Chapter 13
Suicide in HIV

César A. Alfonso, David Choon Liang Teo, Jennifer Sotsky, Kristiana Siste, Nik Ruzyanei Nik Jaafar, and Matiko Mwita

Introduction

Living with HIV infection can become intolerable and be associated with suicidal behavior. People living with HIV have a nearly sixfold increased risk of suicide [1]. Factors that help individuals navigate the vicissitudes of complex multi-morbidities associated with suicide in HIV include a favorable response to treatment, developing adaptive skills, and building psychosocial support. Effective antiretroviral treatments are costly and access to expert medical care is limited in low- and middle-income countries, as well as for unemployed/uninsured/underinsured patients in higher-income countries. Barriers to care exist in areas where treatments are needed the most. Stigma and discrimination compound psychosocial stressors, and the distress experienced by persons with HIV infection negatively impacts quality of life and survival.

C. A. Alfonso (✉)
Department of Psychiatry, Columbia University, New York, NY, USA

D. C. L. Teo
Department of Psychological Medicine, Changi General Hospital, Singapore, Singapore

J. Sotsky
Department of Psychiatry, Columbia University Medical Center/New York State Psychiatric Institute, New York, NY, USA

K. Siste
Department of Psychiatry, Medical Faculty, University of Indonesia, Jakarta, Indonesia

N. R. N. Jaafar
Department of Psychiatry, Hospital Canselor Tuanku Muhriz, Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia

M. Mwita
Department of Psychiatry, Catholic University of Health and Allied Sciences/Bugando Medical Centre, Mwanza, Tanzania

J. A. Bourgeois et al. (eds.), *HIV Psychiatry*,
https://doi.org/10.1007/978-3-030-80665-1_13

Suicide is always multifactorial and requires a multidimensional, biopsychosocial, and culturally sensitive approach for its prevention. Suicide is often preventable, even when cognitive and affective states such as hopelessness, shame, guilt, and overwhelming sadness interfere with adaptive coping. By identifying the treatable predisposing psychosocial factors, reducing distress, and capitalizing on protective factors including service enhancement, access to care, and sensible healthcare policy changes, clinicians will be able to help identify reasons to live and anchor the ambivalent suicidal patient preventing premature death by suicide [1].

In this chapter we review determinants of HIV infection as an independent risk factor for suicide and describe how suicidality can be present at any point throughout the course of illness, requiring prevention and coordinated care. Psychiatric diagnoses and medical multi-morbidities associated with loss of function, distressing symptoms, and disfigurement heighten suicide risk. The social oppression that results from stigma and discrimination often precipitates suicidal emergencies. Suicidal behavior in the medically ill, a psychiatric emergency, is one of the most common reasons for psychiatric consultation in ambulatory, emergency, and inpatient general care settings and demands great clinical expertise for its management.

Epidemiology

The epidemiology of suicide and HIV infection is complex. Prevalence estimates of suicidal behavior vary depending on study population and methodology. Suicides are underreported due to differences in the way causes of death are classified [2]. Because suicide is stigmatized in certain parts of the world, it is often recorded as "accidental" death [3, 4]. Drug overdose, the most common method of completed suicide among HIV-infected persons, is particularly commonly misclassified as accidental death [5]. Consequently, actual suicide rates are probably higher than reported.

HIV infection is an independent risk factor for suicide. Around the onset of the HIV epidemic, clinical and case reports suggested an association between HIV and suicide [6, 7]. Autopsy studies have since confirmed this association [8]. People living with HIV are more likely to have suicidal ideation [9]. A 2011 systematic review found that suicide accounted for 9.4% of deaths in persons with HIV [8]. This same study found that 26.9% of persons with HIV had suicidal ideation and 22.2% had a suicide plan [8]. Clinical reviews similarly provide compelling evidence for high rates of suicidal behavior in persons with HIV infection across urban, rural, primary care, and general hospital settings [1].

The introduction of antiretroviral therapy (ART) substantially reduced HIV-related morbidity and mortality. HIV infection is now experienced as a chronic medical condition rather than a rapidly progressing terminal illness. While suicide rates correspondingly decreased since the advent of ART, they remain about three

times higher than in the general population [10, 11]. Suicidal behavior in HIV continues to be a major clinical concern in countries with poor access to care and/or where HIV infection carries great social stigma. Studies over the past decade continue to demonstrate an increased risk of suicide in persons with HIV in countries in all continents, including Switzerland [11], France [12], Estonia [13], Denmark [14], Portugal [15], Nigeria [5], Uganda [16], Ethiopia [17], South Africa [18], Kenya [19], Brazil [20], Canada [21], United States [22], South Korea [23], and China [24].

