Chapter

Psychiatric Problems in HIV Care

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Abstract

Psychiatric problems associated with HIV/AIDS are many, varied and often bidirectional and they are often neglected. Their presence compromises HIV care and prevention efforts. Unaddressed, they compromise treatment outcomes, increase HIV virus–resistant strains, leave pockets of potential HIV spread in the community and lead to poor quality of life and early death of Persons Living With HIV/AIDS. This chapter focuses on specific HIV-associated mental disorders and their management. However, the mental health problems of HIV/AIDS go beyond disorders to include social, family and community problems such as the problems faced by AIDS orphans, widowhood, family disruptions, multiple deaths, bereavements, poverty, stigma, caregiver burden, education and occupational difficulties etc. All these need to be addressed in holistic HIV care. This calls for more research and integration of mental healthcare in all HIV/AIDS treatment and prevention programs.

Keywords: HIV/AIDS, anxiety, depression, mania, psychosis, dementia

1. Introduction

HIV/AIDS is an intimately sexually embedded disease and as such connected to human reproduction and hence human perpetuation [1]. Sexuality, itself, is a bio-psycho-social phenomenon, the regulation of which has fascinated humans from time immemorial. It is a subject of religious, cultural and ultimately government concern especially as it impacts human health and hence healthcare provision. Secondly, HIV/AIDS is a fatal condition and mainly a disease of those in the reproductive age. However, it now spans all ages as it can be transmitted perinatally from mother to fetus and, can be managed with modern drugs up to old age. This makes HIV/AIDS a chronic disease for which one has to adjust and take medications for life hence inherently laden with problems associated with medication compliance and adherence. Being predominantly sexually transmitted and fatal makes HIV/AIDS highly stigmatized. HIV is an infectious disease which is predominantly sexually transmitted [2]. Prevention of HIV infection is a prolog of public health, but in the domain of human behavioral change, calling for measures to regulate human behavior to curb HIV infection risk. Thus, mental health problems impacting HIV infection risk become of utmost concern in HIV care [3]. The HIV virus is neuropathic invading brain tissue soon after infection and giving rise to a host of psychiatric disorders which call for treatment [2]. The secondary infections associated with HIV/AIDS and the drugs to treat them as well as the antiretroviral (ARVs) drugs themselves may also cause psychiatric complications [1]. Lastly, the high numbers of HIV/AIDS deaths

have caused much family disruptions due to the orphans left behind as well as widowhood with significant socio-economic, educational and occupational ramifications [4–6]. For all these reasons and many more as will be seen, the psychiatric, social and behavioral mental health problems associated with HIV/AIDS are many and call for their management in HIV care [5–7]. This chapter will give an overview of the mental health problems which are frequently encountered in HIV care, their effects and how to manage them. It will also discuss the need to integrate mental health care in HIV/AIDS management and how this impacts outcomes of treatment.

1.1 Classification of the mental health problems encountered in HIV care

Significant research has shown that the relationship between mental illness and HIV/AIDS is bidirectional. First, mental illness and other premorbid psycho-behavioral patterns are risk factors to contracting HIV infection [2, 5, 7]. On the other hand HIV/AIDS predisposes to getting psychiatric disorder. Both have to be addressed in HIV care efforts and infection spread prevention. Unaddressed, they leave pockets in the population which hinder effective control of the HIV pandemic.

2. Premorbid behavioral psychopathology in HIV/AIDS

In HIV-related mental health problems and illness, it is important to discuss premorbid psychopathology and psychosocial risk behaviors in HIV/AIDS as these factors complicate the post-infection clinical picture and impact treatment outcomes including treatment adherence and HIV infection risk [5]. Premorbid behavioral psychopathology in HIV/AIDS includes the following:

1. Personality Disorders

2. High HIV-infection risk groups

3. Pre-existing psychiatric illness

4. Substance Abuse

5. Vulnerable populations

    a. Orphans and other vulnerable children (OVCs)

    b. Marginalized poor communities

    c. Conflict communities—Refugees, Displaced Persons, war & disaster affected

    d. The elderly

    e. Women

Personality disorders represent enduring maladaptive ways of behaving and coping with life's challenges often with non-conformity to society's expectations, adjusting to stresses, or relating to others [8]. Examples include Antisocial Personality

Disorder, Borderline Personality Disorder, Dependent Personality Disorder or Avoidant Personality Disorder. Individuals with Personality disorders are more likely to not comply with treatment recommendations, to break rules, to abuse substances, not to practice safe sex and to present as difficult patients including being manipulative, dependent or avoidant. They present problems of treatment non-compliance and high HIV-infection risk behaviors. Management consists of long-term psychotherapy geared to behavior change, setting boundaries and instituting firm limitations.

In Western countries, high HIV-infection risk groups were classified as Homosexual men, Hemophiliacs, Intravenous drug users (Heroin) and Blacks (Haitians) [5]. In Africa, HIV-transmission is by and large heterosexual followed by mother-to-child (vertical) transmission [5]. The determinants to HIV infection here are related to socio-economic and power dynamics [2]. Thus high rates of HIV have been found in post-conflict communities, fishing villages and overcrowded urban centers with high rates of poverty and loosely connected family ties such as slums, casual workers, recreation and bar attenders [5, 7]. Mother-to-child transmission remains a big problem because of the unbalanced power dynamics in matters pertaining to negotiating sex and money which makes women more subordinate and thus more susceptible to HIV infection. These social determinants also operate for the common mental disorders of depression, anxiety, post-traumatic disorder associated with family violence and substance abuse.

Individuals with pre-existing Severe Mental Illness (SMI), such as Schizophrenia, Bipolar Disorder and Major Depression, have been found to have a higher prevalence of HIV infection compared to those without SMI [9, 10] . In a study of SMI patients at a psychiatric hospital in Uganda, Maling et al. [9] found a prevalence of HIV infection of 18% compared to 7% in the general population. Lundberg et al. [10] found an HIV prevalence of 11.3% in hospitalized SMI patients. Thus SMI predisposes to HIV infection risk. Lastly, Nakimuli et al. [11, 12] found a high prevalence of HIV-infection in individuals with alcohol dependence and depression in Uganda. These groups of individuals with pre-existing mental disorders are usually less likely to be compliant with ARV medication adherence and they are also less likely to practice safe sex such as condom use [13]. Moreover, often HIV prevention efforts have not targeted the population of the mentally ill for their messaging thus leaving a pocket of potential HIV infection spread in the community. Management calls for definitive treatment of the SMI with appropriate psychotropic medications and psychotherapy and follow up as these conditions tend to be life-long [14]. All this points to the need to integrate mental healthcare in efforts of HIV care and prevention.

