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Prevalence and Factors Associated with Depression among Out-Of-School Adolescents in Ayere Village, Northern Uganda

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Abstract

Globally mental health conditions account for 16% of the global burden of disease to adolescents aged 10-19 years with depression ranking as one of the leading causes of illness and disability among this age group and the burden of depression is higher in low and middle-income countries. However, little is known about how these conditions predispose to out-of-school adolescent depression. This study assessed the prevalence and factors associated with depression among out-of-school adolescents in Ayere village, northern Uganda. The study employed a cross-sectional survey carried out in November 2020 in which 164 out-of-school adolescents in Ayere village, northern Uganda were randomly selected to participate in the study. The study revealed that 34% had major depressive disorders with the majority (66%) reporting no major depressive disorders. The socio-demographics associated with depressive disorder were age, marital status, support from friends and family members, and childbearing. The prevalence of the major depressive disorder among out-of school adolescents is substantially high and was associated with orphanhood, staying with a single parent, low support, and marital status. Results from our study underscore the importance of social support concerning major depressive disorders among out-of-school adolescents.

Keywords: Adolescents, Depression, Out-of-school, Uganda

Introduction

Mental health problem in adolescents aged between 10-19 years of age is a global burden accounting for 16% of diseases with depression ranking as one the leading causes of illness and disability in this age group (Organization, 2020). The burden of depression is higher in low and middle-income countries (Rathod et al., 2017). In Africa, adolescents live under adverse psychological conditions characterized by HIV infection, orphanhood, famine, acute poverty, violence, and war trauma (Kabiru et al., 2013). However, little is known about how these conditions predispose to out-of-school adolescent depression. Data on depression among adolescents is generally scarce and most cases are undetected and untreated (Erskine et al., 2017). A few studies in Sub-Saharan Africa examining the association between psychological factors and adolescent depression have been conducted in special population groups including HIV-infected adolescents, HIV orphans, and adolescents in internally displaced camps with a minimum data on out-of-school adolescents (Dessauvagie et al., 2020).

Depression in adolescents is associated with negative psychological and behavioral issues including exhibiting social phobia, conduct disorder, agoraphobia, oppositional defiant disorder, and drug abuse (González-F, 2015; Langille et al., 2012). Studies have found significantly higher rates of suicidal ideation among adolescents (Organization, 2018). The failure to address adolescent depression extends to adulthood with dire mental and physical ramifications limiting opportunities to lead fulfilling lives as adults (Organization, 2020). More than 50% of adolescents who suffer from depression are likely to experience depressive episodes in adulthood (Kieling et al., n.d.). Studies show that individuals who suffered depression from an early age had 50% of the likelihood of suicidal attempts (Borges et al., 2010). The risk factors for depression among adolescents include genetic background, substance use, poverty, lack of social support, exposure to traumatic events, and harmful substances in utero (Kuringe et al., 2019; Muhwezi et al., 2008).

Recent studies show that out-of-school adolescents are at higher risk of mental health disorders compared to their counterparts who are in-schools (Kuringe et al., 2019; Rock et al., 2016). In Uganda, most studies have concentrated on depression among in-school and hospital-based adolescents or HIV-infected adolescents (Dessauvagie et al., 2020; Kyohangirwe et al., 2020). Northern Uganda as a region was marred by war for two decades. It left many people homeless, widowed, orphaned and many lived in internally displaced camps (Kabunga et al., 2020). Therefore adolescents live under harsh conditions and are at risk of major depressive disorders. Most studies in the region have concentrated on depression in adolescents in internally displaced camps (Bolton et al., n.d.; Salami et al., 2020). There is a need to understand the predictors of depression in adolescents in different cultural settings. Evidence on depression and its potential correlates among out-of-school adolescents particularly relevant to the Ugandan setting have been inadequately studied. Thus the current study assessed the prevalence and factors associated with depression among out-of-school adolescents in Ayere village, northern Uganda.

Methods

The study setting was Ayere village, Lira district in northern Uganda. The district was affected by civil war for close to two decades with dire consequences. Therefore, the adolescents in the district generally and Ayere village, in particular, are living in humanitarian and fragile settings. Adolescents are at greater risk of mental health conditions due to their living conditions. The study employed a cross-sectional design involving a quantitative approach.

