

# Dual burden: the experience of depression among women living with HIV in Ethiopia- a qualitative study

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## Research article

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# Abstract

## Background

Depression and HIV are common comorbid and their symptoms are inter-related. Depression remains disproportionately more prevalent among women who live in low-income countries and HIV circumstances, it is vastly ignored or not identified. Thus, little is known about the experience of depression by women living with HIV. The purpose of this study is to explore the experience of depression among women living with HIV.

## Method:

A qualitative study was carried out and this research is a part of the larger mixed-method study. A face-to-face interview was conducted among women who attend Antiretroviral Therapy (ART) and who were eligible after depression screening. An interview guide was used for the data collection and the data was analyzed with the application of N-Vivo (version 11.0). Hence, a total of twenty-one women were recruited in this study.

## Results

Women described their experience as stressful life events, lack of participation of social activities, concern over community acceptance, negative self-perception, feelings of hopelessness, including dealing with emotional suffering. However, this finding has revealed, in the course of the multifaceted nature of HIV and depression comorbidity, women's experience was not constant instead it remained dynamic determined by the different psychosocial and clinical dimensions of the illnesses.

## Conclusion

This study has elaborated that HIV positive women's experience with depression was merely related to their psychosocial aspects, internalized personal attributes, disease traits regarding their life with comorbid diseases; HIV, and depression. Hence, future interventions should focus on the integration of mental health services in the HIV clinical setup.

## Background

Depression is a common mental disorder characterized by feelings of persistent sadness, loss of interest, and low self-worth. It is symptomatically expressed as a lack of or disturbed sleeping, loss of appetite, feeling of tiredness, and poor concentration (1).

Substantially, depression is a global public health burden affecting more than 300 million people around the world as indicated in WHO global health estimates. It is the third leading cause of disease and disability and it is estimated to represent 15% of the total global disease burden by the year 2020 (1). This mental health disorder is the single largest cause of non-fatal health problems with more than 80% from low and middle-income nations (2). Thus, Depression is the outcome of inter-related and complex associations of biological, psycho-social, and clinical factors. Individuals who experienced social stress or emotional disturbance regarding their life events may develop depression which in turn leads to distress and malfunctioning of the human body. In this stage the acquiring of comorbid infections is likely.

The risk factors and correlates of depression were associated with socio-demographic and psychosocial aspects of the individual's life events. These factors are usually classified into five categories biological risk factors, neuro-hormonal risk factors, psychosocial risk factors, lifestyle risk factors, and factors that contribute to obstetric complications (3). Depression and anxiety are the most common psychiatric illnesses which are associated with HIV infection. Various studies have explored that the prevalence of these two diseases is on the rise across many countries around the world. According to global burdens of mental disorder, by the year of 2030, depression is considered to be one of the leading cause of disease burden in low and middle-income countries (4) and among these people affected by the illnesses, 76% and 85% of them do not receive treatments.

In Ethiopia, a cross-sectional study conducted in Addis-Ababa has presented that the joint prevalence of anxiety and depression among people living with HIV was 24.5% while in their separate scoring, the prevalence of anxiety and depression was 32.4% and 41.2% respectively (5). Being in clinical stage-two, living without a partner, non-adherence to the ART treatment, complaining side effects of the drug regimens, were significantly associated with depression (6). Low awareness, lack of mental health policy, and lower health service utilization were accounted as the main barriers for mental health service in the country (7).

This issue has drawn tremendous public health attention for the last five years and there has been a wide-ranging interest to generate evidence on the comorbidity of depression and HIV (8–11). However, very limited studies do exist and an increasing concern in resource-limited developing countries of the world where people living with HIV do not get an early mental health screening(12), awareness and linking to mental health service to the same level in developed countries, and the impact on daily life is still growing (13). Even though the subject of depression and HIV has been widely studied in the field of public health in Ethiopia, there have been no qualitative studies carried on depression among women living with HIV regarding their understanding and experience on depression. Despite, the number of women affected by both illnesses is higher than the general population(14–17), yet much of the work in this area is limited and almost all studies have focused on general population reasonably not overseeing the most vulnerable groups like women living in low-income countries.

Therefore, this study will exhaustively explore the experience of depression among Women Living with HIV and the findings will be a baseline for the introduction of mental health screening in HIV care services.

