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# Migration status, reproductive health knowledge and sexual behaviour among female out-of-school adolescents in Iwaya community, Lagos, Nigeria

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Reproductive health is an essential aspect of the wellbeing of adolescents. Therefore reproductive health knowledge and sexual behaviour deservedly attract the attention of researchers, programme planners and policy implementers working with young people. Yet in Nigeria, little is known about the effect of migration status on reproductive health knowledge and sexual activities of young people in general and out-of-school adolescent girls in particular. This study used data from a survey of 480 out-of-school adolescent girls to provide empirical answers to these puzzles. The results indicated that migrants were less knowledgeable about HIV and AIDS but were as poorly aware of methods of contraceptives as non-migrants. The observed differentials had no significant effect on sexual practices such as involvement in penetrative sexual intercourse and multiple sexual partnerships. The study concluded that migration status is a major basis for social exclusion in the study population and recommends more inclusive approaches in the implementation of reproductive health programmes.

**Keywords:** awareness of contraceptives, HIV/AIDS knowledge, migrants, minority groups, slum, social exclusion

## Introduction

In 2010, the world population of adolescents (ages 10–19 years) stood at 1.23 billion, described as the largest number ever in the history of mankind. Over 36 million of these people are from Nigeria. The United Nations Department of Economic and Social Affairs/Population Division estimated that people in this age bracket will continue to increase (UN DESA 2009). Studies suggest that in many parts of the world, the sexual and reproductive health needs of adolescents are either poorly understood or not fully appreciated and that evidence is growing that this neglect can seriously impede the health of these young people (WHO 2006). The reproductive health of adolescents has become a source of concern because of the trend towards a rise in the age at marriage which increases the period of adolescence before marriage, and the declining age at menarche which leads to an earlier onset of adolescence, sexual maturity and the ability to reproduce. Also, sexual intercourse among adolescents is often unprotected and can lead to unwanted pregnancy and abortion, while sexually active adolescents are also increasingly at risk of contracting and transmitting sexually transmitted infections (STIs) including HIV (Gubhaju 2002).

Programmes aimed at equipping young people with reproductive health knowledge and stimulating behaviour change are often designed to reach the most people. Yet, the fora for dissemination of information and overall project design may exclude large minorities. Migrants, for example,

may have difficulty with local languages. They may also lack access to mainstream institutions such as schools, religious institutions and health institutions which are often used by project implementers. This study sought to provide answers to the following questions: Are there differences in reproductive health knowledge of out-of-school adolescent migrants and non-migrants? Are the sexual behaviours of out-of-school adolescent migrants significantly different from those of out-of-school adolescent non-migrants? With these puzzles in mind, this study sought to document the level of knowledge about HIV/AIDS and awareness of contraceptive methods among out-of-school adolescent girls (within the age bracket of 10 to 19 years) across the migration status divide in an urban slum in Lagos metropolis.

## Review of literature and theoretical underpinnings

A recent study in Nigeria reveals that less than half (48%) of adolescent girls (aged 15–19 years) know that people can reduce the risk of getting HIV by using condoms every time they have sex. The study also shows that 63% of the participants are aware that limiting sexual intercourse to one HIV-negative partner can help reduce a person's risk of contracting HIV. About 62% of the girls were of the opinion that the chances of being infected with HIV can be reduced by abstaining from sex. Of the girls in the study, 60% agreed that a healthy-looking person can be HIV-positive; 53% were of the opinion that HIV cannot be transmitted by mosquito bites; and about half (49.6%) agreed that

HIV cannot be transmitted by supernatural means like witchcraft. The study also shows that about 60% of the girls were of the opinion that a person cannot contract HIV by sharing food with a person living with HIV (NPC Nigeria and ICF Macro 2009).

Knowledge and use of contraceptive methods among the girls have also been documented through research. The 2008 Demographic Health Survey in Nigeria shows that the least known contraceptive methods among sexually active unmarried women are the diaphragm, male sterilisation and foam/jelly (see NPC Nigeria and ICF Macro 2009). The methods most known to this group of women are the male condom which was known to about 92% of them; pills, known to 66%; and injectables, known to 2% of the women. On the whole 94% of the sexually active unmarried women knew at least one method. Among teenage girls (aged 15–19 years) 43% had heard of any contraceptive method while 42% had heard of any modern contraceptive method (NPC Nigeria and ICF Macro 2009).

