Factors Associated with Psychosocial Services in Ogun State, Nigeria

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ABSTRACT

Background: Belonging to a social network group may influence a person’s decisions to engage in desired behavior. Aim: The objective of our study was to determine factors associated with utilization of psychosocial group services among people living with human immunodeficiency virus acquired immunodeficiency syndrome (PLWHAs) in a Teaching Hospital in Sagamu, Southwestern Nigeria. Settings and Design: This was an analytical cross-sectional study. All consenting PLHAs who attended the anti-retroviral clinic (ART) clinic during the study period were recruited into the study. Materials and Methods: A structured self-administered questionnaire was used to collect relevant information and a total of 205 PLWHAs were interviewed. Statistical Analysis Used: The data analysis focused on univariate frequency table and bivariate cross tabulations that identify important relationships between the variables. Odds ratio (OR) at 95% confidence level (CI) and Chi-squared and t-tests were also computed. Results: The overall point utilization of psychosocial services among the PLWHAs was 23.4%. Utilization of psychosocial services was statistically significantly associated with religion ($\chi^2 = 11.74, P = 0.003$), disclosure of human immunodeficiency virus status ($\chi^2 = 9.18, P = 0.01$) and satisfactory self-reported health-related quality-of-life (HRQOL) ($\chi^2 = 5.67, P = 0.017$) while sex ($\chi^2 = 0.02, P = 0.96$), education ($\chi^2 = 4.67, P = 0.32$) tribe ($\chi^2 = 1.46, P = 0.48$) adherence to ART drugs ($\chi^2 = 0.44, P = 0.51$), mental health status ($\chi^2 = 0.64, P = 0.42$) and occupation ($\chi^2 = 3.61, P = 0.61$) were not. The only predictor of utilization of psychosocial group services was religion (OR = 0.44, CI = 0.23-0.84). Conclusion: This study shows the effectiveness of the psychosocial networks group in improving the overall HRQOL of the PLWHAs.

Keywords: Nigeria background, people living with human immunodeficiency virus acquired immunodeficiency syndrome, psychosocial group services, service utilization

Introduction

Belonging to a social network group may influence a person’s decisions to engage in desired behavior. In addition, peer deviance has been associated with negative behavior such as early sexual initiation and other reproductive health behavior among youth. Recognition of such importance of social networks has led to advocacy for increased social network-based sexually transmitted infections/human immunodeficiency virus (STI/HIV) prevention research and interventions. These networks were designed to affect behavior change education about human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) treatment care and support and improve overall health-related quality-of-life (HRQOL) of their clients and reduce morbidity and mortality associated with the disease. Social networks have also been built around issues such as age, sex, diseases, etc. Different groups also gravitate to different social network. People are more likely to interact with people of their same race, religion, sexual orientation and age. The role of technology in psychosocial group network has been emphasized by several researchers. African Americans and English-speaking Latinos are especially high users of mobile technologies, such as cell phones and have more positive attitudes about social networking sites than others. Various chronic diseases such as malnutrition have similar support groups to effect behavioral education in the respective patients. However, the World Health Organization has supported such social network initiatives by developing various policies and guidelines calling for support for people living with human immunodeficiency virus acquired immunodeficiency syndrome (PLWHAs) and human immunodeficiency virus (HIV)-infected caregivers such as guidelines on Infant Feeding transitions for the 1st year of life.
integrated nutrition care and support for clinical preventing mother to child transmission (PMTCT) services\(^8\) etc.

Several studies have identified social influences as important determinants of reproductive health behaviors such as condom use among female sex workers.\(^{10-13}\) These studies suggest that belonging to such social network lead to reduction of harm associated with undesired behavior and prevent individuals in engaging in such undesired behaviors.\(^{14,15}\) Establishment of these social networks in several communities depend on mobilization through non-governmental organizations (NGOs) and depend on factors that identify and address collective interests.\(^{16-19}\)

**Aim of the study**

The objective of our study was to determine the factors associated with utilization of psychosocial group services among PLWHAs in a Sagamu, Southwestern Nigeria.