Predisposing Factors

A practical approach to suicide prevention utilizes the biopsychosocial paradigm. Clinicians using this paradigm consider predisposing and protective factors in clinical decision-making, bearing in mind how the individual exists in harmony with the environment and society. Biological vulnerabilities, epigenetic changes during the critical period of CNS development in early childhood, and allostatic overload caused by psychosocial stressors throughout the lifespan may impact onset and course of illness, predisposing individuals to suicide. HIV infection, referred to by Cohen et al. as the "great magnifier of maladies" [25], acts synergistically and independently to increase suicide risk. In this section we will describe predisposing factors associated with suicide in persons with HIV infection and AIDS.

The demographic characteristics of persons with HIV infection who die by suicide may differ from the general population. In the general population, death by suicide among men is three times higher than among women [26]. Among persons with HIV infection, women are at a significantly higher risk for suicidal behavior, including death by suicide [5, 27, 28]. Persons with HIV infection may attempt suicide at any time from diagnosis to end-stage illness [28]. In Europe, Asia, America, and Africa, suicidality in HIV has a bimodal distribution, with peaks at the time of diagnosis with initial HIV seropositivity or infection and at end-stage illness with AIDS [14, 29].

Tables 13.1, 13.2, 13.3, 13.4 and 13.5 describe psychological and social factors, affective states, medical and psychiatric multi-morbidities, and iatrogenic predisposing factors associated with suicide in persons with HIV infection [1, 13, 23, 24, 30–39].

It is noteworthy that a high suicide rate occurs with comorbid major depressive disorder and posttraumatic stress disorder [40, 41], common coexisting conditions in persons with HIV infection [42]. While affective states of depression, guilt, anger, fear, and shame are commonly present and increase suicide risk in persons with HIV, hopelessness has the strongest association with suicide [28]. In areas of the world where people with HIV remain highly stigmatized, affective states of guilt and shame may compound hopelessness to trigger suicidal crises. The following

Table 13.1 Suicide in HIV – predisposing psychological and social factors

Poor or restricted social support
Decreased social integration
Poor family relations
Unemployment
Unstable housing
Being burdened by caregiving
Poverty
HIV stigma
Previous suicide attempts
Highly lethal planning
Family history of suicide attempts
Family history of death by suicide
Adverse childhood events
Stressful or traumatic events in adulthood
Bereavement and anniversary reactions
Impulsivity
Disclosing seropositive status
Not disclosing seropositive status
Having an HIV seropositive spouse or children
Learning of seropositive status
Onset of opportunistic infection
Learning about fluctuations of immune function (e.g., drop in CD4 cell count and increase in viral load)
Awareness of cognitive decline
Sense of foreshortened future
Access to means (firearms, pesticides, medications)

Table 13.2 Suicide in HIV – predisposing affective states

Hopelessness
Helplessness
Worthlessness
Loneliness
Guilt
Shame
Sadness
Anxiety
Anger

Table 13.3 Suicide in HIV – predisposing medical multi-morbidities

Nociceptive and neuropathic pain
Pruritus
Intractable hiccups
Insomnia
Dyspnea
Nausea
Emesis
Wasting
Vision loss
Motor deficits
Paresis
Reduced serotonin function
Opportunistic infections
HIV-associated cancers

Table 13.4 Suicide in HIV – predisposing psychiatric multi-morbidities

Alcohol use disorder
Stimulant use disorder
Cocaine use disorder
Opioid use disorder
Tobacco use disorder
Alcohol-induced depressive disorder
Stimulant-induced depressive disorder
Cocaine-induced depressive disorder
Opioid-induced depressive disorder
Opioid withdrawal
Alcohol withdrawal
Cocaine withdrawal
Depressive disorders
Posttraumatic stress disorder
Schizophrenia and other psychotic disorder
Personality disorders
Adjustment disorders
Major neurocognitive disorder (dementia)
Delirium

Table 13.5 Suicide in HIV – predisposing iatrogenic factors

Akathisia from first- and second-generation antipsychotics
Dysphoria from alpha interferon
Negative affective states and suicidality from efavirenz
Depression and suicidality from treatment with dolutegravir
Depression and suicidality from treatment with raltegravir
Depression and suicidality from treatment with rilpivirine
Behavioral disinhibition from antidepressants when anergia lifts before sadness
Lipodystrophy from ARV medications causing disfigurement

vignettes illustrate multidimensional aspects to be considered when assessing for predisposing factors.