Research has documented some of the correlates of knowledge of HIV and AIDS. Some studies suggest that knowledge of HIV and AIDS can be predicted by age (Fako 2010, Fako et al. 2010); mothers' occupational cadre/type of job (Fako 2010, Fako et al. 2010); gender (Iliyasu et al. 2006); family type (Fako 2010); level of education (Ho and Loke 2003, Iliyasu et al. 2006, Atere et al. 2010, Fako 2010, Anyamene et al. 2011); common residence among parents, level of conflict in the family, disagreements with mothers and discussion of sexual issues with family members (Fako 2010); wealth (Anyamene et al. 2011); residence (rural/urban) (Sethaput and Pattaravanich 1993, Anyamene et al. 2011); and migration status (Ho and Loke 2003). Based on an earlier study, Zheng et al. (2001) had concluded that many sexually active migrant workers lack basic knowledge of contraception and reproduction, do not know where to obtain contraception or are too embarrassed to try.

Research has also shown that many young people in Nigeria are sexually active. About 46% of adolescent girls (aged 15–19 years) in a nation-wide study had experienced penetrative sexual intercourse and about 15% of the girls had their first sexual intercourse by the age of 15 years (NPC Nigeria and ICF Macro 2009). About 11% of the girls had ever used any contraceptive method (NPC Nigeria and ICF Macro 2009). Condom use at first intercourse among girls within the same age bracket was put at 10% by this study. Among single never-married girls, 24% had ever had sex and 20% had sex in the last 12 months. Similar findings were documented by a study that shows that about 41% of girls within the 15–19 years age bracket had experienced penetrative sexual intercourse (Federal Ministry of Health 2006).

Studies have shown that high knowledge of HIV and AIDS does not translate to safe sex practices among young people (Peltzer and Promtussananon 2005, Lema et al. 2008, Ola and Oludare 2008, Ebeniro 2010). Yet other studies suggest a significant association between perception on HIV and AIDS, and involvement in risky sexual behaviour among young people (Odu and Akanle 2008). Some studies have also probed the role played by migration status in reproductive health knowledge and sexual behaviour. Zheng et al. (2001), for example, argue that

many young unmarried migrants do not use family planning service facilities. The study found that premarital sex is not uncommon among female migrant workers. Contraceptive awareness and use were, however, limited, while unwanted pregnancy and induced abortion were reported. Fear and embarrassment of disclosure, gender power relations, affordability and perceiving options of a threatening service environment were identified as barriers. Young migrants are excluded from accessing contraceptives due to many socio-cultural factors, low migrant social status, lack of medical insurance or basic benefits, lack of information, and, sometimes, misinformation (Zheng et al. 2001). Dahal et al. (2013) also observed that cross-border migration is a risk factor for unsafe sexual behaviour and vulnerability to HIV.

Some studies in sub-Saharan Africa have also observed that cross-border migration has implications for involvement in unsafe sexual behaviour and vulnerability to HIV/AIDS. One such study points out that irregular immigrants often have no access to health care as a result of language barriers, lack of knowledge about the health-care system and fear of detection by immigration authorities (Maphosa 2012). In a similar vein, a study by Vearey (2008) underscores the lack of access to health care by cross-border migrants because communication is often a challenge and some health facilities are hostile to immigrants. Another study by Okanlawon et al. (2010) documents a high level of awareness of contraceptives, a high level of involvement in high sexual risk and a high level of misconceptions about contraceptive among young (15–19 years) refugees in a camp in Nigeria. Furthermore, a study that looks at the characteristics of sex workers in South Africa notes that cross-border migrants and internal migrants account for 46% and 39% of female sex workers; 25% and 55% of male sex workers; and 33% and 38% of transgender sex workers in the study population (Ritcher et al. 2013).