### Materials and Methods

#### Background of the study area

The study was conducted in Olabisi Onabanjo University Teaching Hospital, Sagamu and Southwest Nigeria. This hospital is funded by the government of Ogun State, in Southwest Nigeria and it serves as the referral center for other health facilities in all the Local Government areas in Remo and Ijebu regions of the state. These regions have a projected population of 1,186,282 people. In addition to providing emergency medical services to women referred from other centers, the hospital also provides out-patient services for Sagamu community and neighboring towns. Patients are expected to pay for their services though in emergency situations, they are managed within the means of existing resources before funds are made available. The anti-retroviral clinic (ART) clinic is run with free drug provision from support from Federal Ministry of Health in collaboration with implementing partners. The hospital provides blood transfusion services from limited stock and relatives of patients are requested to donate or pay for blood when blood transfusion is indicated, at times in cases of emergency.

#### Study design

This was a comparative cross-sectional study that quantitatively explored the awareness, knowledge and utilization of psychosocial group services among PLHAs. All consenting PLHAs who attended the ART clinic during the study period were recruited into the study.

#### Sampling size

The minimum sample size required for the study was estimated to be 138 using the formula:

\[
 n = \frac{z_\alpha^2 \times p(1-p)}{d^2} 
\]

where \( n \) is the sample size, \( z_\alpha \) is the standard normal deviate, set at 1.96 (for 95% confidence interval), \( d \) = is the desired degree of accuracy (taken as 0.05) and \( p \) = is the estimate of our target population having that particular characteristics. PMTCT constitute about 10% of the national HIV (i.e., 0.1) burden (frequency modulation, 2005).

Adjustment for a 10% rate of non-responses and invalid responses yielded a final sample size of 152.

#### Data collection

PLWHAs who consented to take part in the study were interviewed using a structured questionnaire, which was administered by two trained interviewer. The interviewers were resident doctors at the Community Medicine and primary health-care department of the Olabisi Onabanjo University Teaching Hospital. The data were collected on clinic days by the interviewers at the hospital. Completed questionnaires were scrutinized on the spot and at the end of the daily field sessions for immediate correction of erroneous entry.

Data were collected over 4 week’s period between 12\(^{th}\) January 2012 and 6\(^{th}\) February 2012 with the interviewers visiting the weekly clinic over the study period. (Most of them speak “pigin” English or Yoruba.)

#### Study instrument

The instrument was a structured questionnaire consisting of three parts, namely:

- **Section A:** Include information on socio-demographic data such as age, marital status, religion, employment status, ethnic group and educational status.
- **Section B:** Consist of HIV related knowledge, risk behavior and safe sexual practices.
- **Section C:** Is made up of knowledge and utilization of psychosocial services. We assessed utilization of psychosocial services by using a single item asking, “Have you ever attended the support group meeting for HIV/AIDS in this clinic or in any other place?”

The mental health status was assessed using the general health questionnaire-12 (GHQ-12) and the HRQOL was assessed using a 24-item questionnaire adapted from World Health Organization Quality-of-life questionnaire. The questionnaire was pretested among 20 patients visiting the out-patient department of the hospital. Appropriate adjustments were then made to the questionnaire to improve its internal validity.

#### Ethical consideration

Ethical clearance was obtained from the Olabisi Onabanjo University Teaching Hospital Ethics Board. Confidentiality on candidate’s information was maintained. On each of the clinic days, the matron and medical officer in-charge were informed for...
Statistical data analysis

Percentages or means and standard deviation were computed for baseline characteristics of women interviewed. The data analysis focused on univariate frequency table and bivariate cross tabulations that identify important relationships between the variables. The relationships between socio-demographic characteristics of the PLHAs and their knowledge and utilization of psychosocial services were examined through bivariate analysis, by computing odds ratio (OR) at 95% confidence level (CI) and Chi-squared and t-tests where appropriate. Predictor variables were restricted to outcome measures that were statistically significant. A $P \leq 0.05$ or confidence limits, which did not embrace unity (1) was considered as statistical significance.

Results

Socio-demographic characteristics of the respondents

A total of 205 PLWHAs were interviewed, 284 (67.5%) were males and 137 (32.5%) were females. Two-third 127 (67.6%) of the participants were aged 20-39 years and only 14 (7.4) and 47 (25.0) were less than 20 years and greater 40 years respectively. The mean age of the PLWHAs studied was 31.26 ± 5.38. One hundred twenty-three (60.0%) were married and 33 (16.1%) were singles, 21 (10.2%) were separated, 11 (5.4%) were divorces while 17 (8.3%) were widow/widower. Majority of the respondents 158 (77.1) were Christians and 166 (81.0%) indigenes (Yoruba). Half 106 (51.7%) of the respondents had a secondary level of education, 35 (16.6%) had tertiary education, 55 (26.8%) had primary education while 10 (4.9%) were illiterates. About two-third 133 (64.9%) were either unskilled or semi-skilled while 25 (12.2%) and 38 (18.5%) were skilled and professionals respectively with only 9 (4.4%) being unemployed. The socio-demographic characteristics of the participants are summarized in Table 1.

