

## Improving well-being through psycho-education among voluntary counseling and testing seekers in Nigeria: A controlled outcome study

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### Abstract

The present study evaluated the efficacy of an individualized psycho-education (PE) program in reducing psychological distress and risky sexual behavior and enhancing self-disclosure associated with an HIV diagnosis among attendees of a walk-in non-governmental voluntary counseling and testing (VCT) center in Nigeria. Ninety-four consecutive individuals were asked to complete a pre-counseling, baseline questionnaire detailing their sociodemographic characteristics, psychopathology, sexual practices, self-disclosure intention and coping behaviors. They were screened for HIV and post-test counseled. Sixty-seven individuals (72.2%) who tested positive were consecutively randomly assigned to one of two groups: a PE program (four 60-minute weekly manual driven sessions) ( $N=34$ ) and a wait-list (WL) control group ( $N=33$ ). The major outcome measures used were the Crown Crisp Experiential Index (CCEI), the Beck Depression Inventory (BDI) (Beck et al., (1961), self-report sexual practices in past three months, self-disclosure intention and the brief COPE. At four weeks post-intervention, significant reductions on all measures as well as reduction in risky sexual practices were observed in the treatment group compared with the wait-list group. Treatment group members were also significantly more likely to disclose their serostatus and accept their HIV status as a way of coping, compared with the wait-list group. Overall, support was found for the efficacy of a manual-driven PE program for self-disclosure, reduction of depression and improvement in safe sexual practices.

### Introduction

High rates of psychosocial and psychiatric problems among people living with HIV/AIDS (PLWHA) have consistently been reported (e.g. Catalan, 1999; Ciesla & Roberts, 2001; Olley et al., 2003, 2004a). In Africa, the psychological and social impacts of the HIV/AIDS epidemic have not been well described (Olley et al., 2003; UNAIDS, 2003). While the prevalence of depression and post-traumatic stress disorder (PTSD) in PLWHA has been fairly well studied in developed countries (Ciesla & Roberts, 2001; Kelly et al., 1998), there have been few clinic and population-based behavioral datasets on the psychological distress in PLWHA in Africa (Freeman, 2004; Stoneburner & Low-Ber, 2004). Consequently the pattern of psychological problems, such as depression, anxiety, dysthymic and PTSDs, is less well understood among PLWHA. Indeed, given the important relationship between poverty and mental illness (Patel & Kleinman, 2003), it is possible that the prevalence of psychiatric disorder in PLWHA is higher in Africa than in the developed world.

However, recent reports indicate that diagnosed patients with HIV/AIDS in South Africa demonstrate substantial psychosocial difficulties capable of

impacting upon the course of the infection (Olley et al., 2003, 2004a).

The psychosocial context in which many HIV-positive individuals live is characterized by denial and grief. Isezuo and Onayemi (2004) found that the majority of patients who accepted VCT were not willing to disclose their serostatus. The reasons for non-disclosure were related to the grief and shock suffered after notification, worries about the effect on family members, denial and suicidal ideation.

The stress associated with the limited accessibility and affordability of antiretroviral (ARV) drugs, experienced by some PLWHA utilizing the Federal Government ARV drugs, may also have impacted on their psychological well-being. For example, a few months after the start of the PEPFAR (President Emergency Plan For AIDS Relief) ARV drug treatment initiative at 18 designated centers for one thousand HIV patients in Nigeria, the majority who were enrolled did not receive the drugs for several months and could not afford to obtain them elsewhere. Perceived inconsistency and loss of faith in the availability of ARV drugs have been documented as militating against the uptake of voluntary HIV counseling and testing (Iliyasu et al., 2005). Nevertheless, with improvement in the PEPFAR

program, with three thousand HIV/AIDS patients benefiting as a result of making available ARV drugs at affordable and subsidized rate, it is suspected that many patients would come forward and utilize the VCT facilities. Availability of an effective and adjunct PE intervention can help improve well-being among VCT seekers in Nigeria and may also encourage VCT participation.