Case Vignette 13.1
M., a 20-year-old man living in Jakarta, Indonesia, learned that he became infected with HIV as an adolescent after sharing needles when injecting heroin. M. was an only child of hardworking parents who rarely spent time at home. No one in his family knew about his addiction. A medical workup for intractable diarrhea requiring hospitalization led to diagnoses of a gastrointestinal opportunistic infection and HIV seropositivity. A psychiatric consultation and encouragement from other medical providers led to successful recovery from opioid dependence with sustained abstinence. A greater challenge was to inform his girlfriend of his medical condition. Their relationship of 3 years was approved by both families, and they planned a wedding in the near future. M.'s girlfriend knew of his substance use disorder and had tried to help him for years. After hard work building up courage to disclose his HIV status to her, she surprisingly reacted to the news in a loving and supportive way. But when she tested HIV seropositive, M.'s guilt and incapacitating shame for likely infecting her intensified, resulting in isolation, depressive symptoms, and paranoid thoughts. Thoughts of death and a suicide plan to jump from a building after weeks of isolating himself in his room resulted in a brief psychiatric admission. He was stabilized with a selective serotonin reuptake inhibitor and supportive psychotherapy. While his depressive symptoms lifted, sporadic suicidal ruminations persisted, mostly linked to unresolved affective states of guilt and shame.

Case Vignette 13.2
P. was a 26-year-old, married, and well-educated woman from northern Tanzania who found out that she was HIV infected when she was 6 months pregnant. She developed symptoms of major depressive disorder including

pervasive low mood, insomnia, weight loss, crying outbursts, and feelings of worthlessness and guilt in anticipation of giving birth to an HIV seropositive child. She was fearful of sharing her HIV status with loved ones. She attempted suicide twice during her third trimester by poisoning with pesticides. After giving birth, she disclosed her seropositive status to her family, who as she predicted became enraged and alienating. During the early phase of psychiatric outpatient treatment, on one night, she laid down with her baby on a highway and phoned her therapist to say goodbye. She was rescued from this suicide/infanticide attempt. She was treated with antidepressant medication and psychotherapy. In view of her inconsistent adherence to treatment and a tentative therapeutic alliance with her psychiatrist, her prognosis remained guarded.

The case of M. demonstrates how guilt regarding infecting partners and perceived stigma can increase suicide risk but also how the social support of loved ones and medication treatments of comorbid depression can mitigate that risk. The case of P. illustrates how societal attitudes, guilt, and alienation from family may compound depressed mood and other symptoms of depressive disorder to increase suicide risk, in spite of apparently adequate psychiatric treatment.

Serotonergic dysfunction is a common finding described in the neurobiology of suicide in most populations. Persons with HIV infection have decreased levels of cerebrospinal fluid (CSF) 5-HT and 5-HIAA, suggesting that the virus may interfere with serotonin production in the brain [43]. Recent data suggest that certain serotonin transporter gene polymorphisms may be associated with suicidality in HIV [44].

While identifying predisposing factors is vital for determining suicide risk, awareness of protective factors is essential for designing suicide prevention algorithms that will inform psychotherapeutic, public health, and psychosocial interventions.

Protective Factors

While the clinical valence of suicide protective factors may vary in diverse populations, understanding the totality of protective factors that may diminish risk is critical for adequate prevention and effective psychotherapeutic interventions. Table 13.6 describes research-validated protective factors proven to diminish suicide risk in persons with HIV infection [1, 39, 45].

Table 13.6 Suicide in HIV – protective factors

Positive reappraisal coping skills
"Taking-charge" attitude
Adequate understanding of illness
Using denial and isolation of affect without compromising treatment adherence
Treatment adherence
Increasing social support
Optimism
Feelings of responsibility toward family
Fear of social disapproval
Fear of suicide
Having reasons for living
Religious engagement
High levels of hope
Low levels of distress
Higher emotional expression
Higher depth processing
Experiential involvement
Self-esteem enhancement
Adaptive shift in coping strategies
Secure attachments
Meaning and purpose

The following vignette illustrates suicide protective factors in a person who has been HIV infected for decades who benefited from intensive psychotherapy and skillfully adapted to adverse life events, finding meaning in life even when threatened with overwhelming stressors.

Case Vignette 13.3
J. was a 60-year-old gay man in New York, USA, who was tested and learned of his HIV status 30 years previously. He was tested following the death of a romantic partner and the loss of many friends to complications of AIDS during the early years of the HIV pandemic. J. developed disabling cytomegalovirus (CMV) retinitis followed by immune recovery uveitis. Vision loss, complicated bereavement, alienation from most of his family because of his being gay, loss of employment as an editor in a mainstream publishing company, and oppressive poverty resulted in major depressive disorder. He was treated with intensive psychotherapy, but no psychotropic medication, as all antidepressant medications worsened his already compromised visual acuity. At the beginning of psychotherapy, he ambivalently related suicidal plans to jump in front of a moving train or overdose on antiretroviral medications. Psychotherapy treatment focused on symptomatic relief and maximizing

life's potentials. With encouragement, he allowed the therapist to help bridge connections with those family members who were less judgmental of his lifestyle and choices. He became active in NGOs helping older men living with HIV, learned computer programs to assist persons with low vision, and was referred to social services consultations with links to NGOs to find adequate housing and support services. He attended musical performances, listened to audio books, and developed a vibrant and consistently supportive social network. He continued psychotherapy (individual and or group modalities) for 25 years.

