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Prevalence and factors associated with psychological distress among pregnant and non-pregnant youth living with HIV in rural Uganda: A comparative study

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Abstract

Youth living with HIV (YLHIV) are prone to psychological distress, which may have detrimental effects on health outcomes. Pregnant youth have poor access to HIV care increasing the risk of vertical transmission of HIV to their infants. Both HIV and pregnancy are independently associated with poor mental health among adolescents. The factors that predispose women to poor mental health may also increase their risk of contracting HIV. Despite their desire to have children YLHIV are at a high risk of psychological distress. However, factors associated with psychological distress among YLHIV in rural Uganda are not well explored. Therefore, the purpose of this study was to determine the prevalence of, and factors associated with psychological distress among pregnant and non-pregnant YLHIV in south western Uganda. We enrolled 224 YLHIV aged 15–24 years both pregnant and non-pregnant (ratio 1:1) between December 2018 and March 2019. We obtained information on psychological distress and factors hypothesized to affect mental health outcomes among people living with HIV including internalized HIV stigma, intimate partner violence, self-esteem and social support. Bivariate and multivariable logistic regression analysis were used to estimate factors independently associated with psychological distress. The prevalence of psychological distress was 48.2%% among pregnant YLHIV and 32.14% among non-pregnant YLHIV. Factors significantly associated with psychological distress among pregnant YLHIV were HIV stigma (AOR=4.61; 95% CI 1.63–13.84; P=0.004), physical abuse (AOR=4.97; 95% CI 1.41–17.56; P= 0.013), and separation from partner (AOR =0.03; 95% CI 0.001–0.580; P=0.020); while among non-pregnant YLHIV

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Authors' contributions

CK and SA designed the research, were involved in data collection, carried out data analysis and wrote the manuscript. SM provided guidance in the study design, data analysis and edited the manuscript. ENM provided guidance in data analysis, interpretation of the study findings and edited the manuscript. MMK and AB provided support in the data collection, data analysis and edited the manuscript. All authors read and approved the final manuscript.

Ethics approval and consent to participate

The study was approved by research ethics committee of Mbarara University of Science and Technology (#19/09–18) and all participants provided witten informed before they were enrolled in the study.

Competing interests

The authors have no conflict of interest to declare.

factors associated with psychological distress included physical abuse (AOR=4.97; 95% CI 1.41–17.56; P=0.013), and lack of social support (AOR=6.22; 95% CI 1.20–32.20; P=0.029). Overall psychological distress was significantly higher among pregnant youth compared to the non-pregnant ones. Internalized HIV stigma was significantly associated with psychological distress among pregnant YLHIV compared to non-pregnant YLHIV while lack of social support was associated with psychological distress among the non-pregnant YLHIV compared to the pregnant ones. Psychosocial interventions aimed at reducing HIV stigma and improve social support should be incorporated within mainstream HIV care for YLHIV.

Keywords

Psychological distress; youth; HIV; pregnancy; rural Uganda

Background

Young women living with HIV account for the vast majority of new HIV infections worldwide. Globally approximately 7000 young women aged 15–24 years become infected with HIV on a weekly basis (UNAIDS, 2018). In sub-Saharan Africa in 2017, three out of every four new infections among adolescents and young adults aged 15–24 years were among girls (UNAIDS, 2018). Adolescents and young adults living with HIV (15–24 years) account for 12% of the 1.4 million people living with HIV in Uganda (Ministry of Health, 2021). Overall the prevalence of HIV among adults aged 15–49 years is higher among women at 6.8% compared to 3.9% among men and is higher than the national prevalence at 5.4% (Ministry of Health, 2021).The prevalence of HIV among women in low income countries is driven by the lack of education and economic opportunities, which increases their risk of early marriages, gender inequality, poverty, sexual violence and sexual coercion (Williamson, 2013). In addition, food insecurity, intimate partner violence (UNAIDS, 2016) and the cultures that promote male dominance over women (Willan, 2013) increase the risk of HIV among women (Jewkes et al., 2010). Furthermore, young women engage in risky sexual behaviors such as early sexual debut, transactional sex, many sexual partners, and cross-generation sex, which increases their risk of contracting HIV as well as unwanted pregnancies (Jones et al., 2017; Willan, 2013). Because of their desire to have children, youth living with HIV (YLHIV) are sexually active (Ezeanolue et al., 2006) which further increases the risk of HIV transmission. Moreover, according to Ugandan estimates, about 25% of adolescents begin childbearing by the age of 18 years (UBOS, 2017).