Vulnerable populations comprise of those groups of people or communities within a country that have characteristics putting them at risk of being excluded from social, economic, political or environmental resources hence needing humanitarian assistance due to the barriers they face [15]. In HIV/AIDS care, these groups often comprise of, but are not limited to, orphans and other vulnerable children (OVCs), marginalized poor communities,, the elderly, and conflict/post-conflict communities including refugees, immigrants and displaced persons, as well as the war and disaster affected. These groups tend to have poor access to health services and have higher rates of mental illness, especially depression and Post-traumatic Stress disorder and are at increased risk of HIV-infection [16]. They are also less likely to be targeted in HIV care and prevention messaging. Specific measures need to be taken to ensure their access to psychosocial care. Group Support Psychotherapy (GSP) has been found to be especially effective in addressing their care needs [16, 17].

3. Acute psychological problems and reactions following the HIV/AIDS diagnosis

Despite effective pharmacotherapies in HIV care, a positive HIV test still invokes stressful psychological reactions, which are not the result of HIV neuronal involvement [5]. The reasons for these reactions are many including the following:

1. *STD*: HIV infection is to a large extent a Sexually Transmitted Disease, STD. Because of this, it remains secretive and associated with social, cultural, religious and moral judgments including sexual looseness, sexual orientation and character integrity.

2. *Stigma*: Because of the sexual nature of the disease it attracts both internalized (self) and externalized (others) stigma. Stigma in society, including among health-workers, compromises access to care by the affected person.

3. *Infectious*: HIV is highly infectious and concerns of contagion still loom high in society e.g. school children at play or other potentially bruising physical contacts.

4. *Chronic and Fatal*: HIV/AIDS is still a fatal disease despite advanced and effective pharmacotherapies but which only make it a chronic diseases for which one has to take medications and attend clinics for life. HIV Chronicity and fatality invokes fear.

5. *Disfiguring*: Dermatological, body image and tumor disfigurements may still occur in HIV/AIDS including hair changes despite taking ARVs.

6. *CNS Involvement*: HIV infection invades the brain early and may cause transient changes in thinking, cognition and perception.

7. *The Medications*: ARV medications have serious side effects which may make it difficult to take them. Moreover, one has to adjust to taking them daily for life without fail for them to work well.

8. *Opportunistic Infections*: These occur frequently in HIV/AIDS due to immunosuppression. These opportunistic infections may be associated with stigma e.g. fungal dermatoses and nail infections, pulmonary tuberculosis, Kaposi's Sarcoma, GIT upsets, GU candidiasis etc.

The observed psychological reactions do not connote brain pathology but a psychological, emotional and behavioral reaction to the news that indeed one is now infected with HIV hence challenging the individual's ego defense and coping mechanisms. The frequently encountered psychological reactions to the HIV diagnosis include Adjustment Disorders, Acute Stress Disorder, Post-traumatic Stress Disorder and Suicidal ideations [5]. They occur early on learning of the diagnosis and often present as psychiatric emergences demanding immediate intervention e.g. suicidal attempts, panic attacks etc.

3.1 Adjustment disorders

News of a positive HIV-infection diagnosis is traumatic and the recipient has to adjust to the new reality. Adjustment disorders occur as emotional or behavioral symptoms occurring within 3 months following the psychologically traumatic stressor of the HIV-positive news causing clinically significant marked distress and causing impairment in social, occupational, academic or other performance [8]. Adjustment disorders occur within 3 months of the diagnosis and do not persist for longer than 6 months. They may take any of the following six forms [8]:

i. *Adjustment Disorder with Depressed Mood.* Symptoms include: depressed mood, sleeplessness, tearfulness, hopelessness, and suicidal ideation.

ii. *Adjustment Disorder with Anxiety.* Symptoms include nervousness, panic, worry, jitteriness and fear.

iii. *Adjustment Disorder with Anxiety and Depressed Mood.* This involves a combination *of symptoms of both anxiety and depression.*

iv. *Adjustment Disorder with Disturbance of Conduct.* Symptoms include: aggressiveness, violence, destruction of property, recklessness, reckless sex, fighting, substance abuse, or other antisocial behavior.

v. *Adjustment Disorder with Mixed Disturbance of Emotions and Conduct*. This involves a combination of symptoms of anxiety, depression and disturbance of conduct.

vi. *Adjustment Disorder Unspecified.* Symptoms do not fit any of the above. They include behaviors like social withdrawal/inhibitions or dis-inhibitions not normally exhibited by the person.

3.2 Acute stress disorder and post-traumatic stress disorder (PTSD)

Acute Stress Disorder (ASD) has also called Acute Stress Reaction is a transient mental disorder that develops following the traumatic mental stressor, e.g. news of HIV diagnosis [8]. Individual vulnerability and coping capacity play a role in the occurrence and severity of the ASD. The symptoms appear within minutes to 30 days of the impact of the stressful traumatic news of the HIV diagnosis but may disappear within 30 days. If the symptoms persist longer than this, the diagnosis is then changed to Post-traumatic Stress Disorder, PTSD, otherwise the DSM-5 diagnostic criteria for ASD and PTSD are similar and they include [8]:

- Experiencing or learning of the traumatic event (news of the HIV diagnosis)

- Re-experiencing intrusive symptoms—recurrent, involuntary thoughts, dreams (nightmares) and flashbacks causing intense psychological or physiological distress with reminders of the traumatic event (news of the HIV diagnosis).

- Dissociative symptoms—altered sense of reality with depersonalization and derealization and inability to recall details of events with selective dissociative amnesia.

- Avoidance symptoms—patient avoids reminders of the trauma of the news of the HIV diagnosis including avoiding memories, thoughts, feelings, people, places, events, conversations, activities, things or situations.

- Arousal symptoms—sleep disturbances, irritability, anger outbursts, verbal or physical aggression, poor concentration, hyper- vigilance or exaggerated startle response.