Suicide is never "random" and always meaningful. Psychodynamic explorations can be helpful to understand what motivates behavior that may result in death by suicide. Psychodynamic formulations are case-specific and need to consider the individual's social context, present and past, in order to adequately inform suicide prevention efforts.

Psychodynamics and Cultural Context

Recent advances in epigenetics validate what psychodynamic psychiatrists observed over time: early adversity alters neurobiology and gene expression, predisposing individuals to various psychiatric disorders [46] and suicidal behavior [47]. Psychodynamic formulations help clinicians to understand present stressors within the social context and throughout the lifespan. Early adversity, re-traumatization later in life, and intolerable affective states such as hopelessness, helplessness, loneliness, sadness, guilt, rage, anxiety, and shame, following experiences of loss, a sense of alienation, social oppression, and expendability, are common dynamic factors present in suicidal crises.

A basic psychoanalytic concept that merits discussion is meaningfulness, originally formulated as psychic determinism. Clinicians explore behavior as always being potentially meaningful and purposeful, rather than random. Attentiveness and empathic attunement to ambivalence in suicidal persons, the oscillation between extremes of wanting to live and wanting to die, is of essence to establish a therapeutic alliance. Freud and Abraham emphasized that loss is a precursor of depression, and internalized anger turned against the self may explain suicide. Rage and sadness coexist following loss of loved ones or loss of function and suicide may be cathartic while symbolically attempting to recapture what has been lost [48–50].

Overwhelmingly negative affects can lead to near-psychotic states where reality testing is compromised. Litman referred to this as a constriction of cognition resulting in the distorted view that suicide serves as the only way to alleviate suffering and distress [51]. Unbearable psychic angst interferes with creative thinking and makes it difficult to effectively access problem-solving skills and adaptive coping.

Table 13.7 Psychodynamics of suicide in HIV

Early adversity followed by re-traumatization and loss
Early trauma and re-traumatization creating a sense of foreshortened future
Anger/sadness turned against the self
Constriction of cognition – suicide as an illusory means to achieve control
Conflicts over relinquishing autonomy and intolerable dependency
Valuing autonomy over life itself
Inability to trust and accept help from significant others magnifying distress
A core sense of expendability that stems from alienation and loneliness
Insecure attachments with disturbance of self-esteem leading to poor self-care

Table 13.8 HIV, suicide, and social dynamics

AIDSism, HIV stigma, and discrimination
Addictophobia
Homophobia and heterosexism
Misogyny
Social disintegration and deregulation
Social endorsement of extreme individualism
Socioeconomic inequities
Recent immigration with poor acculturation
Epidemic of intimate partner violence
Dogmatic and inflexible religious attitudes

Countertransference avoidance may compound hopelessness and helplessness interfering with the collaborative and co-creative work necessary for suicide prevention.

Table 13.7 summarizes relevant suicide psychodynamics in HIV. The systematic study of suicide began in the discipline of sociology [52]. Social dynamics are particularly relevant to suicide in HIV [1]. These are summarized in Table 13.8.

Identifying predisposing factors and understanding individual psychodynamics and social dynamics are key to capitalizing on protective factors through collaborative work and comprehensive preventive efforts.

Prevention

There are many strategies clinicians can use to prevent suicide in people living with HIV, ranging from individual interventions to advocacy work for a larger population. On an individual level, data suggest that a high-risk period for suicide in persons living with HIV is immediately after diagnosis, when many patients are feeling intensely overwhelmed, isolated, stigmatized, and unsure of their prognosis [38]. Being aware of such a phenomenon, screening and closely monitoring patients with

new diagnoses, providing psychoeducation on resources, and bolstering their social supports may help prevent a suicidal crisis.

Suicide prevention starts with taking a suicide history of every patient with HIV. Clinicians need to inquire about suicide in detail and with comfort and must develop awareness of countertransference avoidance to avoid failure of therapeutic empathy. Negative affective states, through projective identification and enactments, may paralyze the clinician's ability to infuse hope and help the patient find alternatives to suicide. Allowing the patient to put difficult feelings into words, especially verbalizing affects of guilt, shame, rage, sadness, and despair, may prevent aggressive acting out and circumvent turning the negative emotions against the self. As a narrative discourse evolves amidst either unexpressed or torrential affects, a broader perspective may ensue, and suicidal impulses may dissipate once unendurable emotions are verbalized.