Despite the desire of the YLHIV to live a normal life and exercise their reproductive rights, the risk of psychological distress is higher among pregnant women living with HIV (Bernatsky et al., 2007; Kotzé et al., 2013). Mental health problems have been reported to be higher among youths living with HIV regardless of pregnancy status (Lam et al., 2007; Naar-King et al., 2006). Both HIV and pregnancy are in independently associated with poor mental health among adolescents (Corcoran, 2016; Siegel & Brandon, 2014). Additionally, a relationship between high risk sexual behavior and psychological distress has been reported suggesting that the factors that predispose women to poor mental health may also increase their risk of contracting HIV (Borghi et al., 2008; Brody et

al., 2015). Psychological distress has been reported to be highly prevalent among women living with HIV compared to men (Mthembu et al., 2017). Additionally, women are more vulnerable to HIV related stressors such as stigma and discrimination increasing their risk of psychological distress (Rohleder & Gibson, 2006). The fear of negative evaluation, fear of disclosure and challenges related to adherence to HIV medicines further contribute to the increased risk of psychological distress among pregnant YLHIV (Mutumba et al., 2015; Turan et al., 2019). In addition to navigating the challenges of pregnancy and HIV during adolescence and young adulthood (Roberts et al., 2021) pregnant YLHIV also lack social support while seeking care (Willan, 2013). Moreover, pregnancy among adolescents and young adults poses additional challenges such as lost education opportunities and lack social support due to strained relationships and intimate partner violence (Chamanga et al., 2012; Groves et al., 2012). Additionally, pregnancy in this age group is frequently complicated by vulnerability challenges of poverty and lack of employment (Prady et al., 2013). Psychological distress is associated with poor attendance of antenatal care clinics (Bhatia et al., 2011) and poor adherence to antiretroviral therapy (ART) (Do et al., 2010) resulting in poor health and negative birth outcomes (Horwood et al., 2013). Despite the challenges of pregnancy and HIV, which impact mental health outcomes, psychological distress and associated factors among pregnant YLHIV in Uganda have not been examined in comparison to non-pregnant youth living with HIV. This study aimed to determine the prevalence of psychological distress and the associated factors among pregnant and non-pregnant YLHIV in rural Uganda. We hypothesized that pregnant YLHIV were at a high risk of psychological distress compared to the non-pregnant YLHIV.

Methods

Study setting and participants

The study was conducted in selected HIV clinics in Mbarara city in southwestern Uganda. Mbarara city is located 270km from Kampala, the capital city with a population of 195,013 (Uganda Bureau of Statistics, 2014). Most district residents live in rural areas outside of Mbarara city, and depend on subsistence agriculture, animal husbandry, and local trading to earn a living amidst challenges of food and water insecurity (Tsai et al., 2011; Tsai et al., 2016). The prevalence of HIV in Mbarara has been estimated at 13% among those aged 15–49 years which is higher than the national prevalence of 5.8% (Ministry of Health, 2021).