Utilization of psychosocial services in the management of HIV infection

The overall point utilization of psychosocial services in the management of HIV/AIDS infection among the PLWHAs was 23.4%. Those that do not utilize these services gave various reasons for these such as “not interested,” “not seeing the usefulness,” “home support” etc. About one-third 65 (31.7%) of the respondents had a poor knowledge of their treatment regimen. Nearly, 32 (15.6%) of the PLWHAs drink alcohol and 8 (3.9%) smokes cigarette. There was no statistically significant relationship between the utilization of psychosocial services and knowledge of drug regimen, drinking alcohol and smoking cigarette ($P = 0.78, 0.12$ and $0.18$ respectively) and fourteen (6.9%) of the respondents reported non-disclosure of HIV status. Those who did not disclose their HIV status were statistically significantly more likely to utilize the psychosocial services when compared with those that disclose it ($\chi^2 = 9.18, P = 0.01$). Thirty-one (20.0%) of the respondents reported non-adherence to anti-retroviral drugs; however, adherence was not statistically significantly associated with utilization of psychosocial services ($\chi^2 = 0.44, P = 0.51$). Mental health status of participants was assessed using the GHQ-12 instrument. One hundred thirty-five (86.0%) were mentally stable while 22 (14.0%) were not. Mental health status was not statistically significantly

| Socio-demographic characteristics | Total | Utilizes psychosocial services | Do not utilize psychosocial services | $\chi^2$ | $P$ value |
|----------------------------------|-------|-------------------------------|-------------------------------------|--------|----------|
| Age                              |       |                               |                                     |        |          |
| <20 years                        | 15 (7.3) | 3 (6.3) | 12 (7.6) | 0.98 | 0.61     |
| 21-40 years                      | 137 (66.8) | 30 (62.5) | 107 (68.2) |       |          |
| >40 years                        | 53 (25.9) | 15 (31.3) | 38 (24.2) |       |          |
| Total                            | 205 (100.0) | 48 (100.0) | 167 (100.0) |       |          |
| Sex                              |       |                               |                                     |        |          |
| Male                             | 55 (26.8) | 13 (27.1) | 42 (26.8) | 0.02 | 0.96     |
| Female                           | 150 (73.2) | 35 (72.9) | 115 (73.2) |       |          |
| Marital status                   |       |                               |                                     |        |          |
| Single                           | 33 (16.1) | 6 (12.5) | 27 (17.2) | 4.67 | 0.32     |
| Married                          | 123 (60.0) | 33 (68.8) | 90 (57.3) |       |          |
| Separated                        | 21 (10.2) | 5 (10.4) | 16 (10.2) |       |          |
| Divorced                         | 11 (5.4) | 0 (0.0) | 11 (7.0) |       |          |
| Widow/widower                    | 17 (8.3) | 4 (8.3) | 13 (8.3) |       |          |
| Ethnicity                        |       |                               |                                     |        |          |
| Yoruba                           | 166 () | 37 (77.1) | 129 (82.2) | 1.46 | 0.48     |
| Igbo                             | 22 (10.7) | 5 (10.4) | 17 (10.8) |       |          |
| Others                           | 17 (8.3) | 6 (12.5) | 11 (7.0) |       |          |
| Religion                         |       |                               |                                     |        |          |
| Christianity                     | 158 (77.1) | 29 (60.4) | 129 (82.2) | 11.74 | 0.003    |
| Islam                            | 45 (22.0) | 19 (39.6) | 26 (16.0) |       |          |
| Others                           | 2 (1.0) | 0 (0.0) | 2 (1.2) |       |          |
| Level of education               |       |                               |                                     |        |          |
| Nil                              | 10 (4.9) | 0 (0.0) | 10 (6.4) | 4.21 | 0.24     |
| Primary                          | 55 (26.8) | 12 (25.0) | 43 (27.4) |       |          |
| Secondary                        | 106 (51.7) | 29 (60.4) | 77 (49.0) |       |          |
| Post-secondary                   | 35 (16.6) | 7 (14.6) | 27 (17.4) |       |          |
| Occupation                       |       |                               |                                     |        |          |
| Unskilled                        | 76 (37.1) | 18 (37.5) | 58 (36.9) | 3.6  | 0.61     |
| Semiskilled                      | 57 (27.8) | 16 (33.3) | 41 (26.1) |       |          |
| Skilled                          | 25 (12.2) | 5 (10.4) | 20 (12.7) |       |          |
| Professional                     | 38 (18.5) | 9 (18.8) | 29 (18.5) |       |          |
| Unemployed                       | 9 (4.4) | 0 (0.0) | 9 (5.8) |       |          |
| Income                           |       |                               |                                     |        |          |
| Low                              | 163 (79.5) | 39 (81.3) | 124 (79.0) | 0.12 | 0.65     |
| High                             | 42 (20.5) | 9 (18.8) | 33 (21.0) |       |          |
Factors associated with utilization of psychosocial services