An adequate suicide history of an individual includes an assessment of past and current suicidal ideation, methods, plans, and intent as well as past suicide attempts and their severity and non-suicidal self-injurious behavior. The clinician obtains this history by asking both open-ended questions, e.g., "Tell me about your suicidal thoughts," and closed-ended questions, e.g., "Have you ever made a plan to end your life?" in a calm, caring, and non-judgmental manner [1]. A suicide history also systematically examines all predisposing and protective factors, some of which can be modifiable. Potentially modifiable factors include depressive, anxiety, and substance use disorders as well as untreated pain or other physical symptoms, co-infection with HCV, homelessness, and social isolation [31]. Depending on the level of suicide risk, some patients may require an inpatient hospitalization, while others can be safely managed in the outpatient setting. Table 13.9 lists important questions that the clinician needs to ask a patient in order to assess suicidality.

Identifying psychiatric symptoms and disorders in patients with HIV can lead to prompt and effective treatment, preventing suicide. A number of studies internationally have shown that depressive, anxiety, and substance use disorders are more common in patients with HIV and contribute to significantly increased risk for suicide [12, 13, 23, 32, 34, 38]. After conducting a thorough evaluation and making a diagnosis, cautious prescribing of antidepressants, anti-anxiety medications, and/or medication-assisted treatment for substance use disorders, while considering drug-drug interactions with antiretrovirals, can help to treat psychiatric disorders and mitigate risk. A clinician might also consider, if possible, avoiding efavirenz, which can be a highly effective antiretroviral treatment, but can also cause neuropsychiatric side effects including anxiety, mood changes, psychosis, and suicidal ideation in an estimated 40% of patients [33].

The clinician should be aware that in depressive disorders, anhedonia and psychomotor retardation often improve first, and hopelessness, dysphoria, and suicidal behavior take longer to improve [53]. Individual and group psychotherapy treatments aimed toward the patient's diagnosis can reduce symptomatic distress, promote conflict resolution, increase networking, and improve quality of life. Psychotherapy modalities that can help suicidal patients include interpersonal, cognitive-behavioral, motivational, dialectic-behavioral, psychodynamic, and

Table 13.9 Sample questions for evaluation of suicidality[a]

1. Do you wish you were dead?
2. Do you feel that your family/friends/partner/spouse/children would be better off if you were dead?
3. Do you have fleeting thoughts of suicide? Follow up with: What prevents you from acting on these suicidal thoughts?
4. Have you attempted suicide in the past?
5. Do you entertain ways of killing yourself?
6. Are you feeling suicidal right now?
7. Has anyone in your family died by suicide? If answer is no, reframe question: Has anyone in your family died in mysterious ways?
8. Do you feel sad?
9. Do you feel hopeless?
10. Do you have little interest or pleasure in doing things?
11. Do you use alcohol or other substances to escape/self-medicate/ease your distress?
12. Do you experience intense shame?
13. Do you experience intense guilt?
14. Were you abused as a child? Describe adverse life events you experienced as a child (may follow up with specific questions about emotional, physical, and sexual abuse)
15. Are you lonely?
16. Do you feel discriminated against?

[a]Follow up all Yes/No answers with: Could you describe/elaborate/tell me more about this?

supportive [1]. Undertreated chronic pain and physical symptoms may increase distress and precipitate suicidal ideation and behavior. Providing symptomatic relief and palliation of nociceptive and neuropathic pain, pruritus, diarrhea, nausea, emesis, and anorexia can avert a suicidal crisis in persons with HIV infection [9]. Furthermore, some data also suggest that co-infection with HCV raises suicide risk [31]. When possible, offering treatment for HCV, which can now be curative, can help to lower suicide risk.

Adverse childhood events (ACEs) are linked to poor health outcomes, reduced educational and occupational functioning, and high-risk behaviors. Preventing ACEs decreases leading causes of death, *including suicide* [54]. Interventions aimed at reducing ACEs during the sensitive period of development prevent suicide later in life. These include improving access to care and social and economic support, enhancing connections of children at risk to caring adults, and linking adults to family-centered addiction treatments and parenting interventions [54].

Multiple studies demonstrate the crucial role of perceived social support in mitigating risk of suicide in people living with HIV [32]. An individual clinician might effectively decrease isolation and alienation by allowing the patient in crisis to borrow ego strength. However, it is also critical to help mobilize the patient's family and friends to offer the suicidal person comfort and protection. Encouraging the patient to reach out to and confide in any available loved ones and engaging in joint problem solving to address how to involve social supports in the patient's care can be lifesaving. In some cases, when trusted significant others are unavailable or

nonexistent, suicidal patients are at higher risk and may need to be hospitalized until the crisis resolves and networking that builds on protective factors is in place. Homelessness is also a known risk factor for suicide in persons with HIV [31, 37]. Assisting a patient in connecting to any social or housing services available or to live with a friend or family member may help mitigate risk.