## Methods

This qualitative used face-to-face semi-structured interviews to examine the experience of depression among WLHIV who had a follow-up in the ART service. The study participants were selected by purposive sampling and a total of twenty-one women were from two public hospitals that provide ART services were included. As the larger study employed a mixed-method design the recruitment process started with the first phase which was the screening of depressive symptoms followed by this second phase of the semi-structured interview. These women were recruited based on their eligibility from the Hospital Anxiety and Depression Scale (HADS) screening, being above 18 years old, and being on ART medication.

The investigator used an interview-guide which largely contained open-ended questions allowing participants to broadly discuss and present their experience of living with comorbid illnesses. This interview guide was developed from the existing relevant literature and the consultation of a psychiatrist with clinical experience (17) based on the research objectives. The interview session was carried in a private room next to the ART and lasted an average of 45 minutes. All the interview was solely transcribed verbatim by the principal investigator in a quiet and pre-arranged room. All the transcripts were analyzed in their original language and a three-master of public health graduates were assigned to verify the translation to improve the constancy for the reporting purpose. However, the participant's common language and terms were considered as they carry their interpretation of emotional thoughts when accompanied by facial expressions and gestures. The interview questions were recorded into thematic distinctions to support the investigator's capture of the important points or opinions for the analysis in the NVivo software.

## Results

Among the twenty-one interviewed women, there were twelve nulliparous, and the majority of the respondents were married. All women were currently receiving Anti-retroviral treatment (ART) and their CD4 level was measured for the last six months. The following (Table 1) summarizes the women's demographic characteristics, their current CD4 test results, and clinical staging.

Table 1  
Socio-demographic and clinical details of women participants

<b>Pseudonyms</b>	<b>Marital status</b>	<b>No of children</b>	<b>Occupation</b>	<b>Education</b>	<b>Cd4 level</b>	<b>WHO staging</b>
Deborah	Married	0	Un-employed	No formal education	1050	II
Mahbuba	Widowed	0	Un-employed	Secondary school	781	I
Bruktawit	Single	0	Student	Tertiary level	439	I
Yenenesh	Widowed	3	Un-employed	Primary	250	I
Zubeida	Married	2	Un-employed	Primary	406	T1
Mare	Married	0	Self-employed		295	II
Tsedenia	Married	2	Self-employed	No formal education	131	I
Marieme	Married	2	Un-employed	No formal education	834	I
Serkalem	Divorced	0	Self-employed	No formal education	295	I
Hiwot	Married	0	Self-employed	Primary	403	III
Amaresh	Single	0	Government employee	Tertiary level	181	I
Saba	Divorced	3	Maid	Primary	287	II
Filagot	Married	1	Un-employed	No formal education	323	I
Yordanos	Married	0	Government employee	Secondary	320	III
Betty	Divorced	3	Self-employed	Primary	388	III
Assi	Married	0	Un-employed	No formal education	411	II
Melos	Divorced	0	Self-employed	No formal education	306	III
Fikir	Single	0	Student	College	315	III
Sebla	Divorced	1	Self-employed	Primary	410	II
Meba	Widowed	1	Self-employed	Primary	289	IV

Pseudonyms	Marital status	No of children	Occupation	Education	Cd4 level	WHO staging
Roni	Married	0	Un-employed	No formal education	340	III

The themes that emerged from the common events experienced by the studied women included; (1) stressful life events, (2) participation of social activities, (3) concern over community acceptance, (4) feeling of hopelessness, and (5) dealing with emotional suffering.

### Theme 1: Stressful life events

Stressful life events refer to the emotional, economical, and physical expressions which were recognized by women who felt that their life was not going on well. Their shared expression of traumatic life events is then established as a theme from the frequent quoting of the local term *“Mejenneq”*. This term is broadly stated in detail from women’s expression of challenging circumstances linked with their low income and work strain.

#### Financial burden

Several women described their condition of living with less-income owing to either termination of work or unemployment as shown in (Table 1). This financial insecurity was one of their main worries reflecting on the challenges to run family matters with fewer earnings. One of them has described her financial problems stating;

*“I had no enough money to spend on my family needs at that time and I could not find someone who may ease my situation. I am the only person providing all expenses in my family”.* (Zenith, L12-13)

There was a feeling amongst a large number of women that being widowed or divorced and running the family task alone was a burden to bear lonely. Moreover, some of the interviewed women in this study described traumatic parenthood experience of handling all issues of family life.