A number of psychological interventions, including cognitive behavior therapy, self-management, supportive counseling and skills training, have been used to reduce psychological distress associated with living with HIV/AIDS. Findings about these interventions have varied: while some indicate an impact of a psychosocial intervention in alleviating depression and anxiety associated with HIV testing (Cote & Pepler, 2002; Inouye et al., 2001; Lechner et al., 2003), others have not (Ickovics et al., 1994). Lechner et al. (2003). A recent randomized ten-week cognitive-behavioral intervention to improve quality of life (QOL) among women with AIDS, found an increase over the course of interventions for total QOL. The cognitive behavioral group was significantly improved in the mental health related aspects of QOL compared with the psychoeducational from pre- to post-intervention.

Similarly, Inouye et al. (2001) investigated the benefits of a seven-week individual self-management and coping-skills training program on health and well-being among 40 men and women who were randomly assigned to the treatment or WL group. Significant improvements in coping strategies, mood and health attitudes were observed in the treatment group compared to the control group.

Cote and Pepler (2002), in a randomized trial, compared the effect of two interventions on negative affect in 90 hospitalized HIV-positive men. Results demonstrated that both interventions were beneficial in improving negative affect. A substantial decrease in distress, specifically of intrusive ideation, for the cognitive group was observed.

However, Ickovics et al. (1994) examined the behavioral and psychological consequences of HIV counseling and testing among 106 tested women and a comparison group of 54 never tested women at a community health clinic in Connecticut. Results showed that there was no effect of the counseling, which was administered five times over an 18-month period on depression, anxiety and intrusive thoughts among the tested women.

Variations in subject populations across studies may account for some of this inconsistency. As instructive as the above studies seem, few studies have targeted individuals who seek VCT. However, it is critical to understand the psychological reactions that often accompany the knowledge of sero-positivity so that interventions can be both targeted and

appropriate. There is evidence that the first three months post-VCT may be important from a psychological perspective (Perry et al., 1993). In an earlier study, Perry et al. (1990a) reported that over 40% of men in one cohort who were HIV-positive had attempted suicide within this three-month period. The authors suggested that HIV-positive individuals who are asymptomatic or had early HIV-related disease might experience higher rates of suicidal ideation compared with individuals who had AIDS (Perry et al., 1990a).

Studies on the association of psychosocial intervention on risky sexual practices among individuals living with HIV/AIDS also vary. While Ickovics et al. (1994) found a lack of effect of longitudinal VCT on changes in sexual behaviors of tested women at baseline and 18 months, later, in the US, Cleary et al. (1995), Belcher et al. (1998), Weinhardt et al. (1999) and Matovu et al. (2005) consistently documented a reduction in unsafe sexual practices among their samples. Cleary et al. (1995) examined the relative effectiveness of information and support based intervention on changes in unsafe sexual practices among a cohort of HIV-positive blood donors in New York. It was shown that a large decrease over a period of a year in unsafe sexual practices was noticed among this group. Earlier, Coates et al. (1989) had found the efficacy of stress management in changes in number of sexual partners among 64 gay men infected with HIV in San Francisco who were randomized into a treatment and WL control group.

More controlled research is needed on psychological interventions aimed at reducing social factors such as unsafe sexual practices and self-disclosure following HIV-positive notification, especially in a country like Nigeria, where the infection rate is relatively high (FMOH, 2003).

Psycho-education appears relevant in this regard, as emerging evidence in recently diagnosed HIV/AIDS patients suggests that anxiety and depression are the most common problems experienced (Olley et al. 2003). Both anxiety and depression have been shown to be responsive to PE therapy used with other populations of non-HIV/AIDS patients (Helgeson et al., 1990; May & Pfafflin, 2002; Olley et al., 2001). Furthermore, there is evidence that health illiteracy may compound emotional states in HIV/AIDS patients (Kalichman & Rompa, 2000) therefore, PE strategies for improving knowledge may be potentially effective to bring about adequate adjustment, particularly in Nigeria where motivation for testing is often hampered by inappropriate counseling and informed consent procedures (UNAIDS, 2000). Increased availability of ARV drugs on the part of the government has brought with it an urgent need for development and implementation of effec-

tive and feasible behavioral HIV interventions for HIV VCT seekers.

The present study is a controlled outcome evaluation of individualized PE with adult voluntary HIV counseling and testing seekers. It was hypothesized that the PE group would show significantly greater improvements in depression and anxiety and would be more likely to engage in safe sex practices and self-disclosure compared with a WL ('attention-placebo') control group and that these postures would be maintained at follow-up.