On a population level, promoting legislation and activism that protects vulnerable individuals from discrimination, stigma, and social oppression can make a major difference in the lives of individuals with HIV. Experiences of discrimination among people living with HIV including verbal, physical, and sexual violence, social exclusion, and workplace discrimination have be linked to increased suicide risk [31, 36]. To prevent suicide on a population level, clinicians should support public education about HIV, anti-bullying initiatives, equal rights for women and sexual minorities, and access to treatment for substance use disorders. Community-level suicide prevention activities may be necessary before national strategies are developed, especially in low- and middle-income nations. Restoring hope, developing goals and prospective thinking, making nurturing and reciprocal connections, addressing interpersonal conflicts, and finding meaning in life may repair the constriction of cognition that commonly increases risk in suicidal persons. Equally important to avert suicidal behavior are palliative care, reduction of distress, and having access to adequate medical treatments. Clinicians can act on many levels from the individual, to the family system, to a larger population to help decrease the risk of suicide in distressed people living with HIV.

Multiple Choice Questions

1. Adverse Childhood Experiences (ACEs):

   A. Do not affect development of anxiety disorders in adulthood
   B. Do not affect the development of depressive disorders in adulthood
   C. Lower the risk of suicide later in life
   D. Have a minimal impact on the global burden of disease
   E. Are associated with the intergenerational transmission of trauma

2. Research-validated protective factors proven to diminish suicide risk in persons with HIV infection include:

   A. Low levels of hope
   B. High levels of distress
   C. Having a sense of meaning and purpose
   D. Feeling detached from family
   E. Living in a middle-income country

3. Social dynamics that increase suicide risk in persons with HIV include:

   A. HIV stigma and discrimination

B. Internalized heterosexism
C. Having access to affordable healthcare
D. Recent immigration with adequate acculturation
E. Being part of a supportive community

4. Psychodynamic factors associated with suicide in HIV include:

A. Traumatic life events creating a sense of foreshortened future
B. Developing an erotic transference
C. Using defense mechanisms such as humor, altruism, and anticipation
D. Using defense mechanisms such as rationalization, sublimation, and reaction formation
E. Having an anxious attachment style

5. Iatrogenic factors associated with suicide in HIV include:

A. Akathisia from treatment with clonazepam
B. Depression and impulsivity from treatment with efavirenz
C. Impulsivity caused by low-dose nortriptyline
D. Impulsivity caused by low-dose lithium
E. Lowering of the seizure threshold cause by bupropion

Correct answers:
1. E; 2. C; 3. A; 4. A; 5. B

References

1. Alfonso CA, Stern-Rodriguez E, Cohen MA. Suicide and HIV. In: Cohen MA, Gorman JM, Jacobson JM, Volberding P, Letendre SL, editors. Comprehensive textbook of AIDS psychiatry – a paradigm for integrated care. 2nd ed. New York: Oxford University Press; 2017. p. 285–94.
2. Mars B, Burrows S, Hjelmeland H, Gunnell D. Suicidal behaviour across the African continent: a review of the literature. BMC Public Health. 2014;14:606.
3. Gabler T, Yudelowitz B, Mahomed A. Overdose with HAART: are we managing these patients adequately? S Afr Med J. 2011;101(8):520–1.
4. McManus H, Petoumenos K, Franic T, Kelly MD, Watson J, O'Connor CC, et al. Determinants of suicide and accidental or violent death in the Australian HIV Observational Database. PLoS One. 2014;9(2):e89089.
5. Chikezie UE, Otakpor AN, Kuteyi OB, James BO. Suicidality among individuals with HIV/AIDS in Benin City, Nigeria: a case-control study. AIDS Care. 2012;24(7):843–5.
6. Frierson RL, Lippmann SB. Suicide and AIDS. Psychosomatics. 1988;29(2):226–31.
7. Alfonso CA, Cohen MA. HIV-dementia and suicide. Gen Hosp Psychiatry. 1994;16(1):45–6.
8. Catalan J, Harding R, Sibley E, Clucas C, Croome N, Sherr L. HIV infection and mental health: suicidal behaviour--systematic review. Psychol Health Med. 2011;16(5):588–611.
9. Keiser O, Spoerri A, Brinkhof MW, Hasse B, Gayet-Ageron A, Tissot F, et al. Suicide in HIV-infected individuals and the general population in Switzerland, 1988–2008. Am J Psychiatry. 2010;167(2):143–50.
10. Capron DW, Gonzalez A, Parent J, Zvolensky MJ, Schmidt NB. Suicidality and anxiety sensitivity in adults with HIV. AIDS Patient Care STDs. 2012;26(5):298–303.