We enrolled a consecutive sample of 224 youth living with HIV aged 15–24 years both pregnant and non-pregnant (ratio 1:1) between December 2018 and March 2019. Eligible participants were attending antenatal clinics (ANC) and HIV clinics attached to the Mbarara Regional Referral Hospital (MRRH) and lower level health facilities within Mbarara city. We approached 270 potential participants for the study, and 46 were excluded for a number of reasons including 13 who declined participate participation due to busy schedules, 3 with cognitive impairment that, 6 were physically unwell to stand the length of the interview, and 15 had missing files, making it impossible to access relevant clinical data. Nine were outside the age range of interest. The response rate was 83%.

Study measures

Sociodemographic characteristics—We obtained data on sociodemographic characteristics by self-report using a structured questionnaire including age at enrollment in the HIV clinic, marital status, level of education, area of residence (urban or rural) and employment status. We assessed for food insecurity using a single question "Have you had enough food in the last one month". Participants' medical charts were reviewed and data abstracted on current ART regimen and cumulative duration on ART. For those who were pregnant, antenatal cards were reviewed to determine the gestation age.

Psychological distress

Psychological distress was screened using the Kessler psychological distress scale (Kessler et al., 2002). The Kessler scale is a 10 item questionnaire that measure distress based on questions about anxiety and depression symptoms that a person has experienced in the last 30 days. Each question is scored on a 5-point Likert scale (1 = never, 2 = rarely, 3 = some of the time, 4 = most of the time, 5 = all of the time). The scores are summed up with a maximum score of 50 with higher scores indicating severity of psychological distress. A score below 20 indicates no psychological distress, a score 20–24 indicates mild distress, a score 25–29 indicates moderate distress while a score of 30 and above indicates severe psychological distress (Andrews & Slade, 2001). This scale has been used in Uganda among adults living with HIV with a sensitivity of 0.83 and specificity of 0.72 (Akena et al., 2013). In this study participants who scored ≥20 were categorized as having psychological distress.

Internalized HIV stigma

Internalized HIV stigma was measured using the internalized AIDS-related stigma scale, which is a six-item scale. The scale was developed in South Africa (Kalichman et al., 2009) and has been used in Uganda among adults and adolescents living with HIV with Cronbach's alpha of 0.73 and 0.75 respectively (Ashaba et al., 2018; Tsai et al., 2013). Items in the scale focus on self-blame and the struggle to keep HIV status a secret. Item are scored using a dichotomous response (agree or disagree) and internalized stigma is determined by summing up all the scores. Higher scores indicate high levels of internalized HIV stigma.

Social support

Social support was measured using the multidimensional scale of perceived social support (MSPSS) (Zimet et al., 1988). The MSPSS measures perceptions of social support from family, friends, and significant others. The scale is comprised of a total of 12 items and items are scored on a 4-point scale format ranging from strongly agree (1) to strongly disagree (4). The MSPSS has demonstrated good internal consistency (Canty-Mitchell & Zimet, 2000) and has been used in Uganda with a Cronbach's alpha, of 0.83 (Nakigudde et al., 2009).

Self-esteem

Self-esteem was measured using the Rosenberg self-esteem scale (Rosenberg, 1965) which is a 10-item one-dimensional scale that measures global self-worth by measuring both positive and negative feelings about self. All items are scored on a 4-point Likert scale

format ranging from strongly agree (1) to strongly disagree (4). Higher scores (15 and above) indicate higher self-esteem. This scale has been used among adolescents living with HIV in Uganda with a Cronbach's alpha of 0.60 (Kemigisha et al., 2018).

Gender based violence

Gender based violence was measured using the composite abuse scale (Revised) short form (CASR-SF) (Ford-Gilboe et al., 2016). The composite abuse scale is a 15-item scale measuring 3 domains of abuse: physical, sexual, and emotional abuse, with questions focusing on lifetime, recent and current exposure to any form of abuse and the frequency of abuse. Items are scored using dichotomous categories (yes or no) where yes indicates presence of abuse. In a previous study the study had a Cronbach's alpha of 0.94 (Ford-Gilboe et al., 2016).

