world who have lost a parent to disease<sup>2</sup>. An estimated 5,459,139 orphans of whom 16 % were AIDS orphans existed in Ethiopia in 2008<sup>3</sup>. In Addis Ababa alone, there were 112,617 AIDS orphans in 2007. The Tigray Region HIV/AIDS Prevention and Control Office reported that there were 94,848 AIDS orphans in 2008<sup>4</sup>. The challenges and needs faced by orphans and other children made vulnerable by HIV/AIDS are diverse. Psychosocial distress (mainly associated with anxiety, loss of parental love and nurture, burden of caring for the sick, impact of family dissolution, stigma, discrimination, grief and frustration seriously affect adolescents<sup>4</sup>.

**(RESEARCH ARTICLE)**

Like adults, children are grieved by the loss of their parents. However, unlike adults children often do not feel the full impact of the loss simply because they may not immediately understand the finality of death. This prevents them from going through the grieving process which is necessary to recover. Therefore, are at risk of growing up with unresolved negative emotions which are often expressed with anger. Unfortunately, adults do not seem to appreciate that children are also adversely affected by bereavement even though they may not have an adult's understanding of death. Little attention is therefore given to children's emotions. Children are not given the required support and encouragement to express their emotions nor are they guided to deal with them<sup>5</sup>.

Adolescent orphans have different needs than adults and require different kinds of assistance particularly of psychological and social support for the difficult transition to independence and adulthood<sup>6</sup>.

Young people themselves, working with adults, can provide a useful resource in addressing many of these needs. In addition, exposure to trauma and daily stress were strongly associated with depression- and anxiety-like symptoms; Greater social support, on the other hand, was negatively associated with psychosocial distress symptoms, and positively associated with some aspects of psychosocial well-being. First there is a lack of adequate information on the nature and magnitude of the problem Secondly, there is a cultural belief that children do not have emotional problems and therefore there is a lack of attention from adults. Thirdly, since psychological problems are not always obvious, many adults in charge of orphans are not able to identify them. Not only but also, even where the problem may have been identified, there is a lack of knowledge of how to handle it appropriately. In many cases, children are punished for showing their negative emotions, thereby adding to their pain. This is the crux of the matter which needs empirical scrutiny<sup>7</sup>.

It is therefore appropriate that attention is given to development of sound measures of the situation and well-being of orphans and children affected by AIDS. And this study was conducted to assess the magnitude and level of the problem & indicate main intervention areas and make recommendations that will point out areas for further research by future investigators and provide insight into program planners and policy makers to review and change or strengthen existing care and support programs for the orphans in the region as well in the country.

The purpose of this study is to assess the magnitude of anxiety among AIDS orphan adolescent and appropriately indicate the need for interventions. The study explores the level of anxiety and associated

factors experienced by these adolescents. This study would be useful to people concerned about and working with families affected by HIV/AIDS, such as social welfare officers, medical and nursing practitioners, health care workers, government agencies, nongovernmental organizations, and churches. The study would stimulate new awareness of needs and to open new doors for action. Finally, it is hoped that the findings of this research will offer an opportunity to discuss and to identify vital areas for new inquiry, for improving their situation and make recommendations to help them in asserting their rights.

**METHODOLOGY**

**Study setting**

This study was conducted in, Mekelle city, Tigray, Ethiopia from May to December 2012 On 3 purposively selected nongovernmental orphanage institution. Mekelle is geographically located at 783 kilometers north of the capital city of Addis Ababa, with the population size of 303,600<sup>8</sup>. Mekelle is considered a Special Zone, & is one of Ethiopia's principal economic and educational centers, with amazing proliferation of institutions of public and private higher learning.

The Study design employed was institution based cross-sectional study. The source population was orphan adolescents at Mekelle city and the study population was orphan adolescents age from 10-19 who reside at 3 nongovernmental institutions. From three institutions namely HIV/AIDS African service, Ethiopian Orthodox Church mekelle, child care center and human beings association of brotherhood orphanages, with a total size of 300 and the entire population were taken for the study since it was manageable.