## Methods

### Procedure

Sixty-seven adult HIV-positive individuals were recruited from 94 individuals who came in for VCT over a three-month period at a community and private walk-in VCT center in Abuja, Nigeria. The 67 (72.2%) sero-positive individuals were consecutively assigned to two groups: PE ( $n = 34$ ) and an attention-placebo control WL group ( $n = 33$ ). The final sample consisted of 62 patients. Two of the five patients who dropped out of the study were assigned to the PE group; the remaining three were assigned to the WL group but were not prepared to wait for post-VCT counseling and assessment after test results were disclosed. All patients in the PE group attended four follow-up sessions of 60 minutes, while those in the WL group attended an average of 3.4 follow-up sessions also of 60 minutes duration.

Of the 67 patients, the average age was 27.4 years (SD 8.1) and the mean level of education was 15.4 years (SD 3.1). Twenty-two patients in the PE group ( $n = 34$ ) and nineteen in the WL group ( $n = 33$ ) were unemployed. All the VCT seekers were self-referred and had not received any VCT prior to the study. None had received professional counseling or psychiatric treatment prior to the present intervention. All the VCT seekers were given adequate pre-test counseling by trained counselors which focused on knowledge of HIV and sexually transmitted infections, individual risk and anticipation of distress about test results. After informed and written consent was obtained, blood samples were taken and tested for HIV by staining peripheral blood specimens with flow cytometry ELISA (Enzyme-linked Immunosorbent Assay) and the Western Blot Test. The clients paid a moderate charge of 500 Naira (equivalent of \$3.50) for the test. Test results were given about two hours later on the same day, at which time HIV-positive individuals ( $n = 67$ , 72.2%) received a post-test brief, emotional support detailing the implication of results and the need for weekly support and a follow-up for four weeks. A follow-up

appointment was usually given for the next day and one week later. Sero-negative clients ( $n = 27$ , 28.8%) received counseling on preventive measures and the need for repeat testing in three months. The 67 sero-positive patients already consecutively assigned to treatment or wait-listed were given appointments, usually within 24 hours. Statistical analyses revealed no significant differences between the two groups of seekers on any of the variables just mentioned.

The PE group received a total of four 1-hour sessions of individual PE therapy conducted weekly. The intervention was manualised and provided dyadic instruction focusing primarily on the cause and course of HIV/AIDS, its psychosocial impact and self-management skills. The protocol followed in the PE group was similar in procedure to one used among individuals with epilepsy in Nigeria (Olley et al. 2001) and can be made available to readers on request. The WL group also received a total of four 1-hour sessions of individualized discussion that were mainly supportive in nature and not manual-driven. Clients assigned to both PET and WL were seen weekly but assessed on three occasions (i.e. pre-test, post-test and at a four-week follow-up).

### Measures

*Beck Depression Inventory (BDI)*. Beck Depression Inventory is a well known and frequently used clinical and research instrument with excellent psychometric qualities for the assessment of a stable-trait-like property of depression. Its cultural validity and reliability have also been demonstrated for use in Nigeria (Olley et al., 2001).

*The Crown Crisp Experiential Index (CCEI)*. This instrument, formerly known as the Middlesex Hospital Questionnaire, was developed by Crown and Crisp in 1996 as a self-report questionnaire providing information usually generated by a formal psychiatric consultation and used for the screening of generalized anxiety disorder with an overall score for emotionality or neuroticism and with further sub-scores in six clinical subscales of eight items. The subscales are: free-floating anxiety (A), phobic anxiety (P), obsessiveness (O), somatic concomitants of anxiety (S), depression (D) and hysterical anxiety (H). Substantial inter-correlation among the six clinical subscales has been demonstrated. Internal consistency of the items was also established with coefficient Alpha of  $A = 0.78$  ( $P = 0.65$ ,  $O = 0.75$ ,  $S = 0.57$ ,  $D = 0.52$  and  $H = 0.83$ ) for all the six clinical scales respectively.