#### Family work overload

Notwithstanding with expectations of social-based roles in the local community particularly women’s position in family matters, one-third of the women described a lack of help from partners as a responsible contribution and worried about that they feel overburdened on domestic activities and working for earnings. This level of strain that the participant has repeatedly expressed might suggest as contributing factor for their susceptibility to developing psychological distress or even depression. Describing concerns on their casual of increased family load, some of the women repeatedly quoted *“Yesira Ch’ana”* representing the bulkiness and difficulties of the task combined with adjusting her life with illness, and the role of handling domestic activities.

One of the participant's description gave the impression that she was in despair of emotional distress and mentioned;

*"I am obliged to be considerate for taking care of my sick husband, take care of myself by following-up on my treatment, and look after all tasks at home. At the same time responsibly be the breadwinner of the family". (Filagote, L21-L24)*

## **Theme 2: Decreased participation in social activities**

The concept of the women's reduced participation of activities including social engagements and their stand of interacting with others was explained by some of the interviewed women. This also included their experience of being isolated and feeling lonely adjacent to their psychological disturbance for not being active in their day-to-day activities.

### **Decreased social engagement**

Numerous women who were interviewed have explained their worries about not involving any social engagement. This was related to, their perceptions of not fitting in, and feeling ignored. Possibly, the interesting narrative that signifies the thoughts of some women on being socially detached, was self-imposed isolation. It was also related to their perceptions of being unique from other people due to the illness or not getting other people's attention. Yet, they mentioned that they never shared their feelings with anyone.

She recalled

*"I hardly had any contact with my friends, neighbors, or any other person. Can you imagine I have not met any person for a long period? No more fun! I don't need to bring my hard feelings to other's life" (Saba, L31-L35)*

### **Feeling loneliness**

The emotional suffering displayed by several women who explained their turning away from all sorts of communication or interaction by showing their preference to remain alone. A participant described how her previous experience of negligence from people additionally backed to her feelings of loneliness. The strangeness in this narrative may partially indicate their decreased interest to have a relationship with others. She mentioned;

*"From the day I was diagnosed, I no longer attend my classes and I remain in the student residence alone. I feel as though all students know my status and believe that they are always talking about me". (Bruktawit, L9-L11)*

Thus, this feeling of absolute disconnectedness from the external world which shows these women's inability to interact with the surrounding people in a meaningful way.

This form of feeling loneliness was also determined by these women's moods of being unable to establish any social network which occasionally may be due to simply upholding confidentiality or maintaining the secrecy of her illness. Yet again, this practice may avoid them to seek support from others as some of the women appeared to use this loneliness as a coping mechanism to manage their distress and suffering.

### **Theme 3: Community acceptance**

Most of the women described their unfavorable belief or perception regarded towards the community which included their expected fear of social acceptance and possibly worried about not receiving the deserved public attention due to their illness or impairment. Concerns of embarrassment, disgrace, and rejection surrounding the living experience of the interviewed women were merely the core feelings they shared.

#### **Belongingness and support**

As mentioned in the previous section, despite some of the women felt that the people have not appreciated any part of their actions, yet the impression from social stressors have exemplified that women's focus on the significance of social support and being fitted in with people who are close to them. One of the women described their feelings when positive attention was provided by surrounded people.

*"For sure, any person who receives help from others will be grateful and pleased. I feel like any other human being blessed when someone supports me. Especially those who help me in emotionally in my days when I am not in a good mood" (Mare, L16-L18)*

However, a number of these women held in reserve indicating that some of the people's support may overtake their privacy and confidentiality if their status is known to others as explained in the following category.

#### **Disclosing their illness**

Disclosure-related concerns with the decision of whether, when, and how to tell their HIV status to others remained as a source of fear and anxiety for some of the studied women. Among the studied women who argued deferent reasons for why they kept their health status secret. One of the interviewed women revealed;

*'Until now, I have not the courage to inform my illness to my family and friends, I need to remain unrevealed. Relatives and friends are the first people who give emotional comfort and support when it is necessary but there is a limit for every offer. Living with a long-lasting disease is not easy to be accepted by my close people and feel anxious'. (Zenith, L35-L37)*

The potential risks that some women fear revealing their HIV status would place them for experiencing denial and rejection that affect their emotional stability.