- Negative mood—inability to experience positive emotions: happiness, satisfaction, love. Also there are stress emotions of increased autonomic activity which include anger outbursts, hyper-vigilance, startle response, or, verbal or physical aggression, recklessness, poor concentration, feelings of tension, fear and anxiety (panic).

- For PTSD, the duration of symptoms must be for more than 1 month and causing significant distress to the ones affected with impairment of social and occupational/school functioning. The PTSD symptom constellations evolve in a timely fashion which constitutes the sub-types of PTSD as follows:

  1. *ASD*: The symptoms occur within 30 days of the trauma (of the HIV diagnosis)

  2. *Acute PTSD*: The duration of PTSD symptoms is 30 to 90 days.

  3. *Chronic PTSD*: The duration of PTSD symptoms is 90 or more days.

  4. *Delayed Onset PTSD*: The PTSD symptoms occur within 6 months or more of the trauma (of the HIV diagnosis).

The risk factors for developing the acute psychological disorders to the HIV diagnosis include [5, 7]:

- A previous history of psychiatric illness,
- Lack of social, occupational and family support
- Financial and logistical uncertainty
- Poor access to healthcare
- Unavailability of adequate pre- and post-test counseling

The management of the acute psychological reactions includes [5]:

- Adequate pre- and post-test counseling and follow-up.
- Psychosocial and family support.
- Psychotherapy: CBT, Supportive individual, family and group support psychotherapy (GSP).
- Medications: benzodiazepines (alprazolam, clonazepam), antidepressants (tricyclics—imipramine, amitriptyline and SSRIs—fluoxetine, paroxetine, sertraline).
- Hospitalization is indicated for the severely affected or those with suicidal ideation.

4. The specific HIV-associated mental disorders

These are classified as [5, 7]:

1. Anxiety Disorders
2. Mood Disorders
3. Psychotic Disorders
4. HIV-Associated Neurocognitive Disorders, HAND.
5. Substance Use Disorders

4.1 Anxiety disorders

Anxiety is defined as an emotional response of excessive fear to a real, imagined or perceived threat or anticipation of a future threat. Affected individuals may experience one or more anxiety states comprising of physiological activation, increased behavioral response, restlessness and cognitive dissonance [8]. Anxiety disorders differ from normative anxiety by being excessive, persistent, typically lasting 6 months or more, and causing impairment in one's life functioning [8]. The prevalence of Anxiety disorders in the general population is about 18% [18] but is higher occurring in about 20–35% of individuals with HIV/AIDS and may evolve from Adjustment Disorders or occur on their own [5, 7, 19]. They take the form of generalized anxiety, panic attacks or obsessional fears. The affected individuals have difficulty controlling apprehension and worry coupled with increased muscular tension, and autonomic hyper-arousal resulting in fear symptoms which include shaking or tremulousness, choking feelings, hyperventilation, increased heart rate, sweating, goose flesh, sleeplessness, increased urinary frequency and gastrointestinal upset with frequent loose stools or even frank diarrhea [8]. Cognitively, one becomes restless, hyper-vigilant, irritable, tense and has difficulty in concentration accompanied by fears of dying, loss of control or something dreadful happening

Anxiety disorder	Characteristic symptoms	Prevalence (%)
Generalized anxiety disorder (GAD)	Excessive anxiety and worry about a number of events or activities. Difficulty controlling worry.	0.4–3.6
Panic disorder	Recurrent unexpected panic attacks. At least one panic attack followed by worry of future attacks accompanied with changes in behavior to avoid future attacks.	2–3
Social anxiety disorder	Marked fear or anxiety about one or more social situations in which the individual is exposed or for possible scrutiny by others. Fear of negative evaluation e.g. in audiences.	2–7
Agoraphobia	Marked fear or anxiety about situations in which one may have a panic attack, such as being in open crowds, being outside of the home alone etc. Avoidance of such situations where escape or exit may not be easily available.	1.7
Specific phobia	Marked fear or anxiety about a specific object or situation	7–9

Table 1.
Symptoms and prevalence of anxiety disorders found in HIV/AIDS.

to them. Some patients develop hypochondriacally fixated with excessive concerns about bodily functions and exaggerating any bodily discomforts or pains. The specific DSM-5 Anxiety disorders found in HIV/AIDS are Generalized Anxiety Disorder (GAD), Panic Disorder, Social Anxiety Disorder, Agoraphobia and Specific phobias [8]. Brandt et al. [19] summarized their symptom characteristics and prevalence as indicated in **Table** 1.

Symptomatic anxiety is arguably the most prevalent psychiatric disorder in HIV/AIDS. It may occur as Adjustment disorder with Anxious Mood, be persistent as GAD and panic attacks, arise sporadically with reminders of the HIV infection (e.g. news of HIV/AIDS deaths, development of new symptoms such as TB or skin changes including Herpes Zoster rashes etc.) or become a chronic condition with preoccupation with physical symptoms or with illness progression. Anxiety Disorders in HIV/AIDS must be treated as they often impair daily functioning interfering with Quality of Life. Psychotherapy with Supportive Counseling and Behavioral Activation techniques should be tried first. Long-term psychotherapy is often useful individually or in groups employing Interpersonal Psychotherapy, IPT [20]; Interpersonal Group Psychotherapy, IGPT [21]; Group Support Psychotherapy, GSP [16]; or Cognitive Behavioral Psychotherapy, CBT [22]. Psychopharmacotherapy is indicated when symptoms persist, are debilitating or present as panic emergences with patients running to hospitals or clinics repeatedly [23]. Short acting benzodiazepines such as Alprazolam or Lorazepam are useful in controlling the acute symptoms of panic attacks. The persistent tension and sleeplessness can be controlled using longer acting benzodiazepines such as Clonazepam. Use of benzodiazepines should be brief, not lasting more than 2 to 3 weeks to avoid dependence to these medications. Antidepressants are indicated for persistent or recurrent symptoms or when depression sets in. The antidepressants of choice include tricyclic antidepressants (imipramine or amitriptyline), SSRIs (fluoxetine, paroxetine, sertraline) or SNRIs such as venlafaxine. These antidepressants must be given in clinically therapeutic dosages and for sufficient duration of at least 6-months, but may stretch to 1–2 years in some patients. Concomitant use of non-prescription medications and substance abuse (alcohol and or illicit drugs) must be looked out for and addressed.