Interviewer administered questioner was used as a data collection technique and structured questionnaire was designed from Hamilton Anxiety measurement scale consisting variables that can meet the objective of the study, and was translated in to Tigrigna language. Prior to data collection permission was obtained from the concerned care giver. The data collection was fulfilled by the principal investigator, one supervisor and 5 unemployed graduate nurses. The principal investigator and the coordinator were strictly following the overall activities daily to ensure the completeness of questionnaire. The data collectors submitted the filled questionnaire to their respective supervisor, and then all the collected data were checked for completeness, accuracy and consistency by the supervisor and principal investigator.

The study includes socio-demographic factors (Age, Sex, Religion, and Type of orphan), Contextual factors (Sociopolitical environment, Employment opportunities, Community discrimination and Current school enrolment) and Access to programs and Services

**(RESEARCH ARTICLE)**

(Access to health care, Counseling service, psychosocial support and Self esteem) as independent variables and anxiety as dependent variable.

**Orphan:** Children who have lost one or both parents due to the impact of AIDS

**Adolescent:** young people between 10-19 years

**Anxiety:** Feeling of worry, nervousness, about something with an uncertain outcome scoring on a scale of 0 to 4.

18–24 mild to moderate Anxiety

25–30 moderate to severe.

To assure the quality of data, the questionnaires were prepared first in English then translated to Tigrigna (local language) with the help of a language expert. Amendment was made accordingly after pre-testing. Training was provided for data collectors and supervisors for two days about the objectives and process of the data collection. Mean while any doubts in the questionnaire were clarified.

Data were checked for completeness, consistency and coded then entered, cleaned and analyzed using SPSS version 16. During the process of analysis, frequencies of different variables were determined. Descriptive statistics was used for describing the socio-demographic factors. Odds ratios with 95% confidence interval were used to assess significance of associations between outcome variables and certain independent variables. Multivariate analysis was done to assess presence of associations as well as to identify and control for confounding variables. The results of the analysis are presented in tables.

Ethical approval was obtained from ethical committee of Mekelle University. Respondents were participated based on their willingness. The privacy and autonomy of every individual involved in the research was protected. Letter of acceptance or permission was obtained from the care givers and respondents of the selected three institutions. In the training session, the data collectors were oriented on the objectives of the study, how to collect data and confidentiality of information were obtained. Finally the participants' confidentiality was assured through anonymity and reports of aggregate data.

**RESULT**

A total of 293 orphan adolescents gave valid responses making the response rate for the study 97%. Of these, 154 (52.6%) were male and 139(47.4%) female adolescents. The mean age was 15.2 with a SD  $\pm$ 2.59 years. Majority of the respondents 180 (61.4%) within the age range of 16-19 had anxiety. Almost all 292 (99.6%) of study participants were Orthodox Christians by religion. Regarding orphaned type One hundred ninety-two (65.5%) double, sixty seven (22.9%) paternal and thirty-four (11.6%) were maternal

orphaned, majority of the orphans 280(95.6) were enrolled in school when this survey was underway. From the total respondents 117 (39.9%), 154(52.6%) and 22(7.5%) were elementary, high school and college students respectively.

**Table 1:** Socio-demographic characteristics of AIDS Orphan Adolescents in Mekelle Tigray, Ethiopia, December, 2012

Variable	Frequency (N=293)	Percent (%)
<b>Age in year</b>		
10-15	113	38.6
16-19	180	61.4
<b>Religion</b>		
Orthodox	292	99.6
Muslim	1	0.3
<b>Sex</b>		
Male	154	52.6
Female	139	47.4
<b>Educational status</b>		
Elementary	117	39.9
High school	154	52.6
College	22	7.5
<b>Schooling</b>		
Out of school	13	4.4
In school	280	95.6
<b>Orphan Type</b>		
Maternal	34	11.6
Paternal	67	22.9
Both	192	65.5