#### **Theme 4: Hopelessness**

Satisfaction with their engagements of activities in a lifetime and their health outcome was noted and enlisted as a theme as they frequently mentioned it. The intensity of one's being despair about life events was related to her perception about the chronicity of the illness which in turn associated with the disgraceful behaviors they develop through their course of depression experience.

##### **Low self-regard**

Many women have identified their feelings of less safe and losing their hope of survivorship due to the fear of intensification of the infection and presumably the reluctance to prevent some of their immediate behavioral risk factors. This internalized perception of shame affiliated with personal attributes regarding expectations from the general public was described by some women in different contexts. One of them stated;

*"It was a challenging time for me, I was desperate, thoughts were going in my mind. I had a fear that all people had turned their back to me and something bad is to happen shortly. I felt as though I don't exist". (Yordanos, L58-L60)*

##### **Self-blaming**

Among the interviewed women's description of their behavior and individual bearings of attributing all problems to themselves has forwarded this category. A number of them have explained that their thoughts of negative self-image and fear of rejection from other people were disturbing their daily life. The intrinsic susceptibility revealed by these women on their thoughts of perceived negative social perception, followed by emotions of feeling guiltiness or shame was repeatedly mentioned by some of the interviewed study participants. One of the interviewed women stated:

*"It is all my fault that I let some of them know that I am receiving treatment". (Melos, L32-L34)*

##### **Worried about disease severity**

They described as they experienced the mental disturbance when they hearing the results of their serological investigations depicting the drop of their immunity. This condition where women felt vulnerable to the threat of the disease severity and their belief of seriousness of the subsequent other illnesses that occurs as opportunistic infection (OI), is well-thought-out to the leading reason for the rise of the stressful condition among the women. Reciprocally, some women have revealed how they were emotionally distressed about hearing their decline of CD4 count. One of the participants has reported:

*"I got frustrated overhearing my decrease in my immunity. I am terrified of getting another infection like the previous year. I changed everything, my eating habit, my sleeping pattern, quitting smoke. I don't*

*know. Perhaps I should consult the doctors". (Meba, L23-L25)*

### **Long-lasting disease**

In reality, the chronicity nature of the disease might have resulted in the emotional suffering for some of the interviewed women as they have explained how they were stressed about the disease casualty and perceived as life-threatening. The intense level of their psychological disturbance might be influenced by the individual's perception of feeling the disease casualty as serious and fatal.

*"I see! when you live with any lasting disease, it is for sure you get worried and fear as I do" (Serkalem, L4-L6)*

The possibility of developing stress because of the disease's unknown prognosis and its complex nature was acknowledged by several study participants. Women that personally assumed the cause of their emotional disturbance were due to the disease's unique manifestations and the unpredictable consequences, and most importantly the chronicity of the illness.

*"This treatment is helpful but sometimes I feel endless fear. This is a dangerous illness. It may happen to be fatal suddenly, I stay careful because I am scared and I don't feel safe. (Fikir, L15)*

Hence, these accounted for the frequent and persistent fear of dealing the long term seeking medical interventions, and uncertainty of their fate of life and unpredictability of the illnesses progress.

### **Theme 5: Dealing with emotional suffering**

The interviewed women's expressions were recorded based on the mechanisms of handling stress and dealing with life during their course of living with the disease. It conceptually combines the diverse individual feelings and choices of positive reframing like adopting behavioral change, emotional adjustment, self-acceptance.

### **Maintaining of self-management**

Among the interviewed women's explanation on their effort of maintaining self-management practice included regular medical check-up, communicating with the hospital's consoler, and most remarkably some of these women's intentions to seek treatment from traditional healers. They explained how they got relieved from their emotional disturbance after seeking treatment from traditional Therapy.