4.2 Mood disorders

Mood disorders of major concern in HIV/AIDS comprise of Depression and Bipolar Affective Disorder. HIV-associated mood disorders must be distinguished from Primary mood disorders. However, it is important to effectively treat and, if possible, prevent Primary Affective Disorders as these are risk factors for HIV infection as composite SMIs. If not properly addressed, both HIV-associated mood disorders and Primary mood disorders compromise HIV/AIDS care outcomes, increase risk of HIV infection spread and impact the Quality of Life of individuals living with HIV/AIDS.

4.2.1 Depression

Depression is common in people living with HIV/AIDS (PLWH) with a lifetime prevalence of about 40% [24] compared to 4–8% in the general population [25] and also about 41% of HIV-affected children and adolescents [26]. DSM-5 gives diagnostic criteria for depression as comprising of two or more weeks of depressed mood most of the day, nearly every day and/or diminished interest/pleasure in activities previously enjoyed [8]. These two are accompanied by at least 4 of the following: loss of appetite and weight, sleep disturbance (usually poor sleep), psychomotor agitation or retardation, fatigue or loss of energy, feelings of worthlessness and/or hopelessness, poor concentration and memory, indecisiveness, suicidal ideation or attempts or pre-occupation with death. These depressive symptoms cause clinically significant distress and impairment of functioning and must not be due to effects of substances, other medical conditions or bereavement. Akena et al. [27] described the clinical and associated features of HIV- associated depression in adults as distinct from Depression in HIV-negative individuals. They found that the Depression of HIV/AIDS tended to occur earlier on in the HIV disease (WHO stages I & II) and was not associated with increased immunosuppression (as measured with CD4 counts) but was associated with cognitive decline as measured by the Mini Mental Status Examination, MMSE. Its onset was in older patients, (>30 years), who were more likely to be widowed or never married and had a negative a family history of affective disorder compared to HIV-negative depressed patients. On the Beck Depression Inventory, BDI, depressed PLWH were more likely to have more loss of appetite and weight, had poorer sleep, felt more fatigue, and were more self-critical and indecisive. Studies of Depression in HIV/AIDS have found poorer treatment outcomes and a poorer quality of life in untreated depressive PLWH [28]. They have poorer adherence to treatment recommendations including poor adherence to ARVs [29, 30] and are more likely to engage in risky sexual behaviors including non-condom use [31] and substance abuse [11] as well as domestic violence, child abuse and suicide [5].

Treatment of depression in PLWH includes Social treatments, Psychotherapy and antidepressant medications [30]. Antidepressant medications are almost always indicated in the management of HIV-associated depression because of the biological nature of its etiology being linked to early CNS HIV viral involvement [5]. Commonly used antidepressants include tricyclic antidepressants—imipramine, amitriptyline or their breakdown products of desipramine and nortriptyline respectively; and the SSRI group of antidepressants as quite effective and associated with fewer side effects [32]. These medications include fluoxetine, sertraline, citalopram, escitalopram, paroxetine as well as other types of antidepressants including SNRIs like Venlafaxine. Individual and group psychotherapy has been found to be effective and should always

be combined with the pharmacotherapy. Of particular effectiveness has been IPT and IGPT [20, 21]. More recently GSP as developed by Nakimuli et al. [17] has been found to be especially effective in LMIC in Africa as it addresses commonly associated family and social issues such as stigma, poverty, neighborhood wrangles, poor community welfare including insecurity, water and food shortages in especially post-conflict communities where PTSD, substance abuse and domestic as well as other violence is also common.

4.2.2 Bipolar affective disorder

Bipolar affective disorder frequently occurs in HIV/AIDS with a prevalence of up to 4.3% compared to 1% in the general population [33]. The DSM-5 diagnostic criteria for Bipolar Affective Disorder, Manic Phase, include at least 1 week of a distinctively elevated, expansive or irritable mood with persistently increased goal-directed activity or energy present most of the day, nearly every day and calling for a need for intervention [8]. This is then accompanied with at least 4 of the following symptoms: inflated self-esteem or grandiosity, decreased need for sleep, increased talkativeness, racing thoughts with flight of ideas, distractibility, over-activity including risky behaviors such buying sprees, high libido with sexual indiscretions, unrealistic business deals, argumentativeness with sometimes aggressiveness and violence. In one study, Nakimuli et al. [34] described the clinical features of HIV-associated secondary mania as distinct compared to Primary Bipolar mania. HIV-related secondary mania is characterized by older age of onset, higher prevalence in females, more likely to occur in widowed, separated or divorced PLWH. Symptomatically, it has more manic symptoms as measured on the Young Mania Rating Scale (YMRS), has more irritable/elated mood, is more aggressive and disruptive with more decreased need for sleep, paranoid delusions, visual and auditory hallucinations and showing more cognitive impairment on the Mini Mental Status Examination (MMSE). The causes of secondary mania of HIV/AIDS include HIV being the sole organic brain insult to the brain as the virus invades the brain early on, HIV-related opportunistic infections, medication-induced mania e.g. psychotropic medications such as antidepressants, steroids, or even ARVs themselves such as zidovudine or didanosine [5]. An individual with a primary bipolar affective disorder can also be infected with HIV, in which case the Bipolar disorder is considered as comorbid with of HIV/AIDS.

A manic episode in PLWH is disruptive of care and leads to poor treatment compliance, non-adherence to ARVs, risky and unsafe sex as well as substance abuse [7, 35]. Untreated, bipolar affective disorder is associated with job losses, marital breakups and poor quality of life. There is also an increased risk of suicide in Bipolar Affective Disorders compared to the general population. The treatment of HIV-related mania follows the same principles as primary mania [36]. Often, a manic episode demands hospitalization including involuntary commitment and or use of restraints or isolation on a secure ward due to the presenting aggression, violence or its disruptive nature. It is important to achieve quick control of the disruptive manic symptoms as they pause a psychiatric emergence with possible harm to others or property. Quick acting parenteral antipsychotics and benzodiazepines are administered and the patient is placed in a quiet isolated room, secure ward or psychiatric intensive care unit. Rapid neuroleptization using intramuscular injections of Haloperidol Hcl or zuclopenthixol acetate combined with injectable promethazine or lorazepam achieve quick control of the patient's symptoms with the required sedation. These are followed by regular 8 or 12 hourly oral doses of atypical