**Table 2:** Frequency distribution of Anxiety characteristics among AIDS orphan adolescents in Mekelle, Tigray, Ethiopia, December 2012 (N=293)

Category	No	Yes
Anxious mood	200 (68.3)	93 (31.7)
Tension	200 (68.2)	93 (31.7)
Fear	202 (68.9)	91 (31)
Insomnia	237 (80.9)	56 (19.1)
Intellectual(poor memory)	245 (83.6)	48 (16.4)
Depressed mood	175 (59.7)	118 (40.3)
Somatic(muscular)	275 (93.8)	18 (6.1)
Somatic(sensory)	264 (90.1)	29 (9.9)
Cardiovascular system	268 (91.5)	25 (8.5)
Respiratory system	270 (92.2)	23 (7.8)
Gastrointestinal symptoms	268 (91.8)	25 (8.5)
Genitourinary systems	276 (94.2)	17 (5.8)
Autonomic symptoms	233 (79.5)	60 (20.4)
Behavior at interview	181 (61.7)	112 (38.2)

**Table 3:** Distribution of Anxiety based on sex and age of AIDS orphan adolescents, in Mekelle Tigray, Ethiopia, 2012 (N=293)

Variables	level of anxiety	
	Anxious	Non Anxious
<b>Age</b>		
10-15	12 (23.1)	101 (41.9)
16-19	40 (76.9)	140 (58.1)
<b>Sex</b>		
Male	24 (46.2)	130 (53.9)
Female	28 (53.8)	111(46.1)

Of the study participants 274(93.5%) have access to health care, 252(86%) counseling service, 130 (44.4%)

**(RESEARCH ARTICLE)**

psychosocial participation, 97 (33.1%) sociopolitical involvement, and 192 (65.5%), have employment opportunity (Table 4).

**Table 4:** Distribution of access to health service on AIDS Orphan Adolescents in Mekelle Tigray, Ethiopia December 2012 (N= 293)

Variable	Frequency (%)
<b>Access to health care</b>	
yes	274(93.5)
no	19(6.5)
<b>Counseling service</b>	
yes	252(86.0)
no	41(14.0)
<b>Community discrimination</b>	
yes	26(8.9)
no	267(91.1)
<b>Psychosocial participation</b>	
yes	130(44.4)
no	163(55.6)
<b>Sociopolitical involvement</b>	
yes	97(33.1)
no	196(66.9)
<b>Employment opportunities</b>	
yes	192(65.5)
no	101(34.5)

**Table 5:** Multivariate analysis of variables for anxiety among AIDS orphan adolescents, in Mekelle, Tigray, Ethiopia, 2012 (N=293)

Variables	Level of anxiety		Crude OR (95% CI)	Adjusted OR (95% CI)
	Anxious	Non-anxious		
Self esteem				
Low	24(46.2%)	14(5.8%)	1	1
High	28(53.8%)	227(94.2%)	.072(.033, .155)	.064(.027, .155)
Counseling service				
Yes	37(14.7)	215(85.3)	1	1
No	15(36.6)	26(63.4)	3.352 (1.62,6.92)	2.78(1.112, 6.98)
Age in year				
10-15	12(10.6)	101(89.4)	1	1
16-19	12(10.6)	140(77.8)	2.405(1.20, 4.81)	1.84(0.55, 6.08)
Psychosocial participation				
Yes	14(10.8)	116(89.2)	1	1
No	38(23.3)	125(76.7)	2.519(1.29, 4.88)	2.03(0.86, 4.82)
Sociopolitical involvement				
Yes	8(8.2)	89(91.8)	1	1
No	44(22.4)	152(77.6)	3.22(1.45, 7.15)	1.874(0.67, 5.23)
Employment opportunities				
Yes	22(11.5)	170(88.5)	1	1
No	30(29.7)	71(70.3)	3.27(1.77, 6.05)	2.49(1.17, 5.29)
Educational status				
Elementary	12(10.3)	105(89.7)	1	1
High school	36(23.4)	118(76.6)	2.67 (1.32, 5.39)	1.11(0.325, .325)
College	4(18.2)	18(81.8)	1.94(.564,6.70)	0.84(0.15,4.72)

