

## Research Article

### Gender Role Attitude and Food Insecurity among Women in Ibadan, Nigeria

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**Abstract:** There is a gendered colouration of food insecurity with more women than men being adversely affected. Yet, social norms regarding the roles of men and women appear to be traditionalistic and unfavourable to economic advancement among women thereby limiting their chances of being food secure. This study was therefore designed to examine gender role attitudes as it affects food insecurity while controlling the role of financial status among women in Ibadan metropolis. The work is a cross-sectional survey which featured the administration of 650 copies of a largely structured questionnaire among randomly and systematically selected women in Ibadan, Nigeria. Variables were measured with multi-item scales. Pearson  $r$  was used to assess relationships between pairs of gender role attitude, education, age and food insecurity. Partial  $r$  was further used to assess the relationship between gender role attitude and food insecurity while controlling for financial status. One way ANOVA was used to assess significant differences in means across sub-groups of marital status while post hoc test (LSD) was used to identify homogenous sub-groups. Simple percentile analysis shows that 39.1% of respondents arbitrarily held traditional attitude towards gender roles while only 12.2% were non food insecure. Gender role attitude was significantly and positively related to food insecurity ( $p < 0.05$ ) and this relationship was sustained even when financial status is controlled for ( $p < 0.05$ ). Marital status had a main effect on food insecurity ( $p < 0.05$ ). Education was significantly and negatively related to food insecurity ( $p < 0.05$ ) but age was not ( $p > 0.05$ ). The pattern of gender role attitude is quasi-traditional. Egalitarian disposition to gender role is yet to be firmly rooted and food insecurity is still a plague among women in the study area. Gender role attitude is consequential for food insecurity regardless of financial status among women. Being unmarried or married as opposed to being divorced or widowed and increasing education serves protective roles against food insecurity but age does not.

**Keywords:** Food security, gender role, women

## INTRODUCTION

The subject of food insecurity can never be over emphasized for obvious and crucial reasons. Beyond obvious reasons however, food insecurity gives rise to other despicable social and health conditions. For instance, Laraia (2013) asserted that everyday life of the food unsecured increases vulnerability to the development of chronic illnesses. After a review of relevant literature, Kregg-Byers and Schlenk (2010) concluded that diabetes and other chronic disease conditions are poorly managed among food unsecured persons, in addition to the fact that they usually exhibit weak cognitive function. In a population-based study, Seligman *et al.* (2010) found that food insecurity was associated with cardiovascular risk factors.

Young *et al.* (2013) also reported that food insecurity is a critical barrier to adherence to anti-retroviral therapy among people living with HIV and AIDS. The longitudinal study of Weiser *et al.* (2012) indicated that severe food insecurity was associated with worse physical health, opportunistic infections and increased hospitalization among people living with HIV. In another longitudinal study to examine the link between food insecurity and mortality among people living with HIV, Anema *et al.* (2013) found this link to be significant. Food secured participants were almost twice unlikely to die, when compared with those who were unsecured. The results of a longitudinal study indicated that food-insecure children demonstrate significantly higher levels of emotional problems when compared with food-secure children (Belsky *et al.*,

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2010). Similarly, the findings of Slopen *et al.* (2010) implicated food insecurity in child mental well-being and child psychopathology.

Indeed, the problem of food insecurity is largely despicable. This despicability is further heightened by the fact that women are usually primarily challenged by and suffer more as a result of food insecurity (Rahman and Karim, 2013). For instance, Miller *et al.* (2011) found that food insecurity was a risk factor leading to unsafe sexual behaviour among women, including engaging in sex for financial rewards and enduring violent or abusive relationships. There is a gender colouration of the food unsecured, with women and girls constituting about 60% of the poorly nourished (Asian Development Bank, 2013). Similarly, Dean *et al.* (2011) reported higher level of food insecurity among women rather than men. Meanwhile, investments that empower and enlarge women's freedom accrue greater gains to the society at large (Asian Development Bank, 2013). For instance, improvement in education and increased life expectancy among women were found to have decreased hunger between 1970-1995 by 43 and 12%, respectively in many developing countries (Smith and Haddad, 2000). Recently, Kiptot *et al.* (2014) reported that women's participation in agro forestry is comparable to men's and the returns they generate could be enhanced by up to 20-30% given the same level of resources as men thereby improving the potential of cutting down the global figure of hungry people by 12-17%.