Brockerhoff and Biddlecom (1999) explored the association between internal migration and high risk sexual behaviour in Kenya. The study reflects a complex relationship between directions of movement within a country and involvement in high risk sexual activities such as multiple sexual partnerships and unprotected sex. The study shows that among men, migrants who move between urban centres and those who move from urban centres to rural areas are more involved in high risk sexual behaviour. Among females, however, those who move from rural areas to urban areas, those who move from urban areas to rural areas and those who move from rural areas to rural areas are more likely than their respective counterparts to be involved in high risk sexual behaviour.

Most of these earlier studies on the association between migration and health outcomes focused on cross-border migration with very little attention given to the relationship between internal migration and reproductive health outcomes, except the one by Brockerhoff and Biddlecom (1999). In addition, such studies often focus on adults as opposed to adolescents. Therefore, our study explores the connectedness of migration status, reproductive health knowledge (which is often neglected in such studies) and sexual behaviour of out-of-school adolescent girls.

Migration in the context of this study addresses internal migration primarily, and most people classified as migrants are people who migrated from different parts of the country to the study location, although there is also the likelihood that some of the migrants came from neighbouring Benin Republic. Thus, the study fills the gaps identified above. The study also focuses on out-of-school adolescents, whose unique characteristics and reproductive health needs are often submerged in larger nation-wide studies.

The research problem is built on the social exclusion theory. Social exclusion describes a process and a state that prevents individuals or groups from fully participating in social, economic and political life and from asserting their rights (Beall and Piron 2005). Victims of social exclusion are systematically disadvantaged and discriminated against on the basis of ethnicity, race, religion, sexual orientation, caste, descent, gender, age, disability, HIV status, and migration status (DFID 2005). This explanation holds that the bases for exclusion from the resources in a society are varied. It offers a more robust explanation for discrimination or exclusion than class or poverty. In this study, it provides a basis for the hypothesis that migrants are less knowledgeable than non-migrants about HIV and AIDS. In the context of this study, the social exclusion theory further helps us understand how planning for the majority can result in the neglect of large minorities such as migrants.

## Methods

### Participants

Participants in this study were respondents in a survey of out-of-school adolescents (aged 10 to 19 years old) in Iwaya community, Lagos state, Nigeria. The community is a blighted area covering about 80 hectares occupied by squatters, many of whom are migrants (Agbola and Agunbiade 2009). Iwaya is located within the south-eastern part of Yaba, a town in the middle of Lagos metropolis, overlooking the Lagos lagoon. The study location shares boundaries with Makoko community which is also a squatter settlement from which many were displaced by the government of Lagos state in 2012. The population of Iwaya community is about 100 000 persons of diverse ethnic origins in Nigeria (AHI 2011). Some of the adult members of the community are employed in the lowest stratum of the civil service. Most of the adult population are found in the informal sector, earning their living from fishing and/or fish selling and other forms of petty trading. An average household in the community has a very low income (see Agbola and Agunbiade 2009). Most of the members of the community are not tenured owners of the space they occupy. Basic amenities/service facilities are inadequate and sanitation within the community is poor (Agbola and Agunbiade 2009). Many of the people live in squalor and housing conditions suggest a very high level of poverty.

The data used for this study were derived from a survey conducted by Action Health Incorporated (AHI) in 2011. The study design and research instrument were subjected to the approval of the AHI Ethical Review Committee comprising experts in the fields of sociology, gender studies and reproductive health. The fieldwork was done in two weeks. The exercise involved the administration of an interview

schedule/questionnaire (designed to collect quantitative data) to out-of-school girls by specially trained young female research assistants who visited all the households, shops and apprenticeship centres within the community in search of out-of-school girls. The criteria for inclusion were: gender (female); age (10–19 years); schooling status (out-of-school, which for this study referred to all those who were neither enrolled at any level of schooling nor registered for any examination such as GCE O level or the University Matriculation Examination); and willingness to participate in the study. The field exercise commenced at 9.00 am and ended at 5.00 pm daily. The study proposed a census (total coverage) of all out-of-school adolescent girls in the community. About 97% of the girls approached for the study gave their consent. A major limitation of the study was its inability to include out-of-school adolescent girls who were involved in commercial and training activities that made them leave the community very early and return very late on a daily basis. Research assistants sought and obtained participants' informed consent before interviews were conducted. For participants below 18 years old, the approval of their parents/guardians was also obtained. Consents and approvals were verbal. The participants were interviewed outside hearing distance of third parties. Data gathered were subjected to screening and editing before responses were coded and processed using the Statistical Package for Social Sciences.

