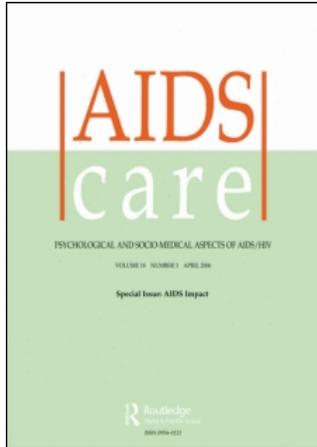


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Psychological distress symptoms of individuals seeking HIV-related psychosocial support in western Kenya

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Abstract

While researchers in many western countries have documented the nature of psychological distress that is commonly present among individuals living with HIV, there has been virtually no research on the same topic among other high prevalence areas of the world, particularly in countries like Kenya. This study sought to document the nature of psychological distress among 397 individuals living with HIV in western Kenya and who were participating in psychosocial support groups in conjunction with their enrolment in HIV-related treatment. Psychological distress was assessed using the Brief Symptom Inventory (BSI), a 53-item self-report psychological inventory that asks individuals to recall symptoms experienced in the prior seven days. The levels of psychological distress in this sample were moderate with a substantial proportion of participants meeting the criteria that suggested a need for further psychiatric evaluation. Findings support the need for further assessments of the range and nature of psychological distress among the diverse communities of countries like Kenya and the need for greater attention to the inclusion of mental health services in the rapidly developing treatment and prevention programs in this region of the world.

Introduction

A substantial body of literature has documented the psychological consequences of infection with HIV. While these studies have consistently documented that such challenges as adjustment disorder and depression are highly prevalent among those receiving an HIV or AIDS diagnosis, they also suggest that the range of psychological consequences varies greatly over the course of HIV disease and can be as diverse as the HIV disease spectrum itself (Atkinson & Grant, 1994; Blechner, 1997; Burnam et al., 2001; Kalichman, 1998; Perkins et al., 1994; Reece, 2003; Substance Abuse and Mental Health Services Administration [SAMHSA], 2005; Treisman et al., 2001). An understanding of HIV-related psychological distress is vital to facilitating the continued development of HIV-related care and treatment programs.

Understanding HIV-related psychological distress also has important implications for HIV-prevention efforts. Researchers have documented associations between distress and one's continued participation in behaviours that pose the potential for HIV

transmission to others or their own exposure to co-morbid infections following receipt of a diagnosis (Arnsten et al., 2002; Paterson et al., 2000; Singh et al., 1996; Tucker et al., 2003).

While significant attention has been devoted to these issues in countries like the US, little research has been conducted in the countries of sub-Saharan Africa. Given that the region includes only 10% of the world's population and 60% of the global population living with HIV, the impact of the HIV pandemic in sub-Saharan Africa has been devastating (UNAIDS, 2005). The Joint United Nations Program on HIV/AIDS (UNAIDS) estimated that by the end of 2004, the adult (15–49 years) HIV prevalence rate in sub-Saharan Africa was 7.4% with an estimated 25.4 million individuals living with HIV (UNAIDS, 2005). In 2004, sub-Saharan Africa accounted for 3.1 million new infections per year and another 2.3 million deaths due to complications related to AIDS (UNAIDS, 2005).

In the country of Kenya, it is estimated that 6.7% of the adult population (15–49) is living with HIV. This prevalence rate ranks Kenya fourth in infection rates among nations in the sub-Saharan

region (UNAIDS, 2005). However, to date, Kenya is among the countries in sub-Saharan that have been the focus of only a limited amount of research related to HIV and mental health.

In a study conducted in Kenya by Kiima and colleagues (2004), individuals living with HIV were reported to have a psychiatric morbidity prevalence rate of 75% compared to a prevalence rate of 36% among those without HIV (Kiima et al., 2004). However, in another study conducted in this country, researchers did not report significantly different levels of psychiatric morbidity when comparing a group of adults based on their HIV serostatus (Carson et al., 1998).

Given that Kenya is among the countries of sub-Saharan Africa for which significant resources have been dedicated to the enhancement of HIV-related treatment and prevention initiatives, a better understanding of mental health among those engaged with such programs will be beneficial to their continued development.

Purpose of this study

The purpose of this study was to assess the symptoms of psychological distress being presented by individuals living with HIV in western Kenya who were engaged with a large HIV treatment and prevention initiative. In particular, this study sought to understand symptoms of psychological distress among those in the patient population who were enrolled in a peer-facilitated psychosocial support group program in conjunction with their medical treatment.