antipsychotics such as olanzapine, quetiapine, ziprasidone or risperidone and a longer acting benzodiazepine such as Clonazepam at bedtime for about 1–2 weeks. These are then be tapered down as the symptoms become controlled and mood stabilizers are added to the regimen, such as Lithium Carbonate or anticonvulsants such as sodium valproate, carbamazepine or lamotrigine. Blood levels of these drugs must be checked after 2 weeks of equilibration, to avoid toxicity and maintain therapeutic levels. When all symptoms are controlled medications are tapered down to minimal maintenance doses, to avoid relapses and preferably administered at bedtime only. Bipolar disorders in HIV/AIDS respond very quickly to medications but it needs maintenance therapy to avoid relapses which may become more frequent with cognitive decline. Psychotherapy is commenced as more of a supportive and psycho-educative nature initially and should involve the family as a trialogue involving the patient, supporting family caretaker and the clinician. Family Psychosocial Involvement Interventions have been found to be effective in SMI including Bipolar Affective Disorders [36].

4.3 Psychotic disorders

Similar to mood disorders in PLWH, psychotic disorders can be either primary predating HIV infection and considered as comorbid to HIV/AIDS or as secondary to HIV infection as new onset psychotic illnesses associated with the HIV/AIDS disease [7, 33, 37]. Severe mental illness (SMI), a category to which psychotic disorders belong, has been associated with high rates of HIV-infection [9, 10]. In a study of individuals with first episode psychosis in Uganda, Maling et al. [9] found an HIV infection prevalence of 18.3% in patients with newly onset psychosis in a psychiatric hospital in Uganda. Lundberg et al. [10] found 11.3% of persons hospitalized with SMI in Uganda to have a HIV infection which prevalence was greater in women. The prevalence of psychosis in PLWH has been reported to be in range of 5–15% [37] . Psychotic disorder is characterized by the presence of delusions, hallucinations, disordered thinking, speech and behavior as well as deterioration in social, occupational and daily functioning due to distorted reality testing [8]. The mechanism of causation of new onset psychotic disorders in HIV/AIDS is complex and multifactorial. Viral invasion of the brain, opportunistic infections and the multiple medications used as well as general debilitation and progression of the disease with cognitive impairment all contribute to causing new onset psychosis of HIV/AIDS [5, 37]. The HIV virus invades sub-cortical structures of the brain including the limbic system. The presence of psychosis in PLWH heralds poor prognosis as untreated or poorly treated psychosis compromises treatment adherence with non-attendance of follow ups and a consequent poor quality of life as well as high HIV infection risk sexual behavior. Early death is common.

The clinical presentation of new onset HIV-related psychosis includes late onset psychosis (>30 years), presence of auditory, visual and tactile hallucinations, paranoid and bizarre delusions, affective symptoms, cognitive impairment and behavioral disturbances [5, 37]. HIV associated psychosis is more common in the late stages of the diseases, especially in untreated or poorly treated PLWH. The symptoms are often of a mixed bag and not well formed unlike those of the classical SMIs. There is usually a negative family history of mental illness.

Management of HIV-related psychosis follows the same principles as the non-HIV related psychoses but with concomitant treatment of the HIV/AIDS itself using ARVs and any associated opportunistic infections [5, 37]. Antipsychotic medications are always indicated and are quite effective, starting with small doses

and watching out for side effects which are then also treated. The medications include the typical antipsychotics like haloperidol, trifluoperazine, flupenthixol, fluphenazine or with atypical antipsychotics which usually have less extrapyramidal side effects but more metabolic dyslipidemias. The atypical antipsychotics include Olanzapine, Risperidone, Quetiapine, Ziprasidone, Aripiprazole etc. Often PLWH who have psychosis have poor medication compliance, in which case long acting depot preparations are useful such as monthly Risperidone Consta, Abilify Maintena (Depot Aripirazole), Haloperidol Decanoate, Fluphenazine decanoate, Flupenthixol decanoate or even three monthly depot preparations such as Paliperidone Palmitate. Extrapyramidal side effects are managed with anticholinergic medications such as benzhexhol, benztropine or procyclidine. Unlike classical SMIs, new onset HIV-related psychoses respond quickly to medications and which may then be tapered off after 3–6 months of effective treatment. However, in some cases long-term maintenance treatment with low antipsychotic doses is necessary. Psychotherapy of a supportive and psycho-educative nature must always be added to the pharmacotherapy and should involve the family as a trialogue involving the patient, supporting family caretaker and the clinician as Family Psychosocial Involvement Intervention [38].

4.4 HIV-associated neurocognitive disorders (HAND)

HIV-associated cognitive disorder has had considerable research attention in the past 20 years, especially HIV-associated dementia [39]. Neurocognitive disorders or dementias are characterized by difficulties in *attention* (sustenance, selectiveness & processing), *executive function* (planning, habits, decision making, responses, flexibility & error correction), *learning* (memory—immediate, short and long term), *language* (receptive-comprehension, expressive, fluency, grammar, syntax), *perceptiveness* (visual, constructional, motor integration and knowing-gnosis) *social cognition* (recognition of situations/circumstances, emotions and consideration of others) and *motoric praxis* (integrity of learned movements, gesturing, understanding of commands & intentions) [5, 8]. Neurocognitive disorders can be acute, chronic, mild, moderate or severe and debilitating/terminal. DSM 5 classifies dementia as either Mild or Major Neurocognitive Disorder, then specify what it is due to and state whether with or without behavioral disturbance [8].

4.5 HIV dementia

Dementia of HIV infection has gone by many names including HIV-associated dementia (HAD), HIV encephalopathy, AIDS dementia complex, or HIV- associated neurocognitive disorder [40]. DSM 5 classifies it as Mild or Major Neurocognitive Disorder Due To HIV Infection [8]. The Frascati criteria described three cognitive sub-types based on 5 cognitive domains to establish the classification of the neurocognitive effects of the HIV virus on the brain as the HIV-Associated Neurocognitive Disorder (HAND) criteria [41]. The HAND criteria are useful in the identification of cases, monitoring of treatment and instituting caregiving especially in the severe form of the illness. The three HAND categories are Asymptomatic Neurocognitive Impairment (ANI), Mild Neurocognitive Disorder (MND) and HIV-Associated Dementia, HAD as shown in **Table** 2.