### Procedure

The research instrument used for the survey was a standardised interview schedule. The interview schedule had questionnaire items on socio-demographic characteristics of participants and household background characteristics including migration status. Other sections of the instrument were designed to elicit information on respondents' education history, access to health care, economic activities, sexual practices, knowledge of HIV and AIDS, awareness and use of contraceptive methods and perception on, and experience of domestic violence. The research instrument was administered to each participant in one-to-one interview. The female research assistants who had been trained for the purpose served as interviewers. The interviewers were carefully selected to ensure that they could speak the local language (Yoruba) and pidgin English. This made it possible for the interviews to be conducted in languages other than English depending on the convenience of the participants. A typical interview took less than one hour.

### Measurements

The study has one independent variable of interest — migration status; and four dependent variables of interest — knowledge about HIV and AIDS, awareness of contraceptives, multiple sexual partnerships and use of contraceptives. Migration status was measured as a binary categorical variable. Participants who were born in the community were categorised as non-migrants while those who were born outside the community and migrated into the community were categorised as migrants. Indicators of reproductive health knowledge explored in the study were: knowledge about modes of transmission of HIV and

misconceptions about HIV and AIDS; and awareness of contraceptive methods. Seven questions were used to measure knowledge of HIV and AIDS. These questions tested an individual's knowledge of the means of transmission of HIV. The questions also tested for rejection of popular misconceptions on HIV and AIDS. These questions were adopted from the 2008 Nigerian Demographic Health Survey (see NPC Nigeria and ICF Macro 2009). Correct responses provided to the questions signified knowledge of HIV and AIDS while incorrect responses signified lack of such knowledge. The questions were: (i) Can people reduce their chance of contracting the AIDS virus by having just one uninfected sex partner who has no other sex partner? (ii) Can people acquire HIV/AIDS by sharing food with someone who has HIV/AIDS? (iii) Can people contract the AIDS virus from mosquito bites? (iv) Can people reduce their chance of acquiring the AIDS virus by using condom every time they have sex? (v) Can people reduce their chance of acquiring the AIDS virus by not having sexual intercourse at all? (vi) Can people get the AIDS virus because of witchcraft or other supernatural means? (vii) Is it possible for a 'healthy-looking' person to be HIV-positive?

For every correct answer given by a participant, a point was given. This creates a measurement of knowledge of HIV/AIDS at the ratio level. Obtainable scores ranged from 0 (where all answers were incorrect) to 7 (where all answers were correct). Thirteen questions were used to measure awareness of contraceptive methods. Respondents were asked if they had ever heard of specific contraceptive methods. A point was given to each participant for every known method. Obtainable scores for awareness of contraceptive methods ranged from 0 (where the participant was not aware of any of the methods); to 13 (where the participant was aware of all the listed methods of contraceptives). Knowledge of HIV/AIDS and awareness of contraceptives were therefore measured as continuous variables.

The second set of dependent variables, sexual activities, is two-pronged. The two parts are involvement in sexual activities and use of contraceptives. Indicators of involvement in sexual activities used for this study were experience of penetrative sexual intercourse which was measured in binary categorical form; and involvement in multiple sexual partnerships which was also measured in binary categorical form. Use of contraceptives was broken down into use of condom and use of any other contraceptive by sexually active participants. These variables were measured in categorical forms with 'use' coded as '1' and 'non-use' coded as '0'. Confounding variables included in the analysis were age in years (measured as a continuous ratio level variable, the least being 10 years and the highest being 19 years); and highest level of education (measured as an ordinal categorical variable). The levels of education observed were none, primary and secondary. The variables were selected as control variables based on initial tests which revealed their confounding potentials.

### Analysis

The hierarchical regression statistic was used to determine the effect of migration status on HIV and AIDS knowledge scores, and contraceptive awareness scores. Age and education were included in the models to control their

confounding effects. The chi-square test (a non-parametric tool) was used to analyse the association between migration status and reproductive health outcomes (i.e. experience of penetrative sexual intercourse, involvement in multiple sexual partnerships, use of condom and use of any other contraceptive method) which were all measured as nominal variables. In this study the acceptable level of significance for all tests was 95% confidence interval, i.e. test results were considered significant only in cases where  $p < 0.05$ .