Yet, women and girls globally encounter unfairness which is literarily or implicitly embedded in social norms, customs and practices. Notably, gender roles and attitudes towards same are primary normative mechanism through which the potential contributions of women are suppressed. This situation calls for tremendous and continued attention to be shifted towards gender dynamics and food insecurity. Confronting social constraints that women encounter can be cheaply achieved (Asian Development Bank, 2013) and remains central in fighting against food insecurity. Food security is even a basis of social sustainability (McMichael and Schneider, 2011). It is argued that an apposite step in maximizing the potentials of fair gender dynamics especially in fighting food insecurity is the discernment of same. Therefore, this work is an attempt to examine gender role attitudes as it affects food insecurity among women in Ibadan metropolis. Because financial capacity is central in the conceptualization of food security and because social and economic variables are reciprocally linked, the intervening role of financial status was checked. This work aims to achieve its objectives by answering the following questions:

- To what extent are women's attitudes towards gender roles in the study area traditionalistic or egalitarian?

- How food secured are they? What is the effect of their gender role attitude on their level of food insecurity?
- Does financial status confound the relationship between gender role attitudes and food insecurity?
- How does marital status, education and age influence food insecurity among women in the study area?

## METHODS

**Design and instrument:** This work is a cross sectional survey targeting only women in Ibadan metropolis. Data collection involved the administration of 650 copies of a structured questionnaire, of which some copies were Yoruba version. The purpose of the study was explained to respondents as a way of seeking their informed consent. They were thereafter required to complete and append their signatures on an informed consent form. The questionnaire was either self administered or administered via structured interview where respondent's literacy skill was not fair enough. Six hundred and twenty nine copies were recovered (96.7% response rate), the completion of 12 copies were far less than perfect, causing 617 copies of the instrument to be used in data analysis. Data collection took approximately four months through December 2013 and March, 2014.

**Population and participant selection:** Adult female residents of Ibadan metropolis aged above 18 made up this study's population. Ibadan is the capital city of Oyo State, South Western Nigeria. The vast majority of the people of Oyo State speak Yoruba but many are bilinguals, speaking both English and Yoruba. The Ibadan metropolis consists of 5 local government areas (LGAs). The population figures of these LGAs are presented below (National population Commission, 2007). (Table 1)

As shown above, the total population of women in Ibadan is 676592. With the aid of sample size calculator, (Creative Research system, <http://www.surveysystem.com/sscalc.htm>), the required sample size at 95% confidence level and confidence interval of 4 was estimated to be 600. To reduce the effect of poorly completed questionnaires, this figure was increased to 650. Random and systematic sampling technique features during sample selection which was also multi-staged.

Two LGAs were randomly drawn from the 5 LGAs of the metropolis and 3 sub communities were further

Table 1: Population of LGAs in Ibadan metropolis

LGA	Population	Male	Female
Ibadan North	306795	153039	153756
Ibadan North West	152834	75311	77523
Ibadan South West	282585	139515	143070
Ibadan South East	266046	130577	135469
Ibadan North East	330399	163625	166774
Total			676592

randomly selected from each selected LGA: Jemibewon, Eleyele and Sabo communities were selected from Ibadan North West while Aleshinloye, Okebola and Oke Ado were drawn from Ibadan South West. Goggle maps and informal enquiries were used to identify streets in the selected communities. Further, households were estimated and respondents were systematically drawn from the households. A respondent was included in the study if she was a woman, aged 18 and above, willing to participate. If more than an individual met these criteria within a household, the respondent was determined by the outcome of a tossing of coin.

#### **Definition and measurement of variables:**

**Attitudes towards gender roles:** Attitude towards gender roles is defined as respondent's attitudes towards the roles of men and women. It was assessed with a 15-item short form of the Scale of Egalitarian Sex Role Attitudes (SESRA-S) (Uji *et al.*, 2006). Examples of items in the scale include 'women should stay at home and men at work', 'important issues should be decided by husbands', 'women should work part-time because they have to raise children', 'daughters should be raised to become housewives and sons to have jobs', 'bringing up children is the most important job for women', 'domestic chores should be shared between spouses' and 'working outside is equally important for women'. Response categories ranged from 'strongly agree' to 'strongly disagree' and the midpoint was 'unsure'. The Cronbach alpha was found to be 0.775. Items were scored such that greater scores implied stronger traditional attitude towards gender roles, from 0 to 4. Respondent scores were simply summed up and scores ranged from 0 to 60. For the purpose of univariate analysis only, respondent's score on the scale of gender role attitude was categorized into four and arbitrarily labeled as follows: 0-15-largely egalitarian, 16-30-egalitarian, 31-45-traditional and 46-60-largely traditional.