Those AIDS orphan adolescents who were not accessed to counseling service and Employment opportunity were (OR=2.78 95% CI: 1.112, 6.98) and (OR= 2.49 95% CI: 1.17, 5.29) more likely to be Anxious as compared to those who have accessed to counseling

services and employment opportunity. Those who have High level of self esteem were [OR 95% CI = .064(.027, .155) less likely to develop anxiety as to compare with those who have Low level of self esteem. As score of self-esteem increased and having employment opportunity the probability of being anxious declines (Table 5).

**DISCUSSION**

The determination of prevalence of depression and associated factors of AIDS orphan adolescents is important because there are study reports on the possible association between depression and orphan hood due to AIDS. Knowing the magnitude of the problem will have many practical implications, being orphan hood by AIDS causes depression particularly vulnerable group in terms of emotional and psychological problems which certainly affect their present and future life.

It is clear that most AIDS orphans are vulnerable to emotional deprivation. Following the death of parents, they need emotional/ psychological support, care and assistance in coping with and/ or avoiding stigmatization and socialization.

In this study the magnitude of depression was 74(25.3%) in the week before the survey. This prevalence is relatively lower than the prevalence of depression study done (2010) in Addis Ababa as that of 157(39.1%) depressed<sup>6</sup>.

This difference could be explained by the fact that, in the current study as a result of having high coverage of counseling services that 252(86%) adolescents were provided counseling services or low level of community discrimination or Psychosocial participation, level of self esteem and employment opportunity making them less vulnerable than the previous study. However the study in Addis Ababa, only (16.2%) AIDS orphan adolescents were provided counseling services shown low coverage signifies the amount of attention given by all type of care providers for psychological support as compared to material support<sup>6</sup>. On similar study done in Uganda, only material provision and support that did not show any relationship with the psychological outcomes for the AIDS orphan adolescents<sup>9</sup>.

In this study it was found that AIDS orphan adolescents were having psychological problems similar to the study in South Africa and study from Addis Ababa in that of AIDS orphan adolescents were having psychological problems except their comparative study on AIDS and none AIDS with no significant difference<sup>10</sup>. However study in Uganda, AIDS orphan adolescents were more depressed as compared to non-orphaned adolescents<sup>11</sup>.

In this study it was also found out that the higher the self esteem the lower was the probability of being

**(RESEARCH ARTICLE)**

depressed similar to studies done in Uganda in 2009, South Africa in 2007 and China in 2010<sup>2,12,13</sup>. In this study it was also found that self esteem and community discrimination is highly likely to result in major emotional problems on AIDS orphan adolescents similar to study in South Africa 2007<sup>14</sup>.

The majority of the orphans, 280(95.6%) were enrolled in school when this survey was underway, similarly study in Addis Ababa 368 (91.5%) of AIDS orphans were enrolled in school the reason for not enrolling in schools was included giving priority to money earning activities, feeling of hopelessness and home chores, however the reason for not enrolling in school in this study was self interest in job employment after accomplishment of grade ten.

The common statistically significant predictors of depression in this study were score of self-esteem explained the largest percent of variation as compared to other predictor variables the same to the study done in Addis Ababa<sup>6</sup>. Likewise in the study from Bulawayo, Zimbabwe females were reported markedly higher levels of psychosocial distress than males, similarly in this study the number of depression is higher in females than in males<sup>15</sup>.

**Limitation of the study**

- The fact that the study was done in Mekelle city, makes it difficult to generalize the findings for the whole region.
- The nature of the study being cross sectional is not the best type of study to establish presence or absence of a cause effect association or relationship.
- This is an institutional study and the selection of the institutions to be included in the study was purposive and was not an arbitrary random selection.