11. Ruffieux Y, Lemsalu L, Aebi-Popp K, Calmy A, Cavassini M, Fux CA, et al. Mortality from suicide among people living with HIV and the general Swiss population: 1988–2017. J Int AIDS Soc. 2019;22(8):e25339-e.
12. Hentzien M, Cabie A, Pugliese P, Billaud É, Poizot-Martin I, Duvivier C, et al. Factors associated with deaths from suicide in a French nationwide HIV-infected cohort. HIV Med. 2018; https://doi.org/10.1111/hiv.12633.
13. Lemsalu L, Rüütel K, Laisaar KT, Lõhmus L, Raidvee A, Uusküla A, et al. Suicidal behavior among people living with HIV (PLHIV) in medical care in Estonia and factors associated with receiving psychological treatment. AIDS Behav. 2017;21(6):1709–16.
14. Jia CX, Mehlum L, Qin P. AIDS/HIV infection, comorbid psychiatric illness, and risk for subsequent suicide: a nationwide register linkage study. J Clin Psychiatry. 2012;73(10):1315–21.
15. Bragança M, Palha A. Depression and neurocognitive performance in Portuguese patients infected with HIV. AIDS Behav. 2011;15(8):1879–87.
16. Rukundo GZ, Kinyanda E, Mishara B. Clinical correlates of suicidality among individuals with HIV infection and AIDS disease in Mbarara, Uganda. Afr J AIDS Res. 2016;15(3):227–32.
17. Bitew H, Andargie G, Tadesse A, Belete A, Fekadu W, Mekonen T. Suicidal ideation, attempt, and determining factors among HIV/AIDS patients, Ethiopia. Depress Res Treat. 2016;2016:8913160.
18. Peltzer K. Prevalence of suicidal ideation and associated factors among postpartum HIV-positive women in health facilities, South Africa. J Psychol Afr. 2015;25(6):547–50.
19. Ndetei DM, Khasakhala LI, Mutiso V, Mbwayo AW. Suicidality and depression among adult patients admitted in general medical facilities in Kenya. Ann General Psychiatry. 2010;9:7.
20. Passos SM, Souza LD, Spessato BC. High prevalence of suicide risk in people living with HIV: who is at higher risk? AIDS Care. 2014;26(11):1379–82.
21. Gurm J, Samji H, Nophal A, Ding E, Strehlau V, Zhu J, et al. Suicide mortality among people accessing highly active antiretroviral therapy for HIV/AIDS in British Columbia: a retrospective analysis. CMAJ Open. 2015;3(2):E140–8.
22. Ahmedani BK, Peterson EL, Hu Y, Rossom RC, Lynch F, Lu CY, et al. Major physical health conditions and risk of suicide. Am J Prev Med. 2017;53(3):308–15.
23. Kang CR, Bang JH, Cho SI, Kim KN, Lee HJ, Ryu BY, et al. Suicidal ideation and suicide attempts among human immunodeficiency virus-infected adults: differences in risk factors and their implications. AIDS Care. 2016;28(3):306–13.
24. Wang W, Xiao C, Yao X, Yang Y, Yan H, Li S. Psychosocial health and suicidal ideation among people living with HIV/AIDS: a cross-sectional study in Nanjing, China. PLoS One. 2018;13(2):e0192940.
25. Cohen MA, Alfonso CA, Tavakkoli M, Makurumidze G. HIV as the great magnifier of maladies: challenges for prevention and compassionate care. In: Javed A, Fountoulakis K, editors. Advances in psychiatry. Cham: Springer; 2019. p. 213–33.
26. Drapeau CW, McIntosh JL. U.S.A suicide 2017: official final data. Washington, DC: American Association of Suicidology; 2018. Available from: http://www.suicidology.org.
27. Roy A. Characteristics of HIV patients who attempt suicide. Acta Psychiatr Scand. 2003;107(1):41–4.
28. Cohen MA, Alfonso CA. AIDS psychiatry, palliative care and pain management. In: Wormser G, editor. AIDS and other manifestations of HIV infection. San Diego: Elsevier Academic Press; 2004. p. 566.
29. Cooperman NA, Simoni JM. Suicidal ideation and attempted suicide among women living with HIV/AIDS. J Behav Med. 2005;28(2):149–56.
30. Badiee J, Moore DJ, Atkinson JH, Vaida F, Gerard M, Duarte NA, et al. Lifetime suicidal ideation and attempt are common among HIV+ individuals. J Affect Disord. 2012;136(3):993–9.
31. Carrieri MP, Marcellin F, Fressard L, Préau M, Sagaon-Teyssier L, Suzan-Monti M, et al. Suicide risk in a representative sample of people receiving HIV care: time to target most-at-risk populations (ANRS VESPA2 French national survey). PLoS One. 2017;12(2):e0171645.