Methods

All protocols for this study were approved by the Institutional Research and Ethics Committee of Moi University in Eldoret, Kenya and the Committee on the Protection of Human Subjects at Indiana University, Bloomington. Participants provided written informed consent prior to participation.

Participant recruitment

Participants were recruited from nine ongoing psychosocial support groups being held at the Moi University Teaching and Referral Hospital (MTRH) in Eldoret, Kenya. These psychosocial support groups were a component of the Academic Model for the Prevention and Treatment of HIV (AMPATH), an HIV-focused prevention and treatment initiative that is implemented through a partnership between the School of Medicine at Moi University (Kenya) and the School of Medicine at Indiana University in the US (Mamlin et al., 2004;

Wools-Kaloustian et al., 2006). During the week prior to data collection, five Kenyan research assistants informed support group members about the upcoming study and invited them to attend one of the data collection sessions to be held over a week-long period during the subsequent week.

Data collection

Upon arrival for the study, potential participants were greeted by a research assistant and given copies of the informed consent both in English and Swahili. Upon consenting to participate, individuals completed a paper-pencil survey that was in English. Throughout data collection, research assistants were available to translate unfamiliar terms and phrases to participants using a Swahili-based version of the study instrument.

Measures

Participant characteristics. The demographic measures included those to assess: age, gender, religion (Catholic, Protestant, Muslim, atheist, other), relationship status (married, divorced, widowed, significant other/partner, single), number of children, highest level of education attained (none, standard 1–3, standard 4–8, form 1–2, form 3–4, university), employment status (unemployed, part-time work, full-time work) and tribal affiliation.

HIV-related characteristics. HIV-related measures included those to assess: presence (yes/no) and length of time since HIV diagnosis (months), presence (yes/no) and length of time since AIDS diagnosis (months), primary sexual partner's serostatus (positive/negative/unknown), history of serostatus disclosure (yes/no) to family members and sexual partners (spouse, other sexual partners, parents, grandparents, children, uncles, aunts, cousins, friends). Medical chart abstractions were conducted to obtain each participant's most recent CD4 count (within six months prior to data collection).

Psychological distress symptoms. Psychological distress was assessed using the Brief Symptom Inventory (BSI), a 53-item self-report psychological inventory that asks individuals to recall symptoms experienced in the prior seven days. Symptoms are reported using a five-point scale that ranges from 0–4 (not at all, a little bit, moderately, quite a bit and extremely). The BSI assesses nine psychological distress dimensions (anxiety, depression, hostility, interpersonal sensitivity, obsessive-compulsive, paranoid ideation, phobic anxiety, psychoticism and somatization) and provides a measure of global distress, the global severity index (GSI). The BSI has been established as a reliable and valid tool for assessing psychological distress among

individuals living with HIV (Beal & Neild-Anderson, 2000; Goggin et al., 2001; McShane, Bumbalo, & Patsdaughter, 1994; Moneyham et al., 2000; Perry et al., 1990; Perry et al., 1993; Rabkin et al., 1997; Reece, 2003; Reece, Basta, & Koers, 2004).

Statistical analyses

Descriptive analyses were conducted to portray the sample and the levels of psychological distress. The *t*-test was used to compare gender on psychological distress; the corrected *t* value and degrees of freedom were used when the assumption of equality of variances was violated. Analyses of variance were conducted to compare patient characteristics (such as categories of education) and gender differences on dimensions of psychological distress and to assess interactions between participant's demographic and HIV-related characteristics and levels of psychological distress.

Results

Participant characteristics

A total of 397 individuals living with HIV participated. Of these, the majority (71.5%; $n=284$) were women and 27% ($n=107$) were men. The mean age was 36.4 years ($SD=7.84$) with a range of 18–61 years. The largest proportion of participants 37.8% ($n=150$) reported being married, with 25.9% ($n=103$) describing themselves as widowed, 24.4% ($n=97$) as single and 10.6% ($n=42$) as divorced. The average number of children for participants who had them (92.4%) was 3.3 ($SD=1.9$) and the median was 3.

The tribal affiliations reported were primarily consistent with the major tribes of the region and included Kikuyu (22.9%; $n=91$), Luyha (22.4%; $n=89$), Luo (18.4%; $n=73$), Kalenjin (12.8%; $n=51$) and Nandi (6.5%; $n=26$). There were 18 other tribes represented, each comprising 2.8% or less of the present sample. The vast majority of the sample (93.7%; $n=376$) described themselves as belonging to one specific Christian denomination.