## Results

### Participants' background characteristics

Participants in this study were 295 adolescent girls who were born in Iwaya community, and 185 adolescent girls who migrated into the community. The migrants accounted for 38.5% of the sample while the non-migrants accounted for 61.5%. A total of 480 out-of-school female adolescents were interviewed. The average age of the participants is 16.01 years. About 88% of the participants were single-never married persons at the time of the study. Three quarters of the respondents had ever attended school. The distribution of the participants by ethnic origin shows that adolescents of Yoruba origin were in the majority, accounting for about 4 out of every 10 of the girls. Adolescent girls of Gun origin account for about 37% of the sample, while Igbo and Hausa participants account for 17% and 4% respectively (see Table 1).

More than half of the Hausa and Igbo girls in the sample migrated to the community while about 35% and 31% of Yoruba and Gun girls respectively were not born in the community. Preliminary tests suggest that there is an association between ethnic origin and migration status ( $p = 0.0000$ ). While about half of those born in the community were living with both parents, only about 23% of the migrants were living with both parents. Living with both parents was the predominant living arrangement for non-migrants, while living with neither of the parents was the predominant living arrangement for migrants with about 47% of the migrant girls found in such living arrangements. The data show that there was no significant association between migration status and other background characteristics such as marital status, literacy and orphan status.

### Migration and knowledge about HIV and AIDS

About 35% and 23% of non-migrants and migrants respectively had the correct response to the question 'Can people reduce their chance of getting the AIDS virus by having just one uninfected sex partner who has no other sex partner?' For all the participants, about 30% answered the question correctly. A slightly higher proportion (39%) of the respondents answered the question 'Can people get AIDS virus from mosquito bite?' correctly. The proportions of migrant and non-migrant participants with the correct answer to the question were similar. In response to the question, 'Can people reduce their chance of getting the AIDS virus by using condom every time they have sex?' 34% of non-migrant participants and 26% of migrant participants responded in the affirmative. For the entire sample 31% answered this question in the affirmative/correctly. The study shows a relatively high level of knowledge that people

**Table 1:** Participants' background characteristics and descriptive statistics for HIV and AIDS knowledge and contraceptive awareness by migration status

| Background characteristics                   | p-value<br>$\chi^2$ test | Non-migrants (%)<br><i>n</i> = 295 | Migrants (%)<br><i>n</i> = 185 | All (%)<br><i>n</i> = 480 |
|--|--------------------------|------------------------------------|--------------------------------|---------------------------|
| Age  | 0.305                    |                                    |                                |                           |
| 10–14 years                                  |                          | 81 (27.5)                          | 43 (23.2)                      | 124 (25.8)                |
| 15–19 years                                  |                          | 214 (72.5)                         | 142 (76.8)                     | 356 (74.2)                |
| Mean age (SD)                                | <0.001                   | 15.93 (2.63)                       | 16.13 (2.53)                   | 16.01 (2.59)              |
| Ethnic origin                                |                          |                                    |                                |                           |
| Hausa  |                          | 6 (2.0)                            | 12 (6.5)                       | 18 (3.8)                  |
| Igbo   |                          | 37 (12.5)                          | 44 (23.8)                      | 81 (16.9)                 |
| Yoruba                                       |                          | 131 (44.4)                         | 70 (37.8)                      | 201 (41.9)                |
| Gun  |                          | 121 (41.0)                         | 55 (29.7)                      | 176 (36.7)                |
| Others                                       |                          | -                                  | 4 (2.2)                        | 4 (0.8)                   |
| Schooling experience                         | 0.152                    |                                    |                                |                           |
| Ever attended school                         |                          | 214 (72.5)                         | 145 (78.4)                     | 359 (74.8)                |
| Never attended school                        |                          | 81 (27.5)                          | 40 (21.6)                      | 121 (25.2)                |
| Marital status                               | 0.679                    |                                    |                                |                           |
| Single never married                         |                          | 262 (88.8)                         | 162 (87.6)                     | 424 (88.3)                |
| Ever married/living with partner as married  |                          | 33 (11.2)                          | 23 (12.4)                      | 56 (11.7)                 |
| Living arrangement                           | <0.001                   |                                    |                                |                           |
| With father only                             |                          | 16 (5.4)                           | 1 (0.5)                        | 17 (3.5)                  |
| With mother only                             |                          | 56 (19.0)                          | 38 (20.5)                      | 94 (19.6)                 |
| With both parents                            |                          | 146 (49.5)                         | (22.7)                         | 188 (39.2)                |
| With boyfriend/spouse                        |                          | 23 (7.8)                           | 17 (9.2)                       | 40 (8.3)                  |
| Others                                       |                          | 54 (18.3)                          | 87 (47.0)                      | 141 (29.4)                |
| Mean scores for HIV and AIDS knowledge (SD)  |                          | 0.44 (0.76)                        | 0.44 (0.80)                    | 0.44 (0.77)               |
| Mean scores for contraceptive awareness (SD) |                          | 2.43 (2.26)                        | 2.03 (1.92)                    | 2.27 (2.14)               |

