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Substance Use, Fear of Future HIV Infection and Quality of Life of Household Heads in Rural and Semi Urban Communities of Ibadan

B.O. Olley.

Department of Psychology, Faculty of the Social Sciences, University of Ibadan, Nigeria

Quality of life (QOL) among household heads is important because it may serve as a mirror to underlying family psychopathology and well-being. This study examined pattern of quality of life of household heads and the role of substance use (tobacco and alcohol) in the impact of fear of HIV infection on quality of life among household heads in Nigeria. Five hundred and seventy nine (male: 77%; female 24%) household heads with mean age 43.9 ± 12.23 participated in the study. Mean quality of life were (24.64, SD = ± 4.80) for physical, (10.73, SD = ± 2.11) for social, (24.57, SD = ± 4.56); for environmental, and (21.44, SD = ± 4.11) for psychological).

Multivariate analysis showed a significant effect of fear of future HIV infection on physical [F (3, 564) = 13.367, $p < .05$], and social [F (3, 564) = 3.12, $p < .05$] qualities of life of household head respectively. A significant effect of tobacco use was also observed on environmental quality of life [F (1, 564) = 85.313, $p < .05$]. A significant interaction effect of fear of future HIV infection and either alcohol or tobacco use on physical quality of life [F (2, 564) = 16.921, $p < .05$] was observed. Also shown was a significant interaction effect of alcohol and tobacco usage on the physical [F (1, 564) = 14.986, $p < .05$] as well as social [F (1, 564) = 5.992, $p < .05$] qualities of life of the household heads.

It was concluded that substance use (tobacco and alcohol use) may attenuate the impact of fear of future HIV/AIDS infection on quality of life of household heads in Ibadan, Nigeria.

INTRODUCTION

Socio-economic pattern in Nigeria suggests a disproportionate distribution of wealth between the rural and the urban communities, with the rural areas mostly disadvantaged, creating untold poverty and decreasing psychosocial wellbeing and depleting quality of life (QoL). QoL is an important health parameter

that reflects the overall subjective wellbeing and life satisfaction in mental, social and physical dimensions of an individual (Niemi, Laaksonen, Kotila & Waltimo 1988). It is determined by several socio economic, physical and functionality factors (Gureje, Kola, Afolabi & Olley, 2008; Akinyemi, Owoaje, Popoola & Ilesanmi,

2012). For example, Gureje, et. el. (2008), found among community elderly in South West, Nigeria that economic status, functional disability, social support and participation in community activities predict QoL. Akinyemi, et al.(2012), observed the predictors of QoL among Oru community adults to include being unemployed, current illness and lack of religious activities involvement. Elsewhere, Tay, et. al.(2004), reported low financial security and dissatisfaction with work as predictors of poor QOL among rural dwellers in Ireland. Similarly, Kumar, et.al. (2014), in a study focused on the elderly in a community in India, found that low QOL was significantly associated with older age, no schooling, being without spouse, nuclear family, musculoskeletal disorder; low vision and hearing impairment. Similarly, Jinyao, et.al. (2014) found passive coping style as a factor influencing mental component of QoL among left-behind wives in rural china.

Household head is cardinal to the family unit bearing enormous social responsibility that has far fetched socio-economic constraints. The wellbeing of the household head may therefore serves as a mirror to underlying family psychopathology and in evaluation of other health and social statuses of family members. Indicators of quality of life among household heads are multi-factorial and determined by the cumulative impacts of residential area, access to basic life infrastructure, income and standard of living, and subjective satisfaction about life which covers physical, social and psychological well-being (Niemi et al 1988).

There has been a significant gap in the literature exploring epidemiological quality of life of household heads in Nigeria. Recent reports have demonstrated that the quality of life of community dwellers are significantly poorer than those found in the general population and could be a major indicator of a broader mental health problems (Gureje, et al 2015).