*Sexual risk behaviour*. A 20-item sexual risk behaviour scale, adapted from Kelly et al. (1992) and Mckinnon et al. (1993) and previously used in

studying PLWA in South Africa (Olley et al. 2004), was also administered to the participants. Voluntary counseling and testing seekers were asked about their sexual activities in the six months prior to VCT. Questions included: 'Have you used a condom the last time you had sex?', 'Have you had sex with a partner who used intravenous drugs?', 'Have you had sex after using alcohol heavily or other drugs?' and 'Have you had sex with a partner known for less than one day?' The scoring pattern adopted was that the higher scores indicated more risky sexual behavior (Olley et al. 2004).

*Self-disclosure intention.* Six items, which assessed intentions to disclose HIV-positive status to spouse, neighbors and colleagues at work, siblings, parents and children, were administered to the VCT seekers. Statements included: 'I would tell my spouse if the result of this test is positive' and 'I intend to let my employer know about my positive HIV status'. Clients were expected to indicate how likely they would respond to the above statements on a five point Likert format: 1 = highly likely, 2 = somewhat likely, 3 = somewhat unlikely, 4 = highly unlikely and 5 = undecided. The scoring pattern too had higher scores as showing greater intention to disclose HIV status to others.

#### *Coping behaviors*

Coping behaviors of participants were assessed with the Brief COPE (Carver, 1997), a 14-scale questionnaire spanning active coping, planning, positive reframing, acceptance, humour, turning to religion, venting of emotions, mental disengagement, denial, substance use, behavioral disengagement and emotional support. Each item was rated on a four-point Likert-scale: 1 = 'I did not do this at all' to 4 = 'I did a lot of the activities in the past three months'. Higher scores indicated more of the specific coping method used (Olley et al. 2003).

## Results

Table I, which compares the socio-demographic characteristics of the HIV-positive and -negative VCT seekers, shows a preponderance of females in the entire sample. More females were also found in each of the HIV-positive and -negative groups. HIV-negative individuals were significantly more likely to have more years of education compared with the HIV-positive group. There were also significant differences in employment status. The HIV-negative group was more likely to be employed. Most of the HIV VCT seekers were either single (never married) or widowed. There were no significant differences in age between the two groups.

Table I. Demographic characteristics of HIV VCT seekers ( $n = 89$ ).

	HIV-positive ( $n = 62$ )%	HIV-negative ( $n = 27$ )%	$P$
Gender			0.00**
Male	27 (43.5)	17 (63)	
Female	35 (56.5)	10 (37)	
Age			0.78
Mean (SD)	28.14 (2.09)	29.08 (3.11)	
Years of education			0.05*
Mean (SD)	12.27 (2.11)	16.49 (3.95)	
Employment			0.00**
Never employed	10 (16)	06 (22.2)	
Presently employed	20 (32)	19 (70.4)	
Presently unemployed	32 (52)	02 (7.4)	
Marital status			0.19
Never married	30 (48)	14 (52)	
Married/co-habiting	11 (18)	04 (15)	
Widowed	15 (24)	06 (22)	
Separated/divorced	06 (10)	03 (11)	

\* $P < 0.05$ , \*\*  $P < 0.00$ .

Table II shows the results of a series of repeated-measures ANOVA. These yielded a substantial significant main effect between the groups on measures of depression, neurotic disorders, sexual practices and self-disclosure intention, respectively. For depression, as compared with the WL control group, the PE group showed a significant decrease in depression scores. In addition, as compared to the WL group, the PE group showed a significant decrease in the aggregate score of neurotic disorders. Moreover, the PE group also demonstrated a significant increase in safe sex practices and self-disclosure of HIV status to significant others when compared with the WL group at four-weeks follow-up.

For within-group analyses, the treatment group showed a significant decrease in depression scores from baseline to four weeks post-assessment, as measured by the BDI ( $F = 21.0$ ,  $P < 0.001$ ) and a significant increase in self-disclosure intention ( $F = 4.03$ ,  $P < 0.05$ ). The treatment group also showed significant decrease on all measures of neurotic disorders as measured by the CCEI from pre- to four weeks post-assessment. Overall neurotic disorders showed a significant decrease in level from pre- to four-weeks post-assessment ( $F = 20.42$ ,  $P < 0.001$ ).

A breakdown of results by sub-scale showed significant decrease in generalized free-floating anxiety ( $F = 18.7$ ,  $P < 0.001$ ), somatic concomitant of anxiety ( $F = 8.01$ ,  $P < 0.001$ ), obsessiveness ( $F = 7.91$ ,  $P < 0.01$ ) and depressive anxiety ( $F = 15.07$ ,  $P < 0.001$ ) from pre- to four weeks post-assessment, respectively.