Ethical Considerations

The study was approved by research ethics committee of Mbarara University of Science and Technology (#19/09–18). Participants signed a consent form that contained detailed information about the benefits and potential risks of participating in the study. The consent document was read to the participants in the language of their choice (Runyankore or English) by a trained research assistant and the participants were given an opportunity to ask questions for clarification where they did not understand. Participants consisted of emancipated minors (i.e., youth below 18 years of age who were either married, had children, or were pregnant at the time of the interview), and empowered minors (i.e., those who were responsible for their own HIV care, as reported by their HIV care providers) (Uganda National Council for Science and Technology, 2007), and hence all provided written informed consent to participate in the study without involvement of a parents/guardians. Participants with severe psychological distress symptoms (cut off score >30 on Kessler scale) and those who reported suicidal ideation were referred to psychiatry ward for professional assessment and management.

Data analysis

Continuous variables such as age were presented as mean ± SD while categorical variables such as marital status and HIV status were described as percentages. Prevalence of psychological distress was reported as a proportion of participants that met the criteria for psychological distress as per the Kessler tool (a score of ≥20). Associations between patient factors, i.e sociodemographics, psychosocial and clinical factors with psychological distress were explored using bivariate and multivariable logistic regression analysis among pregnant and non-pregnant YLHIV. These were checked for the absence of multicollinearity. Significance was set at a p-value of ≤0.05. All analyses were conducted in Stata version 13 (StataCorp LP, College Station, Texas).

Results

A total of 224 participants were enrolled with a mean age of 21.1 (±2.40) years. Among the pregnant youth living with HIV mean age was 21.4 (±1.74), more than half (55.36%) were unemployed and majority 83.0% were in a relationship. Of the pregnant youth living

with mean age was 20.4 (±2.74) and majority 64.29% were single (Table 1). Overall, [90 (40.2%)] participants were psychologically distressed and psychological distress was significantly higher among the pregnant YLHIV (p-value=0.014)(Table 2).

At bivariate analysis factors associated with psychological distress among pregnant YLHIV included HIV stigma (AOR =5.25; 95% CI 2.34–11.77: P= <0.001), sexual abuse (AOR=3.2;95% CI 1.30–7.88; P= 0.01) separation from partner (AOR=0.06;95% CI 0.01–0. 75; P=0.028), being married (AOR=0.84; 95% CI 0.01–0.64: P=0.018) and physical abuse [AOR=2.29 (95% CI1.03–5.08: P= 0.04). Among the non-pregnant YLHIV factors significantly associated with psychological distress include older age (20–24 years) (AOR= 2.69, 95% CI 1.08–6.66), p= 0.03], lack of social support (AOR=4.35; 95% CI 1.18–15.97; P=0.027), physical abuse (AOR=11.7; 95% CI 4.05–33.65; P<0.001) and emotional abuse (AOR=7.52; 95% CI2.91–19.43; P<0.001) (Table 3).

At multivariable analysis, factors that remained significantly associated with psychological distress among non-pregnant YLHIV are lack of social support (AOR=6.22;95% CI 1.20–32.20, P=0.029), and physical abuse (AOR=4.97; 95% CI 1.41–17.56; P=0.0130). Among the pregnant YLHIV factors that remained significantly associated with psychological distress at multivariable logistic regression are HIV stigma (AOR=4.61; 95% CI1.63–13.84; P=0.004), and separation from partner (AOR=0.03,95% CI 0.001–0.580; P=0.020) (Table 4).

Discussion

Overall psychological distress was significantly higher among pregnant YLHIV compared to the non-pregnant YLHIV. These findings are in agreement with findings of previous studies among women living with HIV where psychological distress was reported to be common among pregnant women (Angrand et al., 2018; Bernatsky et al., 2007). Similarly, previous research has indicated that HIV among adolescents and young adults is associated with a higher risk of mental health problems (Dessauvagie et al., 2020; Osok et al., 2018). Moreover, pregnancy is an additional source of stress for young women living with HIV, complicating HIV-related stress resulting from HIV stigma and the fear of vertical transmission of HIV to the unborn child (Ashaba et al., 2017; Kaida et al., 2014).