Despite the replete of studies documenting the associations of socio-economic and demographic

factors with QoL, there is a dearth of studies on household heads QoL and the role of substance use, and HIV/AIDS risk perception among community members in Nigeria. Indeed, several studies (see for examples, Obot, 2013; Gureje, et.al, 2007, 2008 and 2015) have shown that substance use (alcohol and tobacco) is prevalent in majority of communities in Nigeria. Similarly, HIV/AIDS has relatively been on the increase in the country, particularly in the rural communities where risk factors driving its spread is still common (REACH; 2010). Fears about transmitting HIV to others, worries about the future, anxiety about stigma and discrimination have been identified as important quality of life concerns for people living with HIV (George et al, 2014). Very instructively, Basta et.al. (2008) reported strong association among risk perception, psychological distress, quality of life and sexual risk behaviours.

In the light of the foregoing, this study examined the relationship between the quality of life of household heads and substance use (tobacco and alcohol) on one hand and the effects on the level of risk perception and fear of HIV infection among household heads in selected urban and rural communities in Ibadan. The motivation is to enrich the literature as little is known about the dual influence of drug use, risk perception of HIV/AIDS on the quality of life, particularly in Nigeria where determinants of psychological well-being is unclear. It is therefore hypothesized that given the high rate of risk perception and substance use prevalent in these communities; there will be a significant main and interaction influence on the QoL of the household's heads.

METHODS

Design and Sample

This is a cross section survey involving household heads male or female sampled from the entire living buildings in five communities of Badeku, Jago, Ojoku, Ajia and Olunloyo all in the Ona-Ara Local Government of Oyo-State using a multi-stage stratified area probability

sampling of households (Gureje et al 2006). They were 443 (76.5%) males and 136 (23.5%) females with mean age 43.9 SD 6.7 (range 20-72). Rural and semi urban distributions were 295 (50.9) and 284(48.1%) respectively. Respondents were informed about the study, invited to participate, but also assured of their right to decline. Participants were those who provided consent, mostly verbal before interviews were conducted.

INSTRUMENTS

Two complementary instruments were used to collect data. These are the Sexual and Perception of Risk Behaviors, and the Quality of Life assessment instrument. The Sexual and Perception of Risk Behaviors instrument comprised of a 14-item interviewer rated measure of sexual and perception risk behavior scale adapted from the work of (Olley et al 2006).

Head of households were asked about their sexual activities in the preceding 12 months prior to the study. Questions included: How many times in the past one month did you have sex?; 'Did you used a condom at last sex?'; how regular do you use condom during sexual intercourse; did you have sex with a partner who used intravenous drugs?; did you have sex after using alcohol heavily or other drugs?; 'had sex with a partner known for less than one day?'. For perception of risk, questions include, what is the likelihood that you are infected with HIV/AIDS?; how worried are you that you might catch HIV/AIDS in the future. For alcohol and tobacco use, questions were "do you smoke cigarette or sniff tobacco and "do you drink alcohol regularly"? The quality of life assessment instrument was an adaptation of the World Health Organization Quality of Life assessment instrument (WHOQOL-BREF)(The World Health Organisation Quality of Life Group, 1998). The WHOQOL-BREF contains a total of 26 questions arranged in a four-domain structure of physical health, psychological health, social relationships and environment (Gureje et al 2006). To provide a broad

and comprehensive assessment, one item from each of the 24 facets contained in the WHOQOL-100 was included in this abridged version. Two items from the overall quality of life and general health facet of the parent instrument were also included. The domain scores are indicative of an individual's subjective perception of their quality of life in the corresponding domain. Higher scores denote higher quality of life. The WHOQOL-BREF could be self-administered if respondents have sufficient ability. Otherwise, interviewer-assisted or interview-administered forms are used. It has an excellent internal Cronbach alpha = 0.86 reliability (Gureje, 2006).

PROCEDURE

Five communities in the Ona-Ara LGAs of Ibadan constituted the population for the study. The communities (villages and semi urban town) were selected by balloting from a population frame of the entire villages and semi urban settlements made available by the LGAs. Once chosen, the research assistants (RA) physically visited all residential buildings in the communities with the intention of identifying household heads with sufficient period of consistent living in the communities. Non resident household head are excluded. However, household heads that work outside the community but have two days/week sleep in the house were included. One eligible person per household was selected using the Kish method when the household had more than 1 eligible person (Gureje et al 2006). This occurs when there are more than one household heads in a building and where in case of a single building household, the original male head is dead and where more than one survival wives are available. Selection was made in the household by the interviewer after taking and recording a list of all surviving wives of the household. When the person so selected refused to participate, no replacement was chosen in the same household.