In Africa, the prevalence of HAND, with or without ARV treatment was found to be 31% [42]. The prevalence was higher in females and with advanced immunosuppression as measured by low CD4 counts. Adherence to ARV treatment with immune

HAND Category	Asymptomatic Neurocognitive Impairment, ANI	Mild Neurocognitive Disorder, MND	HIV-Associated Dementia, HAD
Activities of Daily Living, ADL	No interference	Mild interference	Marked interference
Cognitive Level	At least 1.0 SD below mean of normative population in one cognitive domain	At least 1.0 SD below mean of normative population in two cognitive domains	At least 2.0 SD below mean of normative population in two cognitive domains

Table 2.
Classification of HIV-associated neurocognitive disorder (HAND).

HAND subtype	Pre ART prevalence (%)	Post ART prevalence (%)
HAD	17	2
MND	10	12
ANI	20	32
No Impairment	53	54

Table 3.
HAND subtypes prevalence in the pre and post ART era.

reconstruction reduces the severity of HAND but does not eliminate it. Nevertheless, this is of utmost importance for PLWH in HIV care as advanced HAND impairs function and QoL. **Table** 3 below shows the HAND subtypes prevalence in the pre and post ART era [37].

Screening for HAND is therefore of great importance in HIV care in PLWH. However the cognitive test performances and the tools used are often influenced by educational, cultural and socioeconomic factors. Sacktor et al. [42] reported on the IHDS as a culturally and educationally sensitive instrument for assessing HAD.

The mainstay of treatment for HAND is combination Highly Active Antiretroviral Therapy, HAART requiring a more than 90% adherence to the ARVs to ensure a very low or undetectable viral load, VL, in order to achieve the necessary immunosuppression. Individual and family psychosocial support is crucial in this exercise. This underscores the importance of integrating mental health care in any HIV care and prevention programs.

4.6 HIV associated delirium

The American DSM-5 diagnostic criteria for delirium are a an acute disturbance in attention and awareness that develops over a short period of time (hours to days) and representing a change from baseline, fluctuating in severity during the course of the day, with disturbances in cognition (memory, disorientation, language, perception) as a direct consequence of a medical condition, substance intoxication or its withdrawal, toxins or due to multiple etiologies [8]. Delirium in HIV/AIDS manifests clinically in the context of high viremia, advanced HIV disease, other infections, drug toxicities and substance abuse or metabolic disturbances [5]. The prevalence of delirium in of hospitalized HIV+ people may be as high as 30–40% [43] especially in those with advanced disease. Untreated delirium often leads to stupor, coma or death.

The mortality rate of delirium can be as high as 20–40% [5, 43]. It is considered a medical emergency and diagnosing it and finding the cause(s) can be lifesaving.

A delirious person has disturbances in sleep continuity and presents as confused in relationship to time, the environment (location) and others, and the confusion waxes and wanes throughout the day, going in and out of a disoriented state, seeing things as they clearly are not, experiencing hallucinations and illusions and often paranoid thinking with behaviors of agitation, fear, anxiety, irritability, restlessness, anger and aggression. They cannot comprehend instructions. The delirium subtypes reflect psychomotor activity and include hyperactive delirium (agitated, hyperalert), hypoactive delirium (lethargic, hypoalert) and mixed states (combination of the two). Seizures are not uncommon in delirium. Dementia and depression must be excluded especially for hypoactive delirium.

Delirium is a medical emergency with a case fatality of 40% and thus calling for immediate hospitalization, sometimes to an intensive care unit [43]. Because of the ever-changing condition of the patient and to reduce external stimuli, delirious patients are managed in the hospital, in a quiet room with clear lighting, constant observation, regular monitoring of vital signs and psychiatric NOBS (Nursing Observation Sheet). The first priority in treating delirium is to ascertain patient safety as they are confused and often fall and injure themselves. They can be aggressive and cannot look after themselves in terms of steadiness, feeding, hygiene, toilet or even dressing. The second priority is to treat the underlying cause (hypoxemia, septicemia, anemia, metabolic and electrolyte imbalances, intoxications, medications, alcohol and illicit drug intoxications or their withdrawal etc.). Disorientation, aggression, paranoia, hallucinations, delusions and anxiety (fear) are treated with parenteral antipsychotic medications (haloperidol, risperidone, olanzapine) often combined with a benzodiazepine (Lorazepam, clonazepam), as tolerated by the patient [43]. Parenteral Thiamine is always administered in alcohol-related delirium. Delirium is frightening to the patient, family and friends. Repeated reassurance and re-orienting of the patient, explaining procedures and establishing a calm and constant environment and nurse/attendant are crucial. Providing a wall clock and calendar that the patient sees easily, and keeping the patient's room well-lighted during the day with dimmed lights at night are useful for patient orientation. For psychotherapy, on recovery, the patient and family are educated about the apparent cause of the delirium to avoid future risk e.g. substance abuse, non-compliance to ARVs and causing worsening of the HIV disease etc. [5, 43]. Psychotherapy helps alleviate the anxiety, guilt, anger, depression, or other emotional states and family dynamics. Prognosis of delirium is usually poor depending on its underlying cause with a fatality rate of 40% within a year of the delirium diagnosis.

4.7 Substance abuse

Substance abuse is defined as the use of illicit drugs and alcohol as well as misuse of prescription and over-the-counter medications [5]. Substances of common abuse in Africa include alcohol, marijuana, cathenone (khat), stimulants (amphetamines) and recently opiates (pain medications) and anxiolytics (benzodiazepines). Drug and alcohol abuse usually increases the indulgence into HIV infection risk behaviors including unsafe sex (multiple partners, unprotected sex), non-disclosure of HIV status to sex partners, sharing needles (in IV drug use) and passing HIV onto others [11]. Substance use leads to reduced judgment and compromises adherence to ART medications and increases chances of engaging in risky sexual behavior. Drugs and

alcohol also weaken the immune system, may interact with ARVs reducing efficacy or causing toxic side effects. Alcohol and drugs damage body organs including the liver which is responsible for drug metabolism. They may also lead to other mental disorders including delirium, seizures, depression and even dementia. They are also associated with family, social, educational, occupational and economic problems.