**Food insecurity:** Food insecurity is defined as inadequate or indefinite availability of nutritionally sufficient foods. Limited financial resource is important in defining food insecurity. It was assessed with a 4 item women's hunger sub-scale (Radimer *et al.*, 1990). The scale assessed the extent to which respondents cannot afford to eat the way they should, are frequently hungry but do not eat because they cannot afford enough food, eat less than they think they should because they do not have enough money for food, could afford to eat properly. Cronbach alpha of 0.710 was obtained. Generic response categories including not true, sometimes and often true were used to make responses relevant for episodes of and chronicity of food insecurity. Response format were three to ease respondent's ability to focus and remember. These

items were scored in a way that greater score signified greater food insecurity, from 0 to 2. Respondent scores were simply summed up and scores ranged from 0 to 8. For the purpose of univariate analysis only, respondent's scores on the scale of food insecurity were categorized into three. Those who scored 0 were regarded as non food insecure. Others were arbitrarily labeled as follows: 1-4-food insecure, 5-8-highly insecure.

**Financial status:** Financial status is defined as the extent to which respondents considered themselves as being able to meet up with their financial needs. It was subjectively assessed with a single item requiring respondents to describe their financial condition. Four responses including 'not enough, incurring debt', 'not enough but without debt', 'enough but without savings' and 'enough with some savings' were made available. Responses were scored from 0-3.

**Demographic variables:** Marital status was nominally assessed. Age and educational qualification were assessed as continuous variables with the latter ranging from 1 to 7.

**Data analysis:** Simple percentile analysis, mean, median and the mode were used to appraise the socio-demographic and economic profile of respondents. Data accrued from the scales of gender role attitude and food insecurity were simply summed up. The result of one sample Kolmogorov Smirnov test (for normalcy) showed that these data did not deviated significantly from normal distributions ( $p>0.05$ ). Pearson's correlation coefficient ( $r$ ) was used to assess the relationship between gender role attitude and food security while partial  $r$  was further used to assess this relationship while controlling for financial status. One way ANOVA was used to assess significant differences in means across sub-groups of marital status. Eta and eta<sup>2</sup> were used as measures of effect size while post hoc test (LSD) was used to identify homogenous sub groups. Pearson's  $r$  was used to depict the relationship between pairs of education, age and food insecurity. Statistical Package for Social Sciences (version 17) was used to analyze data.

## **RESULTS AND DISCUSSION**

**Demographic profile of respondents:** Respondent's mean age was 37.9, the median was 35 while the modal age was 30 (min. = 18, max. = 82). These suggest the youthful nature of the population of women in the study area. These data are in consonance with the position of Awogbenle and Iwuamadi (2010), who asserted that two third of African population is aged below 30. In a related fashion, Okafor (2011) projected that the ratio of Nigerian youth compared with general population will continue to escalate in the 21<sup>st</sup> century. Married women constituted the majority of the respondents

Table 2: Demographic and economic profile of respondents

Demographic and economic characteristics		Frequency	%	
Marital status	Single	99	16.0	
	Married	431	69.9	
	Divorced	31	5.0	
	Widowed	42	6.8	
	Missing	14	2.3	
	Total	617	100.0	
Highest educational qualification	No formal education	7	1.1	
	Less than primary school	11	1.8	
	Primary school completed	36	5.8	
	Secondary school completed	134	21.7	
	Post secondary school completed	76	12.3	
	Polytechnic/university completed	291	47.2	
	Postgraduate degree	54	8.8	
	Missing	8	1.3	
		Total	617	100.0
	Financial condition	Not enough, incurring debt	142	23.0
Not enough but without debt		156	25.3	
Enough without saving		179	29.0	
Enough with some saving		99	16.0	
Missing		41	6.7	
		Total	617	100

Table 3: Distribution of gender role attitude among respondents

Gender role attitude	Frequency	%
Largely egalitarian	33	5.3
Egalitarian	343	55.6
Traditional	230	37.3
Largely traditional	11	1.8
Total	617	100.0