Women mentioned:

*"Finally, I visited a local traditional healer and afterward I feel better" (Mahbuba, L19-L21)*

### **Reflections of a positive attitude**

Several women have described that realizing and accepting to live with the disease forever, provided them the strength and assurance of positive attitude and healthier thinking. Some of these women tried to

justify their understandings of positive attitude, building hope, and adjusting with their emotions may help them cope with the stress. One of the interviewed women mentioned the importance of adjusting her emotions through the practice of positive thoughts and hope.

She stated:

*“This illness is the same with other diseases, as far as I accept and take the drugs, I can live longer. I am different from other people. This is how I believe, and when I convince myself, I get relieved”. (Meba, L75-L76)*

Therefore, thoughtfulness of positive attitude mattered for the women’s coping style and their endurance toward the disease by interoperating negative sides of their life experience including social challenges to a remarkable optimistic situation.

## Discussion

This study was driven by the limited existing information currently available on depression among women living with HIV in this study settings. It is aimed to expand the results of the previous studies which is defined by the risk of comorbidity on HIV and depression. Several previous studies in Sub-Saharan Africa highlighted the need for further studies that examine these comorbidities from the perspective of gender (18–20).

Despite the vast majority of women have discussed their life with depression started from the date they were diagnosed, the duration of their illness, manifestations of the symptoms, the severity of their sufferings, and overall the diseases’ impact on their daily lives was different. Regarding women’s fear of recurrent illnesses, an all-encompassing theme has emerged as a “dual burden”. This term is quoted by one of the interviewed women revealing her experience of depression and living with HIV. Thus, a number of these women described their life with another illness was more complicated and expressed their difficulty to deal with a collective disease at the same time. This indicated that acquiring another illness was considered by these women to be risky, in a situation where dealing more symptoms from chronic illnesses consistently over some time. Consistent with these findings, similar studies have narrated that acquiring comorbid illnesses have increased the rate of depression among People Living with HIV (6, 21–24).

Moreover, among the interviewed women, most of them have described that their persistent worries and fear were related to their general well-being, financial stability, and their social fitting. This is consistent with other findings similarly reported that women’s distress was related to the extensive costs they are troubled when running the family task alone. This includes their concern over the difficulties to raise and financially support their children (25). Similarly, a qualitative study on the prevalence of depression among women living with HIV in Malawi has reported that women’s financial burden and relationship problems with their close families were a source of their depression (26). As mentioned earlier, this limited

financial resources of women could be reflected that economic dependency and subordination due to the possibility of restricted autonomy and less control in expenditures.

In line with these findings, some of the women complained about their difficulties in handling family work which was denoted by one of the participant's quotes from the local language "*Yesira Ch'ana*" representing their concern about the unusual burden of the tasks in their family. A similar study has found that women who were housewives with children and manage household affairs alone have manifested relatively a higher burden on parenting stress and suffered from emotional distress (27). This could be ascribed due to women's tendency to be financially dependent and poor or reduced probability to get access to education, paid work engagement, and decision making in politics. Thus, it has been recognized that due to the lack of these protective factors women are disproportionately are at higher risk for depression when compared with the general population. Similar studies have reported that women's depression is influenced by the increased exhaustion due to work overload that is neither acknowledged nor shared for various reasons. In reality, these circumstances of distinct gender-based division of labor have been observed in most low-income countries.

Consequently, women's reduced participation in social activities and preference to remain lonely was reported in this study. These women have presented various reasons including self-imposed social isolation and experience of stigma. This emotional and social self-imposed isolation and feeling loneliness were perceived by some women to have contributed to the growth of their emotional disturbances. Similar studies have reported that remaining loneliness was significantly associated with depression (11, 28, 29). The reason for these women's choice not to be involved in any social activities was related to their experience of disease burden, feelings of not fitting in the social, and fear of being ignored. Also, several women have identified feeling less safe and more likely losing their hope of survivorship due to the beliefs of the disease severity and presumably the reluctance to prevent some of the immediate risk factors related to their way of life. This is similarly reported by a study on the experience of women on living with HIV, where hopelessness was one of the common constructs of traumatic circumstances that women have described in their feelings about the disease outcome (30).

Moreover, referring women's concern on revealing their disease status to others was of the prominent themes identified in this study. These women's choice regarding whether, when, and how they would tell their HIV status to others remained as a source of fear and distress. In these situations, their belief of possible risk of about revealing their HIV status would place them a state of denial and rejection which might in turn affect their emotional stability. This finding is consistent with other studies which demonstrated that perceived and internalized stigma was significantly related to poor disclosure pattern among women living with HIV (31–33).