DATA ANALYSIS

The major outcome measure of interest in this study was the degree of quality of life (QOL).

Independent variables were derived from: (1) socio-demographic and community characteristics e.g., community type, age, gender, employment status, religion, family structure and occupational status (2) sexual and perception of risk behaviors, and (3) substance use (alcohol and tobacco). Models involving the independent variables were used in a multivariate regression to determine the joint and relative effects on the outcome dependent measure.

Statistical significance was set at the level of $p < 0.05$ (two-tailed). Data were managed and analyzed using SPSS software, version 21 for Windows.

RESULTS

Socio-Demographic differences between Rural/Semi-urban

As shown in table 1, there were significant differences between the rural and semi urban respondents in all socio-demographic variables except in gender and alcohol use.

A preponderance of younger age was observed in the semi-urban communities compared to the rural household heads. Conversely older household heads were more in the rural compared to the semi-urban communities. There was as much farmers as well as artisans in the rural compared to the semi-urban communities. There was a significant more monogamy in the semi-urban communities compared to rural communities.

Overall, males significantly reported better social QOL compared to females ($t=3.36$; $p<0.01$). Head of households with a monogamous family structure significantly reported better social QOL compared to those with polygamous family structure. There were no significant differences between other dimensions of QOL and other demographic features of the household heads.

Pattern of Quality of Life (QOL)

Though, there were no significant differences between the rural and semi-urban respondents in QoL as shown in table 2, the quality of life and dimensions showed a general better pattern in the entire studied communities: QOL-Physical, 24.6 ± 4.8 QOL-Psychological, 22.2 ± 18.4 , QOL-environment, 24.6 ± 4.5 with the exception of social quality of life QOL-social 10.7 ± 2.1 that was found to be low.

Sexual/Perception of Risk of HIV differences between the rural and semi-urban

As shown in table 3, the rural and semi-urban respondents were comparable as regard to sexual and perception of risk for HIV, but differ with respect to frequency of sex per month and consistent use of condom. There were significant more sex per month and a corresponding non condom use among the rural compared to the semi-urban respondents.

Multivariate analysis of variance (MANOVA)

Multivariate analysis of variance (MANOVA) of the studied variables as shown in Table 4 indicated that fear of HIV future infection had significant influence on the respondents' physical quality of life [$F(3, 564) = 13.367$, $p < 0.00$], and social quality of life [$F(3, 564) = 3.12$, $p < .05$], but not on environmental and psychological quality of life. This implies that the more fear of future HIV infection among the respondents, the less their physical and social qualities of life. Similarly, tobacco use significantly influenced environmental quality of life [$F(1, 564) = 4.08$, $p < .05$]. An interaction of tobacco and alcohol use showed a significant effect on the physical [$F(1, 564) = 14.986$, $p < .05$] as well as on the social [$F(1, 564) = 5.992$, $p < .05$] quality of life of the respondents respectively. Lastly there was a significant interaction of fear of future HIV infection, use of alcohol and tobacco on physical quality of life [$F(2, 564) = 16.921$, $p < .05$] only and not with other dimensions of quality of life.

Discussion and Conclusion

In view of limited knowledge, this study sought to describe the role of alcohol, tobacco and HIV/AIDS risk perception in quality of life of community dwellers in Nigeria. Significant findings were that: (1) when household heads fear future HIV infection, they report lower physical and social quality of life respectively; (2) household heads who use tobacco use report lower environmental quality of life; (3) household heads who use both alcohol and tobacco in combination report lower physical as well as lower social quality of life; (4) household head who reports fear of future HIV infection and also use alcohol and tobacco in combination reports lower physical quality of life.

Prior to this study, pattern of quality of life in epidemiological survey have included economic status, declining social support, physical diseases, disabling body functionality, negative health perception, passivity of coping styles, age and substance use (Tay et al 2004; Gureje et al, 2008; Akinyemi et al, 2012; Kumar et al 2014; George et al, 2014). Our finding of the influence of substance use (alcohol and tobacco) on quality of life is consistent with the works of Danhua et al (2005) who found alcohol intoxication to impact levels of satisfaction with life and work among rural-urban migrants in China. Similarly, confirmed was in the works of Silva Lima et al (2005) and Castro et al (2007). Both also found the association between substance use and lower report of quality of life among their samples in Indonesia and Brazil respectively.