Table II. A comparison of pre/ post-VCT and four-months assessment scores between HIV-positives in psycho education (PET) group and waiting list (WL) group.

Scale/sub-scale	PE group pre-VCT assessment (mean/SD)	PE group post-VCT assessment (mean/SD)	WL group pre-VCT assessment (mean/SD)	WL group post-VCT assessment (mean/SD)	PE group at 4-weeks follow-up (mean/SD)	WL group at 4-weeks follow-up (mean/SD)	Main effect F value	P value
Depression (BDI)	19.00 (6.4)	18.07 (1.2)	17.04 (2.4)	18.11 (3.7)	5.71 (1.5)	14.16 (2.5)	21.06	<0.00
Neurotic disorders	24.10 (9.4)	19.05 (1.8)	25.10 (6.4)	29.01 (5.4)	8.07 (1.9)	14.9 (3.5)	24.42	<0.00
<i>Free floating anxiety</i>	9.11 (1.3)	7.03 (2.05)	8.3 (5.1)	9.02 (1.5)	3.2 (2.1)	6.4 (1.2)	16.70	<0.00
<i>Phobia</i>	4.09 (1.4)	3.17 (2.0)	5.00 (1.9)	4.20 (2.1)	2.00 (1.4)	5.3 (2.7)	4.21	>0.05
<i>Somatic concomitant of anxiety</i>	8.41 (2.9)	7.10 (1.7)	8.35 (2.2)	8.12 (1.8)	4.21 (2.1)	7.01 (1.9)	8.01	<0.00
<i>Obsessionality</i>	7.11 (2.0)	6.10 (1.05)	7.30 (2.6)	6.12 (1.8)	3.87 (2.3)	6.84 (4.2)	7.91	<0.00
<i>Depressive anxiety</i>	8.11 (4.9)	7.10 (2.1)	8.16 (4.0)	9.40 (2.3)	2.1 (1.7)	7.45 (2.6)	15.07	<0.00
<i>Hysterical anxiety</i>	2.94 (2.2)	3.20 (1.5)	4.02 (2.6)	4.63 (2.0)	2.1 (0.8)	2.98 (1.7)	1.56	NS
Self disclosure intention	6.4 (2.1)	6.67 (3.7)	8.45 (4.2)	9.18 (3.0)	3.2 (1.4)	6.43 (1.7)	4.03	<0.05
Sexual risk practices	15.10 (5.7)	14.89 (4.5)	13.24 (2.7)	14.01 (2.1)	6.74 (1.6)	9.21 (1.3)	7.56	<0.00
<b>Coping Behaviors</b>								
<i>Acceptance</i>	3.62 (0.46)	3.34 (0.7)	4.21 (0.9)	4.23 (0.4)	6.78 (1.9)	3.49 (0.32)	18.7	<0.00
<i>Denial</i>	5.11 (0.52)	5.23 (1.9)	6.65 (1.3)	6.86 (1.5)	1.53 (1.6)	5.11 (2.1)	5.96	<0.05
<i>Substance use</i>	4.12 (2.0)	4.23 (1.9)	4.55 (0.4)	4.34 (1.5)	1.21 (0.7)	3.21 (0.64)	6.30	<0.00
<i>Emotional support</i>	2.50 (0.32)	2.61 (0.43)	2.47 (0.75)	2.31 (0.5)	4.21 (1.5)	2.43 (0.78)	4.67	<0.05
<i>Instrumental support</i>	2.21 (0.45)	2.30 (0.38)	2.67 (0.80)	2.45 (0.6)	3.45 (1.4)	2.98 (0.79)	5.01	<0.05
<i>Humor</i>	2.16 (0.6)	2.19 (0.7)	3.01 (1.2)	3.0 (0.9)	2.98 (0.7)	2.32 (0.41)	2.64	NS
<i>Religion</i>	2.64 (1.0)	2.42 (0.9)	2.37 (1.1)	2.53 (0.8)	4.21 (1.5)	4.67 (1.7)	2.76	NS
<i>Self-blame</i>	4.24 (0.8)	6.40 (0.8)	3.78 (1.3)	7.10 (1.7)	2.37 (0.6)	5.32 (2.1)	7.32	<0.00
<i>Behavioural- disengagement</i>	3.40 (0.9)	3.11 (1.3)	2.89 (0.8)	2.78 (1.2)	4.05 (1.5)	2.01 (1.7)	4.78	<0.05
<i>Ventilation</i>	3.44 (1.2)	3.40 (0.4)	4.21 (1.9)	4.59 (2.5)	6.11 (2.3)	3.41 (1.5)	6.02	<0.00
<i>Planning</i>	4.54 (2.6)	5.0 (2.8)	4.80 (2.1)	4.25 (1.8)	7.01 (1.4)	3.89 (1.2)	11.23	<0.00
<i>Positive reframing</i>	2.34 (1.9)	2.78 (1.6)	2.07 (0.6)	2.55 (0.9)	5.11 (2.0)	3.14 (1.7)	6.32	<0.00