With regard to highest level of education, 40.6% ($n=161$) of the sample reported completing only 'standard 4–8', the equivalent to middle school in the US, 32% ($n=127$) of the sample reported having completed 'form 3–4', the equivalent to high school in the US, and 1.5% ($n=6$) as having completed university. The majority of the sample described themselves as unemployed, 69.7% ($n=277$).

HIV-related characteristics

The mean time since HIV diagnosis among all participants was 27.99 months ($SD=28.63$). Of

these, 43% ($n=172$) had received a diagnosis of AIDS; the mean length of time since AIDS diagnosis was 21.49 months ($SD=23.98$). The mean CD4 count reported in the medical records of those who had received a CD4 assessment in the six months prior to the study ($n=342$) was 346.9 ($SD=219.83$) and the median was 310.

The largest proportion, 41.1% ($n=163$), reported that they believed their primary sexual partner was also living with HIV, 33.8% ($n=134$) reported their partner's HIV serostatus as unknown and 10.6% ($n=42$) reported that they believed their primary sexual partner was not infected. Serostatus disclosure varied throughout the sample, yet the majority reported that at least one other individual knew of their seropositivity (93%; $n=368$). Only 27% ($n=107$) reported having disclosed their HIV serostatus to their primary sexual partner.

Psychological distress symptoms

Assessments indicated a high level of internal consistency for the GSI ($\alpha=0.95$) and for the nine psychological distress dimension subscales. Internal consistency (α) ranged from a low of 0.63 on the psychoticism subscale to a high of 0.78 on both the depression and anxiety subscales.

The possible *t*-scores on the BSI for each dimension range from 30–80. The *t*-score means for men on each of the psychological symptom dimensions ranged from a low of 41.62 ($SD=8.72$) on the depression subscale to a high of 54.56 ($SD=9.26$) on the somatization subscale. Women's *t*-score means ranged from a low of 43.23 ($SD=9.19$) on the depression subscale to a high of 54.00 ($SD=8.90$) on the paranoid ideation subscale. The GSI *t*-score means for this sample were 44.66 ($SD=8.81$) for men and 45.21 ($SD=9.51$) for women. Table I provides an overview of the mean levels of psychological distress for each dimension by gender.

A *t*-score of 63 or higher on any BSI dimension is considered to be an indicator of the need for further assessment of psychiatric morbidity (Derogatis, 1993; Kellett et al., 2003). Those meeting this clinical criterion across the nine dimensions ranged from a low of 2.68% ($n=9$) on the measure for anxiety to 16.57% ($n=56$) on the measure for paranoid ideation. The proportion of the sample meeting this criterion on the global severity index (GSI) was 3.5% ($n=7$).

When assessed by gender, the symptom dimension for which the highest proportion of women (19.26%; $n=47$) met clinical criteria was paranoid ideation. Among men, the highest proportion (18.69%; $n=17$) met this criterion for somatization scale. Table II provides a summary of the

Table I. Mean levels of distress symptoms compared by gender.

Psychological distress measures	<i>n</i>	Male Mean (SD)	<i>n</i>	Female Mean (SD)	<i>t</i>	<i>p</i>
Raw BSI dimensions						
Anxiety	(94)	0.82 (0.80)	(242)	1.20 (0.90)	3.57	0.000
Depression	(85)	0.77 (0.83)	(239)	1.18 (0.94)	3.53	0.000
Hostility	(94)	0.81 (0.78)	(253)	0.98 (0.82)	1.78	0.077
Interpersonal sensitivity	(89)	1.03 (0.84)	(253)	1.28 (1.00)	2.16	0.032
Obsessive-compulsive	(90)	1.17 (0.86)	(237)	1.36 (0.93)	1.67	0.096
Paranoid ideation	(94)	1.17 (0.85)	(244)	1.57 (0.97)	3.53	0.000
Phobic anxiety	(93)	0.74 (0.74)	(252)	0.88 (0.81)	1.50	0.135
Psychoticism	(92)	0.82 (0.74)	(253)	1.01 (0.82)	1.88	0.061
Somatization	(91)	0.99 (0.76)	(244)	1.19 (0.84)	2.00	0.046
Global severity index	(59)	0.82 (0.58)	(140)	1.04 (0.70)	2.11	0.036

proportions that met this clinical criterion ($t \geq 63$) for each psychological distress dimension.