Our findings also showed a statistically significant association between internalized HIV stigma and psychological distress among pregnant YLHIV. Studies in sub-Saharan Africa have documented internalized stigma as major risk factor for psychological distress people living with HIV (Helms et al., 2017; Mutumba et al., 2015; Turan et al., 2016). Higher levels of depressive symptoms linked to internalized HIV stigma have been reported among young pregnant women living with HIV compared to the older women (Kumar et al., 2018). This has been attributed to the stress of transitioning to adulthood and lack of appropriate coping mechanisms, as well as emotional instability and low self-esteem among young women living with HIV (Wong et al., 2017). Furthermore, personal shame associated with being pregnant while living with HIV, as well as discrimination by health care providers, may influence how pregnant women living with HIV perceive themselves in light of their diagnosis, resulting in psychological distress (Bennett et al., 2016). Moreover, pregnancy

and HIV make these young women more vulnerable compared to older or non-pregnant young women (Callahan et al., 2017).

Other findings in our study showed a correlation between low social support and psychological distress among non-pregnant youth living with HIV which in agreement with previous studies both in low and high income settings (Abebe et al., 2019; Ashaba et al., 2018; Mellins & Malee, 2013). These findings underscore the role of social support in mental health and treatment outcomes among young women living with HIV in low income settings (Hill et al., 2015). Findings from a previous study have shown that social support is protective against depression among young people living with HIV (Liu et al., 2013). Although the association between social support and psychological distress among pregnant YLHIV in our study was non-significant, lack of social support during pregnancy has been linked to poor mental health outcomes among young women (Milan et al., 2004). Generally, lack of social support increases vulnerability and impaired utilization of antenatal care and HIV care services (Osok et al., 2018). On the other hand, availability of social support has been associated with protection of vertical transmission of HIV among pregnant adolescents living with HIV and improved maternal outcomes (Huynh et al., 2013).

More findings from our study showed a significant association between physical abuse and psychological distress among non-pregnant youth living with HIV at bivariate analysis. This is similar to what has been reported in other studies among youth living with HIV both in low and high income countries (Angrand et al., 2018; Ashaba et al., 2017; Barcelona de Mendoza et al., 2018; Bernstein et al., 2016; Mahenge et al., 2013; Wong et al., 2017). The link between physical abuse and psychological distress has been reported among women in relationships where their spouses are controlling, particularly in settings where gender inequality favors men (Sipsma et al., 2013). Moreover, most pregnant women living with HIV commonly get to know of their status during their antenatal visits which increases partner violence as most women are blamed by their partners for having brought HIV in the family (Colombini et al., 2016). Intimate partner violence and psychological distress among pregnant women living with HIV has also been linked to disagreements with male partners on pregnancy (Bernstein et al., 2016). It has also been reported that many women living with HIV who experience physical violence usually have untended pregnancies which is a common occurrence in various sub-Saharan African countries (Shamu et al., 2011). Psychological distress has also been documented as a risk factor for intimate partner violence among pregnant women living with HIV (Ezeanochie et al., 2011).

Our findings should be interpreted bearing in mind some limitations. First, the design was cross-sectional in nature thus making it difficult to determine causality between psychological distress and the associated factors. Second, because the study used a convenience sample of participants attending specific HIV clinics, the results may not be generalized to all young women living with HIV in Uganda. Lastly, because we did not record the gestation age for YLHIV who were pregnant, we are not able to document how pregnancy at different trimesters could have influenced the prevalence of psychological distress among pregnant YLHIV.

Conclusions

The study findings show that psychological distress is common among pregnant YLHIV and that internalized HIV stigma, physical abuse and lack of social support are significantly associated with psychological distress among YLHIV. To enhance health outcomes, interventions aimed at addressing factors that increase the risk of psychological distress among YLHIV should be implemented in the main stream HIV clinics. Integration of HIV, mental health, and reproductive health care services should be done to improve the quality of life of young women living with HIV.