## Discussion

The findings were that HIV-positive individuals who were exposed to a manual driven PET showed significantly less depression and aggregate psychoneurotic symptomatology as compared with the WL control group and that there was a statistically significant increase in the practice of safe sex and self-disclosure of HIV to family members at four-weeks follow-up. There was a significant decrease of free-floating anxiety for the treatment group from pre-assessment to 4-week follow-up. Also a significant decrease in the somatic concomitant of anxiety, neurotic depression, phobia and obsessionality were recorded for the treatment group from baseline to 4-week follow-up. With the exception of humor and religion, significant differences were found in the coping styles used between the treatment and WL control group from pre-assessment to 4-week follow-up.

The results of this study provide the first evidence of efficacy of a manualised VCT PE program in alleviating a variety of psychosocial problems associated with HIV/AIDS testing and diagnosis among VCT seekers in Nigeria. This data support previous documentation of the treatment effects of the use of psychological intervention in improving health conditions among HIV/AIDS patients in general (Cote & Pepler, 2002; Inouye et al., 2001; Lechner et al., 2003) and particularly its effects in reducing emotional as well as social distresses associated with HIV/AIDS notification of HIV-positivity (Perry et al., 1990, 1991).

In support of earlier findings (Belcher et al., 1998; Cleary et al., 1995; Coates et al., 1989; Matovu et al., 2005; Weinhardt, et al 1999), where psychological interventions have been found to be effective in decreasing unsafe sexual behavior, the present study consistently found a reduction of risky sexual practices from the baseline assessment to 4-weeks follow-up in the treatment group. It therefore suggests that the PE program on safe sexual practices is feasible and effective within a community setting. Similarly our findings also show that PE might encourage sero-positivity disclosure, though this should be interpreted with caution especially with regards to intention to disclose and actual disclosure as our study did not assess the actual disclosure. More studies should evaluate actual disclosure and the effect it has on the psychological responses on the individual.

Another finding was that over the four weeks, there were improvements in adaptive coping behaviors used by HIV-positive individuals in the treatment group. While the use of acceptance, emotional and instrumental support, ventilation, planning and positive reframing by the treatment group increased

significantly, denial and substance use by the control group decreased significantly. A significant decrease in the use of self-blame, which may be connected with the personal influence of the researcher on the participants, was also observed in the treatment HIV-positive group.

In summary, since HIV infection seems to be increasing exponentially in Nigeria, there is the need for comprehensive mental health assessment and psychosocial care among VCT seekers at community level in the country. Voluntary control testing should also be encouraged. A limitation of this study was the highly selective nature of the participants. They were self-referred and may represent the most motivated and resilient participants and therefore not be representative of those living with HIV/AIDS in the community. The decrease in depression scores and psychoneurotic symptomatology within 4 weeks may in fact be an artifact of repeated assessment rather than actual prevalence.

## Conclusions

These findings provide encouraging support for the efficacy of a PE program in reducing social and psychological problems associated with HIV/AIDS diagnosis, especially given the quest for the establishment of more VCT centers to minimize HIV/AIDS transmission. The program could provide a short-term and effective therapy for psychopathology associated with HIV/AIDS diagnosis and a model of intervention for HIV/AIDS prevention at the community level. It is however recommended that the long-term outcome of this intervention be assessed in future studies.

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