Treatment of drug and alcohol abuse begins with clinician suspicion and detection by direct inquiry and collateral information from family, friends and caretakers [5]. Drug screens and Liver Function tests such as GGT and pancreatic enzymes are helpful in pinpointing end organ (liver, pancreas) damage. Heavy substance dependence often needs hospitalization for medical detoxification followed by referral to Residential Rehabilitation programs for 3, 6, or 12 months and thereafter follow up aftercare for 1–2 years. Self-help support groups are helpful such as Alcoholics Anonymous, AA or Narcotics Anonymous, NA. Detoxification involves prophylactic treatment for withdrawal symptoms including tremors, sweats, rebound insomnia and anxiety and even psychotic symptoms and seizures. Any associated substance-induced mental disorder such as anxiety, depression, psychosis or seizures is specifically treated. Family support is necessary to help the individual to stay totally abstinent from the substance of abuse.

5. Conclusion

Psychiatric problems associated with HIV/AIDS are many, varied and often bidirectional and they are often neglected. Their presence compromises HIV care and prevention efforts. Unaddressed, they compromise treatment outcomes, increase HIV virus resistant strains, leave pockets of potential HIV spread in the community and lead to poor quality of life and early death of PLWH. This calls for integration of mental healthcare in all HIV/AIDS treatment and prevention programs [44]. This chapter has focused on specific HIV-associated mental disorders. However, the mental health problems of HIV/AIDS go beyond disorders to include social, family and community problems such as the problems faced by AIDS orphans, widowhood, family disruptions, multiple deaths, bereavements, poverty, stigma, caregiver burden, education and occupational difficulties etc. All these need to be addressed in holistic HIV care. There is need for more research to address brain impairment in HIV/AIDS and its sequels and ways for total integration of mental health care in HIV care and prevention.

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References

[1] Sewankambo N. Forward. In: Musisi S, Kinyanda E, editors. Psychiatric Problems of HIV/AIDS and Their Management in Africa. Kampala, Uganda: Fountain Publishers; 2009

[2] Breuer E, Myer L, Struthers H, Joska JA. HIV/AIDS and mental Health Research in sub-Saharan Africa: A systematic review. African Journal of AIDS Research. 2011;**10**(2):101-122

[3] Musisi S, Wagner GJ, Ghosh-Dastidar B, Nakasujja N, et al. Depression and sexual risk behavior among clients about to start HIV antiretroviral therapy in Uganda. International Journal of STDs & AIDS. 2013;**25**(2):130-137. DOI: 10.1177/0956462413495186

[4] Heggenhougen K, Sabin L, Laurence K, (Eds), (2004): Comparative Studies of Orphans and Non-Orphans in Uganda. A Monograph of International Health and Development, Center for International Health and Development. Boston University School of Public Health. Boston, MA

[5] Musisi S, Kinyanda E, editors. Psychiatric Problems of HIV/AIDS and Their Management in Africa. Kampala, Uganda: Fountain Publishers; 2009

[6] Musisi S, Kinyanda E, Nakasujja N, et al. A comparison of the behavioral and emotional problems of orphans vs non-orphans in Uganda. African Health Sciences Journal. 2007;**7**(4):202-213

[7] Owe-Larsson B, Säll L, Salamon E, Allgulander C. HIV infection and psychiatric illness. African Journal of Psychiatry. 2009;**12**:115-128

[8] DSM 5. Diagnostic and Statistical Manual of Mental Disorders. 5th ed. Arlington, VA, USA: American Psychiatric Association, APA; 2013

[9] Maling S, Todd J, Van der Paal L, Grosskurth H, Kinyanda E. HIV-1 Seroprevalence and risk factors for HIV infection among first-time psychiatric admissions in Uganda. AIDS Care. 2011;**23**(2):171-178. DOI: 10.1080/09540121.2010.498939

[10] Lundberg P, Nakasujja N, Musisi S, Thorson AE. Cantor-Graae E and Allebeck P (2013): HIV prevalence in persons with severe mental illness in Uganda: A cross-sectional hospital-based study. International Journal of Mental Health Systems. 2013;**7**:20

[11] Nakimuli-Mpungu E, Bass JK, Musisi S, et al. Depression, alcohol use and adherence to antiretroviral therapy in Sub-Saharan Africa: A systematic review. AIDS Behavior. 2011;**16**:2101-2118. DOI: 10.1007/s10461-011-0087-8

[12] Nakimuli-Mpungu E, Musisi S, Katabira E, et al. Prevalence and factors associated with depressive disorders in an HIV–positive population in southern Uganda. Journal of Affective Disorders. 2011;**135**(1-3):160-167. DOI: 10.1016/j.jad.2011.07.009

[13] Wagner GJ, Ghosh-Dastidar B, Robinson E, Ngo VK, Glick P, Mukasa B, et al. Effects of depression alleviation on ART adherence and HIV clinic attendance in Uganda, and the mediating roles of self-efficacy and motivation. AIDS and Behavior. 2017;**21**(6):1655-1664. DOI: 10.1007/s10461-016-1500-0

[14] Marinho M, Marques J, Bragança M, et al. Psychosis among HIV-infected patients –a serious and complex association. European Psychiatry.

2016;**33**(Supplement):S221. DOI: 10.1016/j.eurpsy.2016.01.542

[15] National Collaborating Center for Determinants of Health. 2022. Available from: https://www.nccdh.ca/glossary/entry/vulnerable-populations

[16] Nakimuli-Mpungu E, Wamala K, Okello J, Ndyanabangi S, Kanters S, Mojtabai R, et al. Process evaluation of a randomized controlled trial of group support psychotherapy for depression treatment among people with HIV/AIDS in northern Uganda. Community Mental Health Journal. 2017;**53**(8):991-1004. DOI: 10.1007/s10597-017-0129-4

[17] Nakimuli-Mpungu E, Wamala K, Okello J, Alderman S, Odokonyero R, Musisi S, et al. Group support psychotherapy for depression treatment in people with HIV/AIDS in Northern Uganda: A single-centre randomized controlled trial. The Lancet HIV. 2015;**2**(5):190-199

[18] Kessler RC, Chiu WT, Demler O, Merikangas KR, Walters EE. Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the national comorbidity survey replication. Archives of General Psychiatry. 2005;**62**(6): 617-627. DOI: 10.1001/archpsyc.62.6.617