Participants

The study was conducted among adolescents between 10-19 years of age with Ayere village. Using the Leslie Kish formula (Kish, 1965), a total of 164 participants were selected for this study. Both systematic and simple random sampling techniques were used to select the sample size. Systematic sampling was applied to select households from Ayere village. We obtained the list of all the households with children aged 10-19 years from the local council one (the smallest administrative unit at village level), assigned each household a number, and divided the total number of the households with the desired sample size from the village to get the interval (N). We then randomly picked any number which was below the obtained interval which in this case would be the first sample then every Nth household from then would be included in the sample. Then a simple random sampling was used to select the participants.

Instruments

In this study, we used a self-administered questionnaire with three parts. The first part of the questionnaire had social demographic questionnaire information which included age, gender, marital status, number of children, and family or friends' support. The second part of the questionnaire was the Patient Health Questionnaire (PHQ-9). PHQ-9 was used to gather information from the study participants. PHQ-9 is a screening instrument, diagnosing and monitoring depressive symptoms or disorders. It has 9 items representing the 9 symptoms of depression which are in DMS-V (Association, 2013). The items are rated from 0-3 based on the frequency over the last two weeks. The last part was the Social Support Scale. This was used to measure the perceived support of the respondents. It is a three-item tool examining the level of social support. It consists of only three items that elicit information on close confidants, the sense of concern from other people, and the relationship with the neighbors. The Cronbach's alpha for both PHQ-9 and Social Support Scale were 0.79 and 0, 83 respectively.

Procedure

A team of 5 experienced data collectors was recruited for the survey. They spoke fluent English and Langi. A one-day intensive training was provided for data collectors on the aim of the study, depression, and ethical issues. Permission was then thought from the area local council one and helped to identify the households with out-of-school adolescents. Data collection took place for one week in December 2020.

Data Analysis

We carried out statistical analysis with Software Program for Social Scientists (SPSS) version 23. The analysis aimed to examine the prevalence and associated factors with major depressive disorder in-out-of school adolescents. Bivariate analysis was conducted to determine the correlation between major depressive disorders and selected associated variables. A *p-value* of 0.05 was taken as statistically significant.

Ethical Considerations

This study was approved by the Ethics Research Committee of AIDS support organization (TASO), Uganda (TASOREC/010/2020-UG-REC-010). All participants provided consent and ascent before data collection. Parents' permission was obtained for participants under the age of 18 years who accepted to participate in our study. The participants had the right to refuse or withdraw from participation without any penalty. Confidentiality was maintained at all levels of research.

Results

A total of 164 out-of-school adolescents participated in the study. The results in Table 1 show that more than half (53%) of the participants were females and 47% were males. The results reveal that 69% were in the age bracket of 17-19 years, 29% were in the age bracket of 14-16 years and 8% were aged between 10-13 years. The results show that 56% reported good support from friends and family, 33% reported average support from friends and family and 11% reported poor support from friends and family. The results indicate that the majority (83%) were single, 3% divorced while 14% were married. The majority of the participants (77%) had no children and a small number (23%) reported having children.

Table 1:
Socio-Demographic Characteristics of Adolescent Participants

Characteristics		Frequency(n=164)	Percentage (%)
Gender	Male	77	47
	Female	87	53
Age	10-13	13	8
	14-16	48	29
	17-19	103	69
Friends & family support	Good	92	56
	Average	54	33
	Poor	18	11
Marital status	Single	136	83
	Married	23	14
	Divorced	5	3
Having children	Had children	37	23
	No children	127	77

Prevalence of the major depressive disorder

The prevalence of depressive disorders of the respondents was recorded using PHQ-9. Of 164 participants assessed, 34% had major depressive disorders with the majority (67%) reporting no major depressive disorders (see results in Table 2).

Table 2:
Prevalence of the major depressive disorder

Variable	Frequency	Percentage
Not depressed	109	67
Depressed	55	34
Total	164	100

Socio-demographic factors associated with major depressive disorder among adolescents

The results in Table 3 show that the prevalence of major depressive disorder is higher in older respondents aged between 17 and 19 years compared to those aged between 10 and16. It was lowest among married as compared to those who were not. Participants with children were more likely to have major depressive disorder as compared to those without children. The prevalence of major depressive disorder was lowest among the participants who had support from friends and family members as opposed to those who had less or no support. The association between major depressive disorder and gender did not attain statistical significance.