Utilization of psychosocial services was statistically significantly associated with religion and non-disclosure of HIV status. The Muslims were statistically significantly more likely to utilize this health service when compared with the Christians and other religions ($\chi^2 = 11.74, P = 0.003$). Those who refuse to disclose their HIV status to sexual partners were statistically significantly more likely to utilize the psychosocial services when compared with those that disclosed it ($\chi^2 = 9.18, P = 0.01$). The respondents who reported utilization of the psychosocial services reported good HRQOL score ($\chi^2 = 3.31, P = 0.07$). There was no statistically significant difference in the use of psychosocial services among the respondents due to sex ($\chi^2 = 0.02, P = 0.96$), education ($\chi^2 = 4.67, P = 0.32$) tribe ($\chi^2 = 1.46, P = 0.48$) and occupation ($\chi^2 = 3.61, P = 0.61$) as shown in Table 1 below. In the multiple logistic regression models, three variables were found to be independently associated with utilization of psychosocial services among the PLWHAs. These were religion (OR = 0.44, CI = 0.23-0.84), disclosure of HIV status (OR = 0.32, CI = 0.09-1.18) and HRQOL (OR = 5.49, CI = 0.73-113.83). The only predictor of utilization of psychosocial group services among PLWHAs in Sagamu, Nigeria was religion (OR = 0.44, CI = 0.23-0.84). This is as shown in Table 3.

Discussion

The overall point utilization of psychosocial services in the management of HIV/AIDS infection among the PLHAs was 23.4%. This shows a relatively low-level in the uptake of psychosocial group network services among the African population despite adequate information and encouragement to participate in these group networks. These social networks could be leveraged to promote sexual health among these PLHAs. Another factor may be the fact that most of the patient migrate from the rural areas to the urban areas to assess these services. Location of domicile and the various social ties should be considered in the formation of these social services.

The study shows that all the respondents who reported utilization of the psychosocial services reported Good HRQOL score. This suggests utilization of psychosocial group services will help in the improvement of HRQOL among PLWHAs. Several studies have identified social influences as important determinants of reproductive health behavior education change. This study shows the effectiveness of the psychosocial networks group in effecting behavior change education about HIV/AIDS treatment care and support and improves overall HRQOL of the PLHAs thus reducing morbidity and mortality associated with the disease.

| Table 2: Disease related characteristics and utilization of psychosocial group services |
|---|
| **Characteristics** | **Total** | **Utilizes psychosocial group services** | **Do not utilize psychosocial group services** | $\chi^2$ | $P$ value |
| HIV/AIDS knowledge | | | | | |
| Good | 140 (68.3) | 32 (66.7) | 108 (68.8) | 0.07 | 0.78 |
| Poor | 65 (31.7) | 16 (33.3) | 49 (31.2) | | |
| Length of disease | | | | | |
| <5 years | 34 (16.6) | 9 (18.8) | 25 (15.9) | 0.21 | 0.65 |
| >5 years | 171 (83.4) | 39 (81.3) | 132 (84.1) | | |
| Mental health status | | | | | |
| Normal | 135 (86.0) | 174 (84.9) | 39 (81.3) | 0.64 | 0.42 |
| Abnormal | 22 (14.0) | 31 (15.1) | 9 (18.8) | | |
| Disclosure of status | | | | | |
| Yes | 191 (93.2) | 41 (85.4) | 150 (95.5) | 9.18 | 0.01 |
| No | 14 (6.9) | 7 (14.6) | 7 (4.5) | | |
| Adherence | | | | | |
| Yes | 164 (80.0) | 40 (83.3) | 124 (79.0) | 0.44 | 0.51 |
| No | 31 (20.0) | 8 (16.7) | 33 (21.0) | | |
| Drink alcohol | | | | | |
| Yes | 32 (15.6) | 12 (25.0) | 20 (12.7) | 4.44 | 0.12 |
| No | 173 (84.4) | 36 (75.0) | 137 (87.2) | | |
| Smoke cigarette | | | | | |
| Yes | 8 (3.9) | 4 (8.3) | 4 (2.5) | 3.49 | 0.18 |
| No | 197 (96.1) | 44 (91.7) | 153 (97.5) | | |
| Health-related quality of life | | | | | |
| Poor | 188 (91.7) | 47 (25.0) | 141 (75.0) | 3.31 | 0.07 |
| Good | 17 (8.3) | 1 (5.9) | 16 (9.1) | | |