Table 4: Distribution of food insecurity among respondents

Food insecurity	Frequency	%
Non food insecure	75	12.2
Insecure	481	78.0
Highly insecure	61	9.9
Total	617	100.0

(69.9%) while singles were 16%. A little percentage of respondents divorced (5) while a noticeable percentage (6.8) was widowed. The marital status of 2.3% of respondents was undisclosed. These data portray a positive outlook of marriage stability in the study area. The majority of respondent were remarkably graduates (47.2%) while 21.7% completed secondary school. Respondents who completed post secondary schooling were 12.3%. Interestingly, a notable percentage (8.8) of respondents possessed postgraduate qualification while 5.8% completed primary schooling. On a trivial note, the percentage of those who did not complete primary school was 1.8% while those who were not formally educated constituted 1.1% of respondents. Meanwhile 1.3% of respondents declined to disclose their educational attainment. These data are similar to that of

Rabiu *et al.* (2010) who reported that 2.5 and 64.5% of the women they surveyed in Lagos Nigeria had no formal education and tertiary education, respectively. The distribution of the financial status of respondents indicates some level of uniformity in the number of respondents whose financial means is not enough and therefore incur debt (23%), not enough but without debt (25.3%) and those with enough means but without savings (29%). Only 16% of respondents claimed to be financially fit enough to permit savings. A noticeable percentage of respondents (6.7) declined to disclose their financial status. These respondents are probably financially unfit like many others and decided to decline to respond to this question because they find it difficult to accept their financial situation. This distribution of financial status among women is not enviable and it depicts weakness of the monetary power at women's disposal. The summary of data obtained regarding some demographic and economic characteristics of respondents is presented in Table 2.

**Gender role attitude among sampled respondents:**

The mean score of gender role attitude was 28.5 (min. = 4, max. = 54). The categorization of its distribution shows that over half of the respondents (55.6%) were egalitarian in their attitude towards gender role. A noticeable percentage (5.3) was largely egalitarian. However, a good number of respondents (37.3%) were traditionally disposed while this traditional disposition is largely held by a negligible percentage (1.8) of respondents. This distribution largely reflects positivity in the mind set of women in the study area but traditional attitude towards gender role is still firmly rooted among women in the study area. The distribution of the categorized attitude to gender role is presented in Table 3.

**Food insecurity among sample respondents:**

The mean score of food insecurity was 2.9 (min. = 0, max. = 7). An overwhelming majority of respondents were food insecure (78%). In addition, 9.9% are highly insecure but 12.2% of respondents were non food insecure. This pattern of food insecurity shows vividly that food insecurity is still a scourge that torments women in the study area, with the implication that various forms of coping with food insecurity, whether positive or otherwise, occurs in the study area. These data are very similar to the findings of Adebayo and Abegunrin (2013) who reported that 70% of their respondents were food insecure while only 30% were food secure. The distribution of food insecurity among respondents is shown in Table 4.

**Gender role attitude and food insecurity including the control for financial status:**

The assessment of the relationship between gender role attitude and food insecurity yielded a Pearson's *r* of 0.133 ( $p < 0.05$ ). This

Table 5: Food insecurity by marital status

Marital status	Mean	S.D.	Levene's test for homogeneity of variances		ANOVA		Robust test for equality of means (Brown-Forsythe's test)			
			Levene's statistic	p-value	F-statistic	p-value	Statistic	p-value	Eta	Eta <sup>2</sup>
Single	2.6	1.5	4.55	0.064	6.52	0.000	7.91	0.000	0.178	0.032
Married	2.8	1.6								
Divorced	3.7	1.1								
Widowed	3.5	1.5								

Table 6: Pearson's *r* showing relationship between age, education and food insecurity

Demographic variables	Food insecurity	p-value
Age	0.064	0.122
Education	-0.185	0.000

is significant but weak. The partial correlation of gender role attitude and food insecurity while controlling for financial status yielded a partial *r* of 0.159 ( $p < 0.05$ ). This coefficient is also significant but weak. In spite of these weaknesses, they indicate that food insecurity increases as gender role attitude becomes more traditional. This is very instructive and supports the explanation that women's mentality and mindset contributes significantly to the production of their food insecurity status. When women develop more emancipative attitude to life, they concurrently and indirectly secure their access to food. This is even more so as financial status was found to have slightly enhanced the linear association between gender role attitude and food insecurity. So, irrespective of financial achievement, gender role attitude bears some consequences for food insecurity.