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Availability of data and materials

All data generated and analyzed during this study are included in this manuscript.

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Table 1:

Sociodemographic characteristics of study participants (N=224)

Characteristics	Total (N %	Non-pregnant (n %)	Pregnant n %	P-value
Mean age (years)	21.1 (±2.40)	20.4 (±2.74)	21.4 (±1.74)	<0.001
Age category				
15–19	58 (26%)	41 (37%)	17 (15%)	<0.001
20–25	166 (74%)	71 (63%)	95 (85%)	
Marital status				
Single	83 (37%)	72 (64%)	11 (10%)	<0.001
Married	128 (57%)	35 (31%)	93 (83%)	
Separated/divorced/widowed	13 (6%)	5 (5%)	8 (7%)	
Employment status				
Not employed	123 (55%)	61 (54%)	62 (55%)	0.89
Employed	101 (45%)	51 (46%)	50 (45%)	
Residence				
Urban	137 (61%)	71 (63%)	66 (59%)	0.49
Rural	87 (39%)	41 (37%)	46 (41%)	
Education level				
None	17 (8%)	9 (8%)	8 (7%)	0.69
Primary	112 (50%)	56 (50%)	56 (50%	
Secondary	74 (33%)	39 (35%)	35 (31%)	
Tertiary	21 (9%)	8 (7%)	13 (12%)	
Food secure				
Yes	175 (78%)	90 (80%)	85 (76%)	0.42
No	49 (22%)	22 (20%)	27 (24%)	

Table 2:

Clinical and psychosocial characteristics of the participants (N=224)

Characteristic	Total n (%)	Non-pregnant n (%)	Pregnant n (%)	P-value
Psychological distress				
Yes	90 (40%)	36 (32%)	54 (48%)	0.014
No	134 (60%)	76 (68%)	58 (52%	
HIV status disclosure				
Yes	153 (68 %)	75 (67%)	8 (70%)	0.67
No	71 (32%)	37 (33%)	34 (30%)	
Duration on ART				
<5 years	175 (78%)	75 (67%)	100 (89%)	<0.001
>5 years	49 (22%)	37 (33%)	12 (11%)	
ART regimen				
1st line	219 (98 %)	111 (99%)	108 (97%)	0.31
Second line	4 (2%)	1 (1%)	3 (3%)	
Mode of HIV acquisition				
Perinatally infected	37 (16.52)	31 (28%)	6 (5%)	<0.001
Behaviorally infected	187 (83%)	81 (72%)	106 (95%)	
Viral load				
Suppressed	148 (66.07)	78 (70%)	70 (62%)	0.26
Not suppressed	76 (34%)	34 (30%)	42 (38%)	
HIV stigma				
High (score≥4)	101 (45%)	49 (44%)	52 (46%)	0.69
Low (score≤4)	123 (55%)	63 (56%)	60 (54%)	
Self-esteem				
High	144 (64%)	78 (70%)	66 (59%)	0.08
Low	80 (36%)	34 (30%)	46 (41%)	
Social support				
Low	20 (9%)	11 (10%)	9 (8%)	0.90
Moderate	109 (49%)	54 (48%)	55 (50%)	
High	94 (42%)	47 (42%)	47 (42%)	
Intimate partner violence (IPV)				
Yes	138 (58%)	58 (30%)	80 (72%)	0.94
No	86 (42.2)	54 (37%)	32 (63%)	

Table 3:

Bivariate analysis of factors associated with psychological distress among HIV positive youth (N=224)