Table 3:
Socio-Demographic Factors Associated With Major Depressive Disorder

Variable	Depression Not depressed	Depressed	Total	X^2 CI	Df	P-value
Age						
10-13	8(61.5%)	5(38.5%)	13(100%)			
14-16	31(64.6%)	17(35.4%)	48(100%)	0.321(0.772-	2	0.852
17-19	70(68.0%)	33(32.0%)	103(100%)	0.887)		
Gender						
Male	54(70.1%)	23(29.9%)	77(100%)	0.875(0.221-	1	0.349
Female	55(63.2%)	32(36.8%)	87(100%)	0.408)		
Marital status				11.967(0.000-		
Single	96(70.6%)	40(29.4%)	136(100%)	0.018)		
Married	13(56.5%)	10(43.5%)	23(100%)		2	0.003
Divorced	0(0%)	5(100%)	5(100%)			
Childbearing						
Had children						
No children	20(50.0%)	20(50.0%)	40(100%)	6.433(0.010-	1	0.011
	89(71.8%)	35(28.2%)	124(100%)	0.013)		
Friends & family support						
Good	72(78.3%)	20(21.7%)	92(100%)			
Average	28(51.9%)	26(48.1%)	54(100%)	13.106(0.000-	2	0.001
Poor	9(50.0%)	9(50.0%)	18(100%)	0.018)		

Vulnerability characteristics of adolescent participants

Results in Table 4 indicate that 60.3% lived with both parents, 14.1% were double orphans, 16.4% stayed with mothers only and 9.2% lived with fathers only. The results show that 62% of the participants had never had a family history of mental illness, 34% had a family history of mental illness while those who did not know were 4%. The results in Table 3 indicate that 43% of the participants had high perceived support, 19% had average perceived support and 38% reported low perceived support.

Table 4:
Vulnerability Characteristics of Adolescent Participants

Characteristic	Frequency(n=164)	Percentage (%)
Orphanhood		
Both parents alive	99	60.3
Both parents dead	23	14.1
Father only alive	15	9.2
Mother only alive	27	16.4
Family history of mental illness		
Yes	56	34
No	102	62
I don't know	6	4

Perceived social support		
Low	63	38
Average	31	19
High	70	43

Adolescent vulnerability factors associated with major depressive disorders

Table 5 presents a bivariate analysis between adolescent vulnerability and factors associated with major depressive disorder. The finding shows that orphans were more likely to suffer from depression compared to non-orphans. Adolescents staying with a single parent (either mother or father) were more likely to suffer from depression compared with adolescents staying with both parents. Adolescents who had low perceived social support were more likely to suffer major depressive disorder as compared to those who had high perceived social support. The association between major depressive disorder and the variables like a family history of mental illness did not attain statistical significance.

Table 5:
Vulnerability Factors Associated With Major Depressive Disorder

Variable	Depression Not depressed	Depressed	Total	X^2 CI	Df	Value
Number of friends						
Few	23(56.1%)	18(43.9%)	41(100%)	2.635(0.077-	1	0.105
Many	86(69.9%)	37(30.1%)	123(100%)	0.127)		
Orphanhood						
Both parents alive	76(76.8%)	23(23.2%)	99(100%)			0.000
Both parents dead	7(30.4%)	16(69.6%)	23(100%)			
Mother only alive	15(55.6%)	12(44%)	27(100%)	19.869(0.000-0.018)	3	
father only alive	11(73.3%)	4(26.7%)	15(100%)			
History of mental illness						
Yes	41(73.2%)	15(26.8%)	56(100%)			
No	64(62.7%)	38(37.3%)	102(100%)	1.778(0.430-	2	0.411
Others	4(66.7%)	2(33.3%)	6(100%)	0.583)		
Perceived support						
Low	12(38.7%)	19(61.3%)	31(100%)			
Average	42(66.7%)	21(33.3%)	63(100%)	15.318(0.000-	2	0.000
High	55(78.6%)	15(21.4%)	70(100%)	0.018)		

Discussion

This study aimed to examine the prevalence and factors associated with major depressive disorder among adolescents in Ayere village lira district. The study adds to the much-needed

literature on the prevalence and factors associated with depression among out-of-school adolescents in Sub-Saharan Africa. The prevalence of major depressive disorder was estimated at 34% among out-of-school adolescent respondents. This was substantially higher than that reported among adolescents in the general population which is estimated to fall between 5% and 15% (Kuo et al., 2015). It was also higher than 9% in Zambia, 29% in Nigeria, and 4% in Kenya (Cheng et al., 2014; Mathur et al., 2018), [25]. The prevalence was much higher than 15.9% and 8.8% recorded among pregnant and postpartum adolescents respectively in South Africa (Govender et al., 2020).