This decision of intentionally deciding to conceal their status of illness might have functioned as a protective reason for coping mechanisms and emotional stability. The two common reactions to these women for their psychological disturbances were identified as; maintaining self-management and a positive attitude. Few of them have described how they recognized their long term living with the disease

which has given them the strength and assurance of healthier thinking. In line with these findings, some published evidence has raised the issue of an individual's intrinsic drive like positive thinking would determine their coping mechanism (34, 35).

Despite, the different coping strategies of dealing with depression by HIV positive women, the vast majority of these women tended to relate their health with their spiritual, describing their emphasis on their health and survivorship in connection with traditional healings. This is common practice in Ethiopia, particularly for patients with chronic illness, who have expressed their desire to use herbal treatment as spiritual healing. This is constantly reported in some of the studies conducted in sub-Saharan African (36).

Thus, the main findings of this study signify the concept of social identity and individual perceptions which play an important role in influencing the individual's cognitive and behavioral wellbeing.

## Conclusions

This study has elaborated that HIV positive women's experience with depression was merely related to their psychosocial aspects, internalized personal attributes, disease traits regarding their life with comorbid diseases; HIV, and depression. Yet, further investigations like long term longitudinal research are needed to examine how these comorbidities might have an impact on one another.

## Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
CD4	Cluster of Differentiation-4
HIV	Human Immunodeficiency Virus
OI	Opportunistic Infection

## Declarations

### Ethical approval and consent to participate

All the study procedures were according to the ethical standard of the institution's human ethical procedure. The ethical approval of this study was obtained from the International Islamic University of Malaysia Research Ethics Committee (IREC) with Reference: IIUM/305/14/11/2/IREC/2018-042. Dated: 04/01/2019).

A permission letter was also gained from the Jijiga University board of review. The women participants in this study were provided a written document approved by IREC and informed consent then confirmed by

their signatures for the use and dissemination of the study findings.

### **Consent for publication**

Not applicable

### **Data availability**

The qualitative data included in this study are available from the authors upon request.

### **Conflict of interests**

The authors declare that there is no conflict of interest regarding the publication of this paper.

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### **Authors' contributions**

AY and SR: conception and design, data collection, statistical analysis, interpretation of data and drafting the manuscript. RM and ML: critical revision of the manuscript. All authors have contributed and approved this manuscript.

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## **References**

1. WHO. Depression and Other Common Mental Disorders Global Health Estimates. World health organization. 2017. 3–4 p.
2. Bitew T, Hanlon C, Kebede E, Honikman S, Onah MN, Fekadu A. Antenatal depressive symptoms and utilisation of delivery and postnatal care: a prospective study in rural Ethiopia. *BMC Pregnancy Childbirth* [Internet]. 2017;17(206). Available from: <http://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/s12884-017-1383-8>
3. Ghaedrahmati M, Kazemi A, Kheirabadi G. Postpartum depression risk factors: 2017;
4. M. Funk. Global burden of mental disorders and the need for a comprehensive, coordinated response from health and social sectors at the country level. *Lancet*. 2016;
5. Tesfaw G, Ayano G, Awoke T, Assefa D, Birhanu Z, Miheretie G, et al. Prevalence and correlates of depression and anxiety among patients with HIV on-follow up at Alert Hospital, Addis Ababa,