Since the raw scores of the BSI do not account for theoretical or normed gender differences, it was expected that *t*-tests would reveal statistically significant differences between genders for all raw scores of the dimensions. This was evident in some of the dimensions where women reported significantly higher symptoms of distress, specifically: anxiety ($t=3.57$; $p<0.000$), depression ($t=3.74$; $p<0.000$), interpersonal sensitivity ($t=2.16$; $p<0.05$), paranoid ideation ($t=3.75$; $p<0.000$) and somatization ($t=2.00$; $p<0.05$). The raw scores for the GSI also revealed a statistically significant difference between genders with women having a higher score than men ($t=2.11$; $p=0.036$).

Psychological distress and participant characteristics

It was hypothesized that specific demographic and HIV-related characteristics would be related to increased reports of psychological distress symptoms, particularly relationship status, level of education attained, employment status and CD4 counts. To assess these relations, analysis of variance (ANOVA) tests were used to assess levels of psychological distress (using raw scores for BSI dimensions) in

relation to each of these characteristics and gender. Specifically, in each model there were three independent variables: patient characteristic, gender and interaction between gender and characteristic. No significant differences were detected when psychological distress was compared by relationship status and gender or employment status and gender.

When compared by education level and gender, the only psychological distress symptom category for which differences were detected was somatization, where the interaction between gender and education was significant ($F(1,331)=4.57$; $p=0.033$). Among women, lower symptoms of somatization were reported by those with higher education (completion of at least Form 1–2) but among men, symptoms of somatization were lower among those with the lowest level of education (Standard 8 or lower).

HIV progression and distress

To assess level of HIV progression and psychological distress, CD4 counts were recoded into a binary variable, ($CD4 \leq 200$ or $CD4 > 200$), based on the extent to which this CD4 level is often used as one criterion for an AIDS diagnosis. ANOVAs were conducted to analyse differences in psychological distress among men and women based on this

Table II. Proportion of sample meeting psychiatric morbidity criteria.

Psychological distress measures	<i>n</i>	Male <i>n</i> (%)	Female <i>n</i> (%)	Total <i>n</i> (%)
BSI dimensions				
Anxiety	(336)	3 (3.19)	6 (2.48)	9 (2.68)
Depression	(327)	2 (2.35)	7 (2.93)	9 (2.78)
Hostility	(324)	3 (3.19)	13 (1.19)	16 (4.61)
Interpersonal sensitivity	(342)	1 (0.11)	13 (5.13)	14 (4.09)
Obsessive-compulsive	(347)	2 (0.02)	10 (2.37)	9 (2.75)
Paranoid ideation	(338)	9 (9.57)	47 (19.26)	56 (16.57)
Phobic anxiety	(345)	6 (6.45)	15 (5.95)	21 (6.09)
Psychoticism	(345)	4 (4.26)	14 (5.53)	18 (5.22)
Somatization	(335)	17 (18.69)	28 (11.48)	45 (13.43)
Global severity index	(199)	2 (0.03)	5 (3.58)	7 (3.51)

*BSI (*t*-score ≥ 63).

new categorization of CD4 count. Statistically significant differences were detected on the hostility ($F(1,300) = 6.25; p = 0.013$), interpersonal sensitivity ($F(1,292) = 3.11; p = 0.079$), phobic anxiety ($F(1,295) = 6.82; p = 0.009$) and psychoticism subscales ($F(1,294) = 3.56; p = 0.060$), as measured with the BSI between gender and CD4 counts. For women on each of these psychological symptom dimensions, a CD4 count ≤ 200 was associated with significantly higher levels of psychological distress symptoms while among men, this same CD4 level was associated with significantly lower levels of psychological distress on these dimensions.

Discussion

This study provides one of the first comprehensive assessments of psychological distress among individuals receiving HIV-related care in Kenya. Findings suggest a need for continued assessment of psychological distress among clinical populations in countries like Kenya and support the need for continuing to develop mechanisms that can be responsive to the mental health needs of individuals seeking HIV-related care.

The levels of psychological distress in this sample were moderate with a substantial proportion of participants meeting the criteria that suggested a need for further psychiatric evaluation. The BSI raw scores for the dimensions of phobic anxiety, psychoticism, obsessive-compulsive and hostility did not reveal statistically significant differences between men and women in this sample, although women scored higher on the raw score means of all the other dimensions and the GSI. Analyses with the BSI t -scores did reveal that women scored statistically higher on the paranoid ideation scale.