The prevalence of out-of-school adolescent depression at 34% that was observed in our sample was comparable to the prevalence of 36%, 34.1%, and 31% that were observed in studies conducted in Tanzania, India, and the USA respectively (Cheng et al., 2014; Ghosh & Goswami, 2011; Kuringe et al., 2019). The finding of current results, however, was lower than results observed in Johannesburg, South Africa, and Northern India (Cheng et al., 2014; Shukla et al., 2019). The prevalence was also lower when compared with studies conducted by (Jha et al., 2019; Kumar et al., 2017), which revealed the prevalence level of 50%, 71.5%, and 60% respectively among school-going adolescents. The differences in findings in our study and other studies may be attributed to the difference in the composition and size of the sample (Cheng et al., 2014; Shukla et al., 2019). For instance, some studies included only adolescent girls and young women who were out of school.

In this study, the social demographic variables including childbearing, age, marriage, and low family or friends' support were significantly associated with depression. Adolescents aged 17-19 years were more likely to suffer from major depressive disorder as compared to those aged 10-16 years. This confirms other findings that show the rate of major depressive disorder increases as children grow (Farhangi et al., 2015). This may be attributed to expectations of society that weigh much on adolescents (Akimana et al., 2019). Remarkably, there was no significant correlation between gender and major depressive disorder. This is in agreement with the findings of other studies that found no gender differences in depression (Paudel et al., 2020; Sequeira et al., 2017).

There are contradictory results concerning the relationship between marital status and major depressive disorders. Our findings indicate that out-of-school adolescents who were married were less likely to suffer from a major depressive disorder compared to their counterparts who were not married. This protective effect is attributed to the beneficial effects of marriage on mental health (St John & Montgomery, 2009). This result mirror the findings from a systematic review of studies in Ethiopia indicating that divorced or widowed women reported high major depressive disorders (Bitew, 2014). However, the finding is contrary to the findings of (Kuringe et al., 2019) which showed that married women were significantly more likely to report major depressive disorders than those who were single. This calls for additional research to understand the association between marital status and depression.

Results from our study underscore the importance of support from family and friends concerning major depressive disorders among out-of-school adolescents. In the present study adolescents who received support from family and friends were less likely to record major depressive disorders. Additionally, childbearing was associated with major depressive disorders. Stress-related to taking care of children at quite a tender age may exacerbate depression among adolescents. This is in agreement with the findings of previous studies which indicated that childbearing was inversely related to major depressive disorders (Akimana et al., 2019; Ioannou et al., 2019; Kinyanda et al., 2013).

In this study, the out-of-school adolescent vulnerable factors associated with major depressive disorders were examined. The results revealed that orphanhood, staying with a single parent, and low social support were significantly associated with major depressive disorders. The association between staying with one parent or orphanhood and major depressive disorders is not surprising given the lack of support and psychological and physical deprivation which predispose the orphans to psychiatric disorders (Kinyanda et al., 2013). Previous studies have shown the relationship between orphanhood or staying with one parent and major depressive disorders in adolescents (Kinyanda et al., 2013).

In the present study, there was a significant relationship between perceived social support and major depressive disorders, a result that mirrors previous studies (Akimana et al., 2019). This is also in agreement with the results of Grav and colleagues (Grav et al., 2012) which showed that positive social support was correlated to low levels of depression among the general population. Social support may protect adolescents against the adverse effects of stressors (Ioannou et al., 2019). Social support is also considered as one of the determinants for quality of life in the population (Simsek et al., 2007).

Conclusion

The prevalence of the major depressive disorder among out-of-school adolescents in Ayere village is substantially high with 34% of the respondents reporting depressive disorders. The social-demographic variables associated with depressive disorders are childbearing, age, marriage, and low family or friends' social support. The out-of-school adolescent vulnerable factors associated with major depressive disorders were orphanhood, staying with a single parent, and low social support. Results from our study underscore the importance of social support concerning major depressive disorders among out-of-school adolescents. Given the prevalence of depressive disorders, psychological interventions and treatments should be integrated into the routine care of out-of-schools adolescents. Both social support and psychological interventions and treatments will reduce depressive disorders among out-of-schools adolescents.

Limitations of the study: this was a cross-sectional study and could not establish a causal correlation between depression and associated factors. Secondly, the study was geographically limited as it only covered Ayere village, thus the results may not be generalizable. Nonetheless, the study adds to the much-needed literature on the prevalence and factors associated with depression among out-of-school adolescents in the Ugandan context. Besides, the results of this study are consistent with other studies. Based on the results, there is a need to provide basic mental health services to the out-of-school adolescents in Ayere village and primary health care centers in Lira district. Also, counseling services should be provided to out-of-school adolescents in Ayere village to enable to them cope with the challenges of depression. The study recommends another study with a bigger sample size for the generalization of the results.

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