**Marital status and food insecurity:** The descriptive assessment of the influence of marital status on food insecurity shows that singles (mean = 2.6, SD = 1.5) and married women (mean = 2.8, SD = 1.6) are less food insecure when compared with the divorced (mean = 3.7, SD = 1.1) and the widowed (mean = 3.5, SD = 1.5). The results of one way ANOVA shows that these means are significantly different ( $p < 0.05$ ). Brown-Forsythe's test also affirmed these differences ( $p < 0.05$ ). Levene's test supports the validity of these differences as it confirmed homogeneity of variances across marital status sub groups ( $p > 0.05$ ). Hence, marital status has a main effect on the food insecurity status among women. The extent of this main effect as assessed with eta is 0.178, eta<sup>2</sup> is 0.032. Hence, just about 3.2% of the variation in food security is explained by marital status. The result of post hoc tests (LSD) shows that the mean score of both singles and the married are significantly different from the mean scores of the divorced and the widowed ( $p < 0.05$ ). These indicate that divorced and widowed women are significantly more prone to being food insecure. This can be probably be due to decreasing or outright absence of financial support from spouses. It points to the possibility that marriage serves a protective role against food insecurity among women in the study area. The food security status of the single women is significantly less probably because this category of women still largely reflects their family's

background. The summary of results obtained from the analysis of the effect of marital status on food insecurity is presented in Table 5.

**Education, age and food insecurity:** The assessment of the relationship between age and food insecurity yielded a Pearson's *r* of 0.064 ( $p > 0.05$ ). This shows that age bears no significance for food insecurity. Food insecurity afflicts women without regard to their chronological ages. In consonance with this finding, Rahman and Karim (2013) reported that food insecurity and hunger were unassociated with women's age in rural area of North West Bangladesh. A Pearson's *r* of -0.185 ( $p < 0.05$ ) was produced from the assessment of the relationship between education and food insecurity. This indicates that education is inversely and significantly related to food insecurity. This is an intuitive finding. As education increases, food insecurity decreases. This also implies that education reflects on financial status and ability to pay for food. Education serves a protective role against food insecurity, though weakly. This finding indicating the significance of education to food insecurity is supported by the findings of Belachew *et al.* (2012) who reported significant and inverse association between educational status and chronic food insecurity among adolescents in Southwest Ethiopia. Similarly, Senbanjo *et al.* (2013) reported that nutritional status of mothers was significantly associated with education among both urban and rural participants in Lagos Nigeria (Table 6).

## CONCLUSION

The pattern of gender role attitude is quasi-traditional, egalitarian disposition to gender role is yet to be firmly rooted and food insecurity is still a plague among women in the study area. Gender role attitude is consequential for food insecurity regardless of financial status among women. Being unmarried or married as opposed to being divorced or widowed and increasing education serves protective roles against food insecurity. Food insecurity bears no respect for chronological age.

## REFERENCES

- Adebayo, O.O. and O.D. Abegunrin, 2013. Analysis of food insecurity and coping mechanisms among rural women in Boripe local government area of Osun State, Nigeria. *Res. Human. Soc. Sci.*, 3(20): 9-17.