We concluded that while substance use is not of high prevalence in our cohort, among those who use it, there is a significant influence on the physical and social dimension of quality of life of users.

Additional major finding emerging from this study is that the interaction of fear of future HIV infection with both alcohol and tobacco use in combination influenced the physical quality of life of the household heads. The inferences from this result are interesting to the extent that causal effect is difficult. Could fearfulness about future HIV infection make household heads to be

vulnerable to alcohol or tobacco use, or was substance use a cognitive strategy to cope with the confronting reality of their susceptibility to HIV infection? These are issues for further research considerations. Nevertheless, the larger literature has documented that worries about HIV/AIDS have the potential for adverse behavioral and emotional ramifications including substance use. Meanwhile, the finding confirms earlier report by Basta et al, 2008, where perception of vulnerability with HIV/AIDS is related to recreational drug use.

The socio demographic variables associated with quality of life are being male and been in a monogamous family structure. Both are significantly related to lower social quality of life. Male gender confers some level of responsibilities, particularly where effective social support as often experienced in polygamous family structure is absent. The results follow the pattern reported by Kumar et al 2014, where elderly community dwellers, without spouse and being in nuclear family reported lower quality of life. Factors such as age and economic status found as determinants of QOL from other studies (Gureje et al, 2008) were not confirmed in our study. The overall score of QOL in our sample is very lower in all dimensions comparable to others reported (Akinyemi et al 2012; Kumar, 2014). These differences are unclear, perhaps the gap in socio-infrastructure facilities across settings could account for these. Nearness to governmental institutions and other modern structures like what obtains in other studies could have skewed the QOL in better pattern for other studies.

The present study should however be interpreted in the context of its limitations. First, the interview method of data collection may introduce subjective bias. Secondly some responses to certain sensitive items may be defensive and under reported. In spite of these limitations, this community based cross-sectional study gives valuable information on the QOL and its

associated factors among household heads in Ibadan, Nigeria.

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Biographical Note

Dr B.O. Olley is a Reader in the Department of Psychology, University of Ibadan. His research interests lie in the broad field of Clinical Psychology with bias in Health Psychology, which involves the application of psychological models to a variety of health issues of contemporary national and international importance. Dr Olley publications in high impact journals extend frontiers of knowledge in current scientific issues in the field of Health Psychology. He is a recipient of the prestigious South-African MRC/ SAAVI Africa Post-doctoral Fellowship award and a Fellow of the South African Health Research Ethics (SARETI).

Table 1 Socio-Demographic Pattern of Communities Respondents –N = 579

Variables	Rural (n=284)		Semi urban (n=295)		r ²	P
	N	(%)	N	(%)		
GENDER						
male	223	79	220	75	1.25	NS
female	61	22	75	25.4		
AGE						
20-45 yrs	143	50.4	196	66.44	26.98	0.00
46-59 yrs	76	27	79	27		
60- above yrs	65	23	24	8.14		
OCCUPATION						
None	7	3	14	5	147.9	0.00
Farmers	155	55	25	9		
Artisans	107	38	202	69		
Civil Servants	9	3.2	25	9		
Professional	6	2.1	29	10		
RELIGION						
Christian	105	37	111	38	9.51	0.02
Islam	169	60	183	62.03		
Traditional	9	3.2	-	-		
No religion	1	0.4	1	0.34		
FAMILY STRUCTURE						
Monogamy	167	59	206	70	7.67	0.00
Polygamy	117	41.2	89	30.2		
TOBACCO USE						
Yes	81	29	36	12.20	23.89	0.00
No	203	72	259	88		
ALCOHOL USE						
Yes	11	4	16	5.42	6.59	NS
No	273	96.1	279	95		