	Odds ratios (95% confidence interval), P-values			P-value
Variable	**Non-pregnant YLHIV**	**P-value**	**Pregnant YLHIV**	
Age				
15–19 years	Ref		Ref	
20–24 years	2.69 (1.08–6.66)	0.03	0.33 (0.11–1.01)	0.05
Marital status				
Single	Ref		Ref	
Married	1.54 (0.65–3.62),	0.32	084 (0.01–0.64)	0.018
Separated/Divorced	3.90 (0.61–25.10)	0.15	0.06 (0.01–0.75)	0.03
Residence				
Urban	Ref		Ref	
Rural	0.46 (0.19–1.11)	0.08	1.13 (0.53–2.40)	0.75
Employment				
Employed	Ref		Ref	
Not employed	1.54 (0.69–3.41)	0.29	0.85 (0.40– 1.80)	0.67
Level of education				
No formal education	1.5 (0.27–8.49)	0.64	0.39 (0.34–4.43)	0.74
Primary	1.1 (0.20–6.05)	0.91	1.16 (0.35–3.91)	0.84
Secondary	6.0 (0.72–49.84)	0.09	1.24 (0.06–2.70)	0.33
Tertiary	Ref		Ref	
Food insecurity				
No	Ref		Ref	
Yes	2.05 (0.79–5.33)	0.14	1.8 (0.75–4.33)	0.19
Duration on ART				
< 5 years	Ref		Ref	
>5 years	0.46 (0.19–1.15)	0.10	0.32 (0.08–1.25)	0.10
HIV status disclosure				
Yes	Ref		Ref	
No	0.85 (0.36–1.99)	0.70	0.47 (0.20–1.08)	0.07
Mode of HIV acquisition				
Vertical	Ref		Ref	
Behavioral	2.45 (0.90–6.65)	0.08	0.93 (0.18–4.80)	0.92
HIV stigma				
No	Ref		Ref	
Yes (score ≥ 4)	2.03 (0.91–4.53)	0.08	5.25 (2.34–11.77)	<0.001
Self-esteem				
Low	Ref		Ref	
High	1.82 (0.73–4.56)	0.20	2.12 (0.98–4.59)	0.06

	Odds ratios (95% confidence interval), P-values			P-value
Variable	**Non-pregnant YLHIV**	**P-value**	**Pregnant YLHIV**	
Social support				
High	Ref		Ref	
Low	4.35 (1.18–15.97)	0.03	4.26 (0.84–21.51)	0.07
Sexual abuse				
No	Ref		Ref	
Yes	1.86 (0.73–4.78)	0.19	3.2 (1.30–7.88)	0.01
Physical abuse				
No	Ref		Ref	
Yes	11.7 (4.05–33.65)	<0.001	2.29 (1.03–5.08)	0.04
Emotional abuse				
No	Ref		Ref	
Yes	7.52 (2.91–19.43)	<0.001	2.02 (0.90–4.40)	0.08

Table 4:

Multivariable analysis of factors associated with psychological distress among study participants (N=224)

	AOR (95% Confidence intervals), P-values			
Variable	**Non-pregnant YLHIV**	**P-value**	**Pregnant YLHIV**	**P-value**
Age (20–24 years	2.59 (0.78–8.60)	0.12	0.62 (0.16–2.38)	0.48
Marital status (married	-		0.11 (0.01–1.07)	0.06
Marital status (separated)	0.70 (0.22–2.22)	0.54	0.03 (0.001–0.58)	0.02
HIV stigma (score≥4)	2.88 (1.00–8.25)	0.05	4.61 (1.63–13.84)	0.004
Lack of social support	6.22 (1.20–32.20)	0.03	3.93 (0.49–31.84)	0.19
HIV acquisition (Behavioral)	0.78 (0.20–3.08)	0.73	-	
HIV status disclosure	-		1.31 (0.42–4.08)	0.64
Physical abuse	4.97 (1.41–17.56)	0.013	1.61 (0.53–4.84)	0.39
Emotional abuse	3.29 (1.00–10.80)	0.05	-	
Sexual abuse	-		2.99 (0.94–9.44)	0.06