CI: Confidence interval; HIV: Human immunodeficiency virus; AIDS: Acquired immunodeficiency syndrome

| Table 3: Multivariate analysis-predictors of psychosocial services utilization |
|---|
| **Characteristics** | **Adjusted OR (95% CI)** |
| Religion | | |
| Christianity | 0.44 (0.23-0.84) |
| Islam and others | 1.00 |
| Disclosed HIV status | | |
| Yes | 0.32 (0.09-1.18) |
| No | 1.00 |
| Health-related quality of life | | |
| Yes | 5.49 (0.73-113.83) |
| No | 1.00 |

CI: Confidence interval; HIV: Human immunodeficiency virus; OR: Odds ratio

There was no statistically significant difference in the use of psychosocial group services among the respondents due to sex, education, tribe and occupation. Similar findings have also been reported by several studies. Furthermore, those who did not disclose their HIV status were statistically significantly more likely to utilize the psychosocial group services when compared with those that disclose it ($\chi^2 = 9.18, P = 0.01$). This is in contrast with several studies that report peer influences and
social network norms as important predictors of reproductive health behavior such as individual condom use\textsuperscript{12,25,26} important determinants of HIV infection\textsuperscript{26} and sexually transmitted infection infection\textsuperscript{25,26} and acceptance of HIV testing\textsuperscript{27-29}. However, these social networks may be a place of succor for such patient who may have lost the emotional comfort they may have enjoyed from relatives and sexual partners if they had disclosed their status.

This study suggests that religion may be an important issue to be considered when in the utilization of psychosocial services. Several studies have reported that people are more likely to interact with people of their same race, religion, sexual orientation and age\textsuperscript{7,30,31}. Religious beliefs and affiliation rather than the state of mind or health conditions was a major determinant factor in the utilization of psychosocial network services among the study population. This should be given adequate consideration in the establishment of these social networks.

Mental health status of participants was assessed using the GHQ-12 instrument. 135 (86.0\%) were mentally stable while 22 (14.0\%) were not. Mental health status, knowledge of drug regimen, drinking alcohol and smoking cigarette were not statistically significantly associated with utilization of psychosocial services. However, studies have shown that unhealthy behaviors ranging from smoking, over-eating, drug use and binge drinking may be normalized in the context of social network relationships and norm establishment\textsuperscript{12,14}. More research on the influence of social networks in creating and changing sexual behavioral norms is critical. While several community-level, peer-oriented acquired immunodeficiency syndrome prevention interventions have proven effective in changing behavior, the negative results reported here are echoed in other behavioral RCTs\textsuperscript{15,36}.

Social networks may be a useful organizational unit to design, tailor and implement STI/HIV prevention programs and health promotion\textsuperscript{27}. Especially, in regions without a strong civil society, targeting STI/HIV prevention to cohesive social groups may be able to more effectively and sustainably reach marginalized groups. The point should also be made that leveraging these social ties for STI/HIV prevention does not circumvent civil society or mean a lesser role for NGOs in health programs. On the contrary, designing health programs based on social ties may provide an organizational foundation to develop new NGOs and improve advocacy and outreach. Network-based interventions may offer leverage for addressing the disparate prevalence and outcomes of STIs/HIV.

Our study has certain limitations. The study findings are limited in terms of overall generalization and impact. As with all studies, there are some limitations to this study. First, we conducted data analyses based on baseline cross-sectional data; therefore, causal interpretations of the results cannot be established. Second, the reliance on self-report measures might be susceptible to information bias. Despite these limitations, we believe that our data provide useful information for the assessment and implementation of psychosocial group network services in Nigeria and will also inform policy decision in Nigeria and other low income countries.

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