- Anema, A., K. Chan, Y. Chen, S. Weiser, J.S.G. Montaner and R.S. Hogg, 2013. Relationship between food insecurity and mortality among HIV-positive injection drug users receiving antiretroviral therapy in British Columbia, Canada. *PLoS One*, 8(5): e61277. DOI: 10.1371/journal.pone.0061277.
- Asian Development Bank, 2013. Gender Equality And Food Security: Women's Empowerment as a Tool Against Hunger. Retrieved from: <http://www.adb.org/sites/default/files/pub/2013/gender-equality-and-food-security.pdf>. (Accessed on: January 22, 2014)
- Awogbenle, A.C. and K.C. Iwuamadi, 2010. Youth unemployment: Entrepreneurship development programme as an intervention mechanism. *Afr. J. Bus. Manag.*, 4(6): 831-835.
- Belachew, T., D. Lindstrom, A. Gebremariam, C. Jira, M.K. Hattori, C. Lachat, L. Huybregts and K. Patrick, 2012. Predictors of chronic food insecurity among adolescents in Southwest Ethiopia: A longitudinal study. *BMC Public Health*, 12: 604.
- Belsky, D.W., T.E. Moffitt, L. Arseneault, M. Melchior and A. Caspi, 2010. Context and sequelae of food insecurity in children's development. *Am. J. Epidemiol.*, 172(7): 809-818.
- Dean, W.R., J.R. Sharkey and C.M. Johnson, 2011. Food insecurity is associated with social capital, perceived personal disparity and partnership status among older and senior adults in a largely rural area of central Texas. *J. Nutr. Gerontol. Geriatr.*, 30(2): 169-186.
- Kiptot, E., S. Franzel and A. Degrande, 2014. Gender, agroforestry and food security in Africa. *Curr. Opin. Environ. Sustain.*, 6: 104-109.
- Kregg-Byers, C.M. and E.N. Schlenk, 2010. Implications of food insecurity on global health policy and nursing practice. *J. Nurs. Scholarship*, 42(3): 278-285.
- Laraia, B.A., 2013. Food insecurity and chronic disease. *Adv. Nutr.*, 4: 203-212.
- McMichael, P. and M. Schneider, 2011. Food security politics and the millennium development goals. *Third World Q.*, 32(1): 119-139.
- Miller, C.L., D.R. Bangsberg, D.M. Tuller, J. Senkungu, A. Kawuma, E.A. Frongillo and S.D. Weiser, 2011. Food insecurity and sexual risk in an HIV endemic community in Uganda. *AIDS Behav.*, 15: 1512-1519.
- National Population Commission, 2007. 2006 National Population Census. NPC Publication, Ann Arbor, MI.
- Okafor, E.E., 2011. Youth unemployment and implications for stability of democracy in Nigeria. *J. Sustain. Dev. Afr.*, 13(1): 358-373.
- Rabiu, K.A., A.A. Adewunmi, F.M. Akinlusi and O.I. Akinola, 2010. Female reproductive tract infections: Understandings and care seeking behaviour among women of reproductive age in Lagos, Nigeria. *BMC Women's Health*, 10: 8.
- Radimer, K.L., C.M. Olson and C.C. Campbell, 1990. Development of indicators to assess hunger. *J. Nutr.*, 11: 1544-1548.
- Rahman, A. and R. Karim, 2013. Prevalence of food insecurity among women in rural area of North West Bangladesh. *Pak. J. Nutr.*, 12(4): 329-333.
- Seligman, H.K., B.A. Laraia and M.B. Kushel, 2010. Food insecurity is associated with chronic disease among low-income NHANES participants. *J. Nutr.*, 140(2): 304-310.
- Senbanjo, I.O., I.O. Olayiwola, W.A. Afolabi and O.C. Senbanjo, 2013. Maternal and child under-nutrition in rural and urban communities of Lagos state, Nigeria: The relationship and risk factors. *BMC Res. Notes*, 6: 286.
- Slopen, N., G. Fitzmaurice, D.R. Williams and S.E. Gilman, 2010. Poverty, food insecurity and the behavior for childhood internalizing and externalizing disorders. *J. Am. Acad. Child Psy.*, 49(5): 444-452.
- Smith, L.C. and L. Haddad, 2000. Explaining child malnutrition in developing countries: A cross-country analysis. IFPRI Research Report 111. IFPRI, Washington, DC.
- Uji, M., M. Shono, N. Shikai, H. Hiramura and T. Kitamura, 2006. Egalitarian sex role attitudes among Japanese human service professionals: Confirmatory factor analytic study. *Psychiat. Clin. Neuros.*, 60: 296-302.
- Weiser, S.D., A.C. Tsai, R. Gupta, E.A. Frongillo, A. Kawuma, A. Senkungu, P.W. Hunt, N.I. Emenyonu, J.E. Mattson, J.N. Martin and D.R. Bangsberg, 2012. Food insecurity is associated with morbidity and patterns of healthcare utilization among HIV-infected individuals in a resource-poor setting. *AIDS*, 26(1): 67-75.
- Young, S., A.C. Wheeler, S.I. McCoy and S.D. Weiser, 2013. A review of the role of food insecurity in adherence to care and treatment among adult and pediatric populations living with HIV and AIDS. *Aids Behav.* Retrieved from: <http://link.springer.com/article/10.1007%2Fs10461-013-0547-4#page-1>.