It was hypothesized that those with higher levels of completed education would have higher scores on the measures of psychological distress among both men and women. Findings supported this hypothesis; the only statistically significant differences were found on the dimension of somatization. The findings suggest that women are less likely to report psychological distress symptoms that are physically manifested when they have an education equivalent to early high school, while men are less likely to report these physical manifestations of psychological distress when they have completed lower levels of education. Somatization was detected at a high level among both the men and women in this sample, which suggests the need to incorporate mental health assessment, referral and treatment into the clinical continuum.

In a culture where regular employment is not typically consistent, it was hypothesized that there would be higher levels of psychological distress

among unemployed individuals. This was not evident in the analyses for any of the psychological distress dimensions. However, employment status may be an arbitrary variable in a population where unemployment was present among 70% ($n = 277$) of the sample. In studies that explored the predictors of psychological distress and HIV in the US, employment-related variables have been detected as predictors of elevated psychological distress levels. More research will be necessary to understand how these social and environmental variables interact in the context of western Kenya.

Relationship status was also hypothesized to be a differentiating variable for psychological distress, however this was not supported. This may also indicate that variables interrelated in Western cultures do not apply in a context such as western Kenya. In the previously discussed studies, having a spouse or partner was associated with lower levels of risk of infection and higher levels of psychological distress (Budin et al., 2004; Sullivan et al., 1999). Perhaps the assumption that the primary source of support networks is a spouse or significant other is a parameter that is too limiting in this sample, specifically due to the support network context in which this study was conducted. Future studies should examine the role of support networks in this population.

The CD4 counts reported in this study were consistent with the CD4 count means of the AMPATH patient population, the population from which this sample was recruited. Women with CD4 counts lower than 200 scored significantly higher on hostility, interpersonal sensitivity, phobic anxiety and psychoticism. Psychological distress is expected to increase with HIV disease progression, specifically related to the increase of physical symptoms. Anxiety and mood disorders have been shown to increase during later stages of HIV disease, findings consistent with those among women in this study (Atkinson & Grant, 1994; Blechner, 1997; Burnam et al., 2001; Kalichman, 1998; Perkins et al., 1994; Treisman et al., 2001). However, among men, analyses revealed that low CD4 counts were associated with very low levels of psychological distress symptoms among the same dimensions; hostility, interpersonal sensitivity, phobic anxiety and psychoticism. That men had lower levels of psychological distress in later HIV stages is not consistent with previous research (Atkinson & Grant, 1994; Judd et al., 2000; Kalichman, 1998; Lyketsos, 1996).

While the findings provide valuable insight into the nature of psychological distress symptoms present among those living with HIV in Kenya, there are limitations that may restrict the extent to which the findings can be generalized to the population of individuals living with HIV in Western Kenya.

This study involved only data collection from those who were members of the support group component of the care continuum and those who were willing to provide self-reports of psychological distress; these selection biases may limit the generalizability of the study findings.

The self-reported nature of this study also resulted in additional limitations, as do most self-reported studies (Kroenke, 2001). The psychological distress items may have been perceived as very sensitive or personal to the participants, rendering them uncomfortable reporting honest responses. Social desirability also likely played a role in the responses on the instruments. Sharing distress with others, even on a piece of paper, may have been viewed as inappropriate in this cultural context.

There are also important cultural limitations of the study to consider. The overall notion of psychological distress may be one that is culturally defined. This study used instruments that were developed primarily for use with a US population. While the language used in these psychological distress measures may be similar in both the US and Kenya, the cultural meanings and how distress is operationalized may not be similar. Through discussions with the leaders of the support groups and individuals living with HIV in Kenya, it was apparent that psychological distress was considered to exist only through a lens of HIV-related distress. It may be the case for some that the notion of psychological distress has only been introduced as part of learning how to cope with an HIV diagnosis. This is not to suggest that this population does not experience psychological distress, but rather, the lack of a more global conversation about mental health distress within the Kenyan population may indicate that those enrolled in HIV-related care have a different conceptualisation of distress than their non-HIV infected peers, further limiting the extent to which this study measured psychological distress as an absolute, and not HIV-related, construct.

Finally, it is important to note that the participatory nature of this study was essential to ensure the development of research questions, the study design and protocols for data collection. Future research conducted on HIV-related factors among African communities should continue to cultivate these partnerships between researchers with varieties of expertise and cultural insights given the extent to which they are likely to result in more informed and more culturally appropriate questions, protocols, interpretations and subsequent actions.

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