32. Casale M, Boyes M, Pantelic M, Toska E, Cluver L. Suicidal thoughts and behaviour among South African adolescents living with HIV: can social support buffer the impact of stigma? J Affect Disord. 2019;245:82–90.
33. Drury A, Gleadow-Ware S, Gilfillan S, Ahrens J. HIV and mental illness in Malawi and the neuropsychiatric sequelae of efavirenz. Malawi Med J. 2018;30(1):40–5.
34. Egbe CO, Dakum PS, Ekong E, Kohrt BA, Minto JG, Ticao CJ. Depression, suicidality, and alcohol use disorder among people living with HIV/AIDS in Nigeria. BMC Public Health. 2017;17(1):542.
35. Ferlatte O, Dulai J, Hottes TS, Trussler T, Marchand R. Suicide related ideation and behavior among Canadian gay and bisexual men: a syndemic analysis. BMC Public Health. 2015;15:597.
36. Ferlatte O, Salway T, Oliffe JL, Trussler T. Stigma and suicide among gay and bisexual men living with HIV. AIDS Care. 2017;29(11):1346–50.
37. López JD, Shacham E, Brown T. Suicidal ideation persists among individuals engaged in HIV care in the era of antiretroviral therapy. AIDS Behav. 2018;22(3):800–5.
38. Lu HF, Sheng WH, Liao SC, Chang NT, Wu PY, Yang YL, et al. The changes and the predictors of suicide ideation and suicide attempt among HIV-positive patients at 6-12 months post diagnosis: a longitudinal study. J Adv Nurs. 2019;75(3):573–84.
39. Zarei N, Joulaei H. The impact of perceived stigma, quality of life, and spiritual beliefs on suicidal ideations among HIV-positive patients. AIDS Res Treat. 2018;2018:6120127.
40. Oquendo M, Brent DA, Birmaher B, Greenhill L, Kolko D, Stanley B, et al. Posttraumatic stress disorder comorbid with major depression: factors mediating the association with suicidal behavior. Am J Psychiatry. 2005;162(3):560–6.
41. Sher L, Oquendo MA, Li S, Burke AK, Grunebaum MF, Zalsman G, et al. Higher cerebrospinal fluid homovanillic acid levels in depressed patients with comorbid posttraumatic stress disorder. Eur Neuropsychopharmacol. 2005;15(2):203–9.
42. Cohen MA, Alfonso CA, Hoffman RG, Milau V, Carrera G. The impact of PTSD on treatment adherence in persons with HIV infection. Gen Hosp Psychiatry. 2001;23(5):294–6.
43. Kumar AM, Berger JR, Eisdorfer C, Fernandez JB, Goodkin K, Kumar M. Cerebrospinal fluid 5-hydroxytryptamine and 5-hydroxyindoleacetic acid in HIV-1 infection. Neuropsychobiology. 2001;44(1):13–8.
44. Kalungi A, Seedat S, Hemmings SMJ, van der Merwe L, Joloba ML, Nanteza A, et al. Association between serotonin transporter gene polymorphisms and increased suicidal risk among HIV positive patients in Uganda. BMC Genet. 2017;18(1):71.
45. Barenbaum E, Smith T. Social support as a protective factor for children impacted by HIV/AIDS across varying living environments in southern Africa. AIDS Care. 2016;28(Suppl 2):92–9.
46. Dunn EC, Soare TW, Zhu Y, Simpkin AJ, Suderman MJ, Klengel T, et al. Sensitive periods for the effect of childhood adversity on DNA methylation: results from a prospective, longitudinal study. Biol Psychiatry. 2019;85(10):838–49.
47. Labonte B, Turecki G. The epigenetics of suicide: explaining the biological effects of early life environmental adversity. Arch Suicide Res. 2010;14(4):291–310.
48. Abraham K. Notes on the psychoanalytical investigation and treatment of manic-depressive insanity and allied conditions. In: Selected papers on psychoanalysis. New York: Basic Books; 1960; 1911. p. 137–56.
49. Abraham K. A short study on the development of the libido, viewed in the light of mental disorders. In: Selected papers on psychoanalysis. New York: Basic Books; 1960; 1924. p. 418–501.
50. Freud S. Mourning and melancholia. In: Strachey J, editor. Standard edition of the complete psychological works of Sigmund Freud, vol. 14. Hogarth Press; 1957; 1917. p. 237–60.
51. Litman R. Suicides: what do they have in mind? In: Jacobs D, Brown H, editors. Suicide: understanding and responding. Madison: International Universities Press; 1989. p. 143–54.

52. Durkheim E. Suicide: a study in sociology. New York: The Free Press; 1897/1951.
53. Mann JJ, Apter A, Bertolote J, Beautrais A, Currier D, Haas A, et al. Suicide prevention strategies: a systematic review. JAMA. 2005;294(16):2064–74.
54. Merrick MT, Ford DC, Ports KA, et al. Vital signs: estimated proportion of adult health problems attributable to adverse childhood experiences and implications for prevention-25 states, 2017–2017. MMWR Morb Mortal Wkly Rep. 2019;68:999–1005.