- Ethiopia. *BMC Psychiatry* [Internet]. 2016;16(1):368. Available from: <http://bmcp psychiatry.biomedcentral.com/articles/10.1186/s12888-016-1037-9>
6. Gebrezgiabher BB, Abraha TH, Hailu E, Siyum H, Mebrahtu G, Gidey B, et al. Depression among Adult HIV / AIDS Patients Attending ART Clinics at Aksum Town , Aksum , Ethiopia : A Cross-Sectional Study. *Depress Res Treat*. 2019;
  7. Hailemariam S, Tessema F, Asefa M, Tadesse H, Tenkolu G. The prevalence of depression and associated factors in Ethiopia: findings from the National Health Survey. *Int J Ment Health Syst* [Internet]. 2012;6(1):23. Available from: <http://ijmhs.biomedcentral.com/articles/10.1186/1752-4458-6-23>
  8. Carrico AW, Riley ED, Johnson MO, Charlebois ED, Neilands TB, Remien RH, et al. Psychiatric Risk Factors for HIV Disease Progression : The Role of Inconsistent Patterns of Antiretroviral Therapy Utilization. *J Acquir Immune Defic Syndr Acquir Immune Defic Syndr*. 2011;56(2):146–50.
  9. Wang Y, Zhao J, Zhang Q, Zhang Y, Bai B, Ng CH, et al. Prevalence of depressive syndrome and their association with demographic and clinical characteristics in Chinese HIV patients. *AIDS Care* [Internet]. 2018;0(0):1–5. Available from: <https://doi.org/10.1080/09540121.2018.1465172>
  10. Prasithsirikul W, Chongthawonsatid S, Ohata PJ, Keadpudsa S, Klinbuayaem V, Rerksirikul P, et al. Depression and anxiety were low amongst virally suppressed , long-term treated HIV- infected individuals enrolled in a public sector antiretroviral program in Thailand. *AIDS Care*. 2016;(October).
  11. Owora AH. Major depression disorder trajectories and HIV disease progression: results from a 6-year outpatient clinic cohort. *Medicine (Baltimore)*. 2018;1–7.
  12. Bantjes J KA. Common mental disorders and psychological adjustment among individuals seeking HIV testing : a study protocol to explore implications for mental health care systems. *Int J Ment Health*. 2018;12(16):1–10.
  13. Memiah P, Shumba C, Etienne-mesubi M, Agbor S, Hossain MB, Komba P, et al. The Effect of Depressive Symptoms and CD4 Count on Adherence to Highly Active Antiretroviral Therapy in Sub-Saharan Africa. *J Int Assoc Provid AIDS Care*. 2014;13(4):346–52.
  14. Harriet Affran Bonful and Adote Anum. Sociodemographic correlates of depressive symptoms: a cross-sectional analytic study among healthy urban Ghanaian women. *BMC Public Health*. 2019;19(50).
  15. Katherine LeMasters, Nafeesa Andrabi, Lauren Zalla, Ashley Hagaman, Esther O. Chung, John A. Gallis, Elizabeth L. Turner, Sonia Bhalotra SS and JM. Maternal depression in rural Pakistan: the protective associations with cultural postpartum practices. *BMC Public Health*. 2020;20(68).
  16. Veronica Lopez, Katherine Sanchez MOK and BHE. Depression screening and education: an examination of mental health literacy and stigma in a sample of Hispanic women. *BMC Public Health*. 2018;18(646).
  17. Mary C. Smith Fawzi, Hellen Siril, Elysia Larson, Zenaice Aloyce, Ricardo Araya, Anna Kaale, Janeth Kamala, Muhammed Nadeem Kasmani, Amina Komba, Anna Minja, Angelina Mwimba, Fileuka Ngakongwa, Magreat Somba CRS and SFK. *Healthy Options: study protocol and baseline*