**CONCLUSION**

Children orphaned by AIDS may be a particularly vulnerable group in terms of emotional and

**REFERENCE**

1. L. D. Cluver, F. Gardner. Effects of Stigma on the Mental Health of Adolescents Orphaned by AIDS, *Journal of Adolescents Health* 42: 410-417 (2008).
2. L. Cluver, D. S. Fincham. Posttraumatic stress in AIDS orphans Exposed to high level of trauma: The protective role of perceived social support, *Journal of Traumatic Stress*, March, 22(2): 106-112 (2009).
3. FHAPCO Annual HIV/AIDS monitoring and evaluation report, Artistic Printing Press, Addis Ababa, Ethiopia, 2007.
4. Mums for Mums, Report on the situation analysis of orphan and vulnerable child services in Tigray region. Mekelle Tigray : S. N., May 2011.

psychological problems which certainly affect their present and future life. Generally this study contributes to our understanding of how children respond to parental death. The findings of this study revealed that AIDS orphans experience major psychological effects due to the death of parents; these effects include discrimination, social isolation, and low levels of social support. In addition, these children experience anxiety, and loneliness as to the cause of parental death, and unresolved grief.

The implication of the study is that organizations who are concerned to the social needs of AIDS orphans should also focus on their psychological /emotional needs as well by strengthening their counseling services and by raising the awareness of the community about the troubles of orphans so that people take the initiative themselves in their immediate communities to support orphans. This is highly essential because when favorable conditions are created there is a good chance that these children may be able to cope relatively well with the trauma of losing their parents.

Thus, it is recommended to people concerned about and working with families affected by HIV/AIDS, such as social welfare officers, medical and nursing practitioners, health care workers, government agencies, nongovernmental orphanage organizations, particularly to the orphanage institutions from where this data was collected. The battle against the HIV/AIDS will only be won by the involvement of all the community members. Therefore, a more focused and concerted effort is needed to improve their psychological sequel of losing a parent to AIDS.

**Acknowledgment**

The authors are very grateful and would like to extend heartfelt thanks and appreciation to the study participants, care givers of the orphanage institutions, data collectors and the staff at the institutions involved for their full participation and support.

5. S. James and N. Janet. The psychological effect of orphanhood, Kampala : S.N., 1997, Volume 7, 105-124.
6. G. Hiwot, A. Fentie, A. Lakew, K. Wondosen. Psychological distress and its predictors in AIDS orphan adolescents in Addis Ababa city, *J. Health Dev.* 25(2) (2011).
7. R. Smart. Policies for orphans and vulnerable children: A Framework for moving ahead, (2008).
8. Mekelle Municipality statistics office, 2010.
9. Atwin B cantor graae. Psychosocial distress among AIDS orphan in rural uganda, *Social science & medicine* Vol. 61: 555 – 564 (2005).

**(RESEARCH ARTICLE)**

10. L. Culver, D. Operario. Intergenerational linkage of AIDS: Vulnerability of orphaned children to HIV infection, *IDS Bulletin* 39 (5) (2008).
11. B. Atwin, E. Cantor-Graae. Psychological distress among AIDS orphans in rural Uganda, *Social science & Medicine* 61:555-564 (2005).
12. J. A. Carol Annzivor. Self-esteem of AIDS orphans: A Descriptive study, Unpublished Article, University of South Africa, 2007.
13. Y. Hong, X. Li. Perceived social support and psychosocial distress among children affected by AIDS in China, *Community Mental Health Journal*, 46 (1): 33-43 (2010).
14. L. D. Cluver, F. Gardner. Risk and protective factors for psychological wellbeing of children orphaned by AIDS in Cape Town: A qualitative study of children and caregivers' perspectives, *AIDS Care* 19(3): 318-325 (2007).
15. Horizons, final report. Psychosocial well being & support program, Washington DC: Population council INC, 2006.