Table 2 Quality of Life Differences between Rural And Semi-urban Respondents

Variables	Rural	Semi urban	t-value	P
Physical QOL	24.92±4.47	24.37 ±5.00	-1.37	NS
Psychology QOL	22.98± 6.00	21.41 ±3.22	-1.02	NS
Social QOL	10.80 ± 1.93	10.66 ±2.26	-.77	NS
Environment QOL	24.42± 4.89	24.70 ±4.20	.73	NS

Table 3 Sexual/Perception of risk of HIV Difference between Rural and Semi urban Respondents

Variables	Rural (n = 284)		Semi urban (n = 295)		χ ²	P
	n	(%)	n	(%)		
Condom Use Last						
Sex						
Yes	41	14.44	52	18		NS
No	243	86	243	82.3	1.09	NS
Number of Sexual Partner						
0 – 1	228	80.28	245	83.0		NS
2 – 5	54	19	49	17		NS
5 – above	2	0.70	1	0.34	.97	NS
Frequency of sex per month						
1 – 10	258	91	286	97		
11 – 20	21	7.39	8	2.7		
21 – above	5	2	1	0.3	9.73	0.00
Condom use consistency						
Not at all	231	81.34	186	63.0		
Rarely	81	28.52	41	14		
Occasionally	32	11.26	49	17		
All the time	13	4.58	19	6.4	31.57	0.00
Likelihood of HIV infection						
No likelihood	240	85	233	79		NS
Low	20	7.04	32	11		NS
Medium	18	6.34	22	8		NS
High	6	2.11	8	2.7	7.64	NS

Table 3: Continued.

Worried about future infection	183	64.44	215	73		
Not at all	44	16	49	17		
A little	57	20.07	31	11	12.19	0.007
A lot						
Tested for HIV						
Yes	35	12.32	85	29		
No	249	88	210	71.2	23.94	.000
Exchange of sex with money						
Yes	30	11	31	11		NS
No	254	89.44	264	90	1.47	NS
Sex after drinking alcohol						
Yes	41	14.44	29	10		NS
No	243	86	266	90.2	2.88	NS

Table 4: Multivariate ANOVA showing the Influence of Fear of HIV Infection and Substance Use on Quality of Life

Independent Variables	Dependent Variables	SS	MS	F	Sig.
Fear of HIV infection	Physical Quality of Life	837.127	279.042	13.367	.000
	Social Quality of Life	40.651	13.550	3.120	NS
	Environmental Quality of Life	.608	.203	.010	NS
	Psychological Quality of Life	39.310	13.103	.038	NS
Alcohol Use	Physical Quality of Life	2.636	2.636	.126	NS
	Social Quality of Life	.679	.679	.156	NS
	Environmental Quality of Life	20.562	20.562	.983	NS
	Psychological Quality of Life	5.252	5.252	.015	NS
Tobacco Use	Physical Quality of Life	72.415	72.415	3.469	NS
	Social Quality of Life	10.694	10.694	2.463	NS
	Environmental Quality of Life	85.313	85.313	4.080	NS
	Psychological Quality of Life	12.519	12.519	.036	NS
Fear of HIV Infection * Alcohol Use	Physical Quality of Life	12.101	4.034	.193	NS
	Social Quality of Life	23.892	7.964	1.834	NS
	Environmental Quality of Life	27.506	9.169	.438	NS
	Psychological Quality of Life	53.819	17.940	.052	NS
Fear of HIV Infection * Tobacco Use	Physical Quality of Life	116.525	38.842	1.861	NS
	Social Quality of Life	1.976	.659	.152	NS
	Environmental Quality of Life	104.921	34.974	1.672	NS
	Psychological Quality of Life	13.836	4.612	.013	NS
Alcohol Use * Tobacco Use	Physical Quality of Life	312.827	312.827	14.986	.000
	Social Quality of Life	26.020	26.020	5.992	NS
	Environmental Quality of Life	2.781	2.781	.133	NS
	Psychological Quality of Life	25.296	25.296	.073	NS
Fear of HIV Infection * Alcohol Use * Tobacco Use	Physical Quality of Life	706.451	353.225	16.921	.000
	Social Quality of Life	14.886	7.443	1.714	NS
	Environmental Quality of Life	3.040	1.520	.073	NS
	Psychological Quality of Life	33.121	16.560	.048	NS