- characteristics for a cluster randomized controlled trial of group psychotherapy for perinatal women living with HIV and depression in Tanzania. *BMC Public Health*. 2020;20(80).
18. Turan B, Stringer KL, Onono M, Bukusi EA, Weiser SD, Cohen CR, et al. Linkage to HIV care , postpartum depression , and HIV-related stigma in newly diagnosed pregnant women living with HIV in Kenya : a longitudinal observational study. *BMC Pregnancy Childbirth*. 2014;14:1–10.
  19. Manuscript A, Depression P. *NIH Public Access*. 2015;65(3):359–65.
  20. Onu C, Onger L, Bukusi E, Cohen CR, Neylan TC, Oyaro P, et al. Interpersonal psychotherapy for depression and posttraumatic stress disorder among HIV-positive women in Kisumu , Kenya : study protocol for a randomized controlled trial. *Trials [Internet]*. 2016;1–8. Available from: <http://dx.doi.org/10.1186/s13063-016-1187-6>
  21. Berhe H, Sciences H. PREVALENCE OF DEPRESSION AND ASSOCIATED FACTORS AMONG PEOPLE LIVING WITH HIV/AIDS IN TIGRAY, NORTH ETHIOPIA: A CROSS SECTIONAL HOSPITAL BASED STUDY. *Int J Pharm Sci Res*. 2013;4(2):765–75.
  22. Mohammed M, Mengistie B, Dessie Y, Godana W. Prevalence of Depression and Associated Factors among HIV Patients Seeking Treatments in ART Clinics at Harar Town , Eastern Ethiopia. *J AIDS Clin Res*. 2015;6(6):1–6.
  23. Tebikew Yeneabat AB, Amare T. Factors associated with depressive symptoms in people living with HIV attending antiretroviral clinic at Fitcha Zonal Hospital , Central Ethiopia : cross-sectional study conducted in 2012. *Dovepress*. 2017;2125–31.
  24. Abebe H, Shumet S, Nassir Z, Agidew M, Abebaw D. Prevalence of Depressive Symptoms and Associated Factors among HIV-Positive Youth Attending ART Follow-Up in Addis Ababa , Ethiopia. *AIDS Res Treat*. 2019;
  25. Opiyo E, Onger L, Rota G, Verdelli H, Neylan T, Meffert S. Collaborative Interpersonal Psychotherapy for HIV-Positive Women in Kenya: A Case Study From the Mental Health, HIV and Domestic Violence (MIND) Study. *J Clin Psychol*. 2016;72(8):779–83.
  26. Ng’oma M, Meltzer-Brody S, Chirwa E SR. “ Passing through difficult times ”: Perceptions of perinatal depression and treatment needs in Malawi - A qualitative study to inform the development of a culturally sensitive intervention. *PLoS One*. 2019;1–20.
  27. Lanier L DRA. Synthesis of the theory of silencing the self and the social ecological model: Understanding gender, race, and depression in African American women living with HIV infection. *AIDS Patient Care STDS*. 2015;29:142–149.
  28. Peltzer JN, Ogawa L, Tusher S, Farnan R, Gerkovich MM. A Qualitative Description of HIV-Infected African American Women’s Experiences of Psychological Distress and Their Coping Strategies. *J Assoc Nurses AIDS Care [Internet]*. 2017;28(2):226–37. Available from: <http://dx.doi.org/10.1016/j.jana.2016.09.010>
  29. Whitehead NE, Hearn LE, Burrell L. The Association Between Depressive Symptoms, Anger, and Perceived Support Resources Among Underserved Older HIV Positive Black/African American Adults. 2014;28(9):507–13.

30. Brody LR, Jack DC, Bruck-segal DL, Ruffing EG, Al BET. Life Lessons from Women with HIV: AIDS Patient Care STDS. 2016;30(6):261–74.
31. Ojikutu BO, Pathak S, Srithanaviboonchai K, Mayer H, Safren SA, Prevention HI V, et al. Community Cultural Norms , Stigma and Disclosure to Sexual Partners among Women Living with HIV in Thailand , Brazil and Zambia ( HPTN 063 ). 2016;(Hptn 063):1–16.
32. Sendo EG, Cherie A, Erku TA. Disclosure experience to partner and its effect on intention to utilize prevention of mother to child transmission service among HIV positive pregnant women attending antenatal care in Addis Ababa , Ethiopia. BMC Public Health [Internet]. 2013;13(1):1. Available from: BMC Public Health
33. Alemayehu M, Aregay A, Kalayu A, Yebyo H. HIV disclosure to sexual partner and associated factors among women attending ART clinic at. 2014;1–7.
34. Coyle L, Atkinson S. Social Science & Medicine Imagined futures in living with multiple conditions : Positivity , relationality and hopelessness. Soc Sci Med. 2018;198(November 2017):53–60.
35. Fawzi MCS, Siril H, Larson E, Aloyce Z, Araya R, Kaale A, et al. Healthy Options: study protocol and baseline characteristics for a cluster randomized controlled trial of group psychotherapy for perinatal women living with HIV and depression in Tanzania. BMC Public Health. 2020;20(80):1–10.
36. Burgess R, Campbell C. Contextualising women’s mental distress and coping strategies in the time of AIDS: A rural South African case study. Transcult Psychiatry [Internet]. 2014;51(6):875–903. Available from: <http://journals.sagepub.com/doi/10.1177/1363461514526925>