[19] Brandt C, Zvolensky MJ, Woods SP, Gonzalez A, Safren SA, O'Cleirigh CM. Anxiety symptoms and disorders among adults living with HIV and AIDS: A critical review and integrative synthesis of the empirical literature. Clinical Psychology Review. 2017;**51**:164-184. DOI: 10.1016/j.cpr.2016.11.005

[20] Bolton P, Bass J, Betancourt T, Speelman L, Onyango G, Clougherty K, et al. Interventions for depression symptoms among adolescent survivors of war and displacement in northern Uganda: A randomized controlled trial. Journal of the American Medical Association. 2007;**298**(5):519-527

[21] Bass J, Neugebaur R, Clougherty KF, et al. Group interpersonal psychotherapy for depression in rural Uganda: A 6-month outcome. British Journal of Psychiatry. 2006;**188**:567-573

[22] Senyonyi RM, Underwood LA, Suarez E, Musisi S, et al. Cognitive behavioral therapy group intervention for HIV transmission risk behaviour in perinattally infected adolescents. Health. 2012;**4**(12):1334-1345

[23] David D, Davidson JRT. Treatment of anxiety and stress-related disorders. In: Schatzberg AF, Nemeroff CB, editors. Textbook of Psychopharmacology. 5th ed. Virginia: APA Publishing Arlington; 2017. pp. 1195-1239

[24] Tran BX, Ho R, Ho C, Latkin CA, Phan HT, Ha GH, et al. Depression among patients with HIV/AIDS: Research development and effective interventions ($GAP_{RESEARCH}$). International Journal of Environmental Research and Public Health. 2019;**16**(10):1772. DOI: 10.3390/Ijerph16101772

[25] Institute of Health Metrics and Evaluation. Global Health Data Exchange (GHDx). 2019. Available from: http://ghdx.healthdata.org/gbd-results-tool?params=gbd-api-2019-permalink/d780dffbe8a381b25e1416884959e88b

[26] Musisi S, Kinyanda E. The emotional and behavioral disorders in HIV-sero-positive adolescents in urban Uganda. East African Medical Journal. 2009;**86**(1):16-24

[27] Akena D, Musisi S, Kinyanda E. Clinical features of depression in HIV-positive patients in Uganda. African Journal of Psychiatry. 2010;**13**(1):2010

[28] Wagner G, Ngo V, Musisi S, Akena D, et al. INtegration of DEPression Treatment into HIV care in Uganda (INDEPTH-Uganda). Study Protocol For A Randomised Clinical Trial. 2014;**15**(1):248

[29] Wagner GJ, Ghosh-Dastidar B, Slaughter M, Akena D, Nakasujja N, Okello E, et al. Changes in condom use during the First Year of HIV treatment in Uganda and its relationship to depression. Annals of Behavioral Medicine. 2014;**48**(2):175-183

[30] Ngo VK, Wagner GJ, Nakasujja N, Musisi S, et al. Effectiveness of antidepressants and predictors of treatment response for depressed HIV-positive patients in Uganda. International Journal of STDs & AIDS. 2014;**26**(14):998-1006. DOI: 10.1177/0956462414564606

[31] Bobo WV, Shelton RC. Treatment of Depression. In: Schatzberg AF, Nemeroff CB, editors. Textbook of Psychopharmacology. 5th ed. Arlington, Virginia: APA Publishing; 2017. pp. 1151-1175

[32] Bobo WV, Shelton RC. Treatment of depression. In: Schatzberg AF, Nemeroff CB, editors. Textbook of Psychopharmacology. 5th ed. Arlington, Virginia: APA Publishing; 2017. pp. 1151-1175

[33] Nosik M, Lavrov V, Svitich O, Nosik M, et al. HIV Infection and Related Mental Disorders. Brain Sciences. 2021;**11**(2):248. DOI: 10.3390/brainsci11020248

[34] Nakimuli-Mpungu E, Musisi S, Katabira E, et al. Primary mania vs HIV-related secondary mania in Uganda. The American Journal of Psychiatry. 2006;**163**:8

[35] Nakimuli-Mpungu E, Musisi S, Kiwuuwa S, et al. Early onset versus late onset HIV-related secondary mania in Uganda. Psychosomatics Journal. 2008;**49**:530-534

[36] Keck PE, McElroy SL. Treatment of bipolar disorder. In: Schatzberg AF, Nemeroff CB, editors. Textbook of Psychopharmacology. 5th ed. Arlington, Virginia: APA Publishing; 2017. pp. 1177-1194

[37] Harris MJ, Jeste DV, Gleghorn A, Sewell DD. New onset psychosis in HIV-infected patients. The Journal of Clinical Psychiatry. 1991;**52**(9):369-376

[38] Sikira H, Murga SS, Muhić M, Kulenović AD and Priebe S: Common patient experiences across three resource-oriented interventions for severe mental illness: a qualitative study in low-resource settings. BMC Psychiatry. 2022;**22**:408. DOI: 10.1186/s12888-022-04055-2

[39] Sacktor N, Wong M, Nakasujja MS, et al. Risk factors for HIV-dementia in sub-Saharan Africa. Journal of Neurovirology. 2004;**10**(S3):83

[40] Signh D. What is in name? AIDS dementia complex, AIDS dementia complex, HIV associated dementia, HIV associated neurocognitive disorder or HIV encephalopathy. African Journal of Psychiatry. 2012;**15**(3):172-175

[41] Antinori A, Arendt G, Becker JT, et al. Updated research nosology of HIV-associated neurocognitive disorder. Neurology. 2007;**69**(18):1789-1799

[42] Sacktor N, Nakasujja N, Musisi S, Wong M, et al. The international HIV dementia scale : A new rapid screening test for dementia. AIDS. 2005;**19**:1367-1374

[43] HIV Mental Treatment Issues Fact Sheet. American psychiatric association:

practice guidelines for the treatment of patients with delirium. American Journal of Psychiatry. 1999;**156**(May Suppl):1-20

[44] Remien RH, Stirratt MJ, Nguyen N, Robbins RN, Pala AN, Mellins CA, et al. Mental health and HIV/AIDS: The need for an integrated response. AIDS. 2019;**33**(9):1411-1420. DOI: 10.1097/QAD.0000000000002227