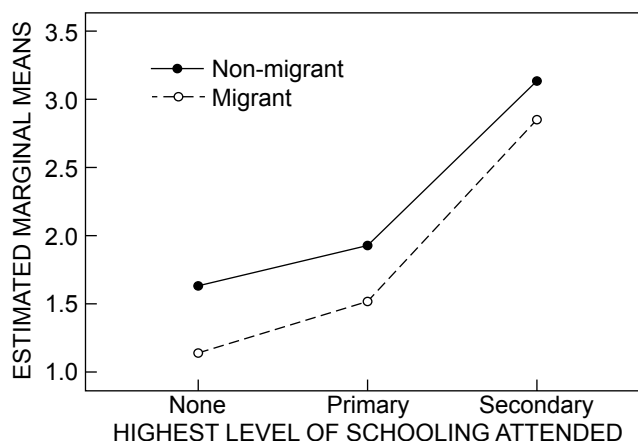
cannot contract HIV by sharing food with people living with HIV or AIDS, with about 41% of the non-migrant participants and 40% of the migrant participants saying 'No' in response.

Knowledge that people cannot contract HIV through witchcraft or other supernatural means was low, as only 29% of non-migrants and 35% of migrants had this knowledge. While about a third of non-migrants knew that a healthy-looking person could be living with HIV, only about a fifth of the migrant participants knew that healthy-looking people could be living with the virus. About 28% of all the respondents were aware of the possibility of a healthy-looking person living with HIV. The maximum score obtained by any non-migrant was 7 while the maximum score obtained by any migrant was 6 of 7. About 38% of all the respondents could not answer any of the questions correctly. While about 5% of the non-migrants had the correct answers to all 7 questions, none of the migrants answered all 7 questions correctly. The non-migrants had a mean HIV and AIDS knowledge score of 2.43 (SD = 2.26) while the migrants had a mean score of 2.03 (SD = 1.92) as shown in Table 1. The mean score for all the respondents was 2.27.

A hierarchical regression model showed that when the confounding effects of a covariate of knowledge of HIV (age) and an intervening variable (highest level of school attended) were controlled, migration status remained significantly associated with HIV and AIDS knowledge score (see Table 2). Non-migrants had a significantly higher HIV and AIDS knowledge mean score than migrants did (see Figure 1 for a graphic illustration of the scores of migrants and non-migrants).

#### Migration status and awareness of contraceptives

Generally, awareness of contraceptive methods was very low among the participants. None of the participants in the study had ever heard of male sterilisation, foam/jelly, lactation as a form of contraception and the rhythm method. Only one respondent had heard about any of female sterilisation, IUD or implants. The methods most known by the participants were male condom and pills which were known to 29% and 10% of the participants respectively. No significant variations in awareness of any of the contraceptive

**Figure 1:** Estimated marginal means of score for knowledge about HIV and AIDS

**Table 2:** Hierarchical regression model for HIV and AIDS knowledge scores

|                                  | Unstandardised coefficients |       | Standardised coefficients |          |          |
|----------------------------------|-----------------------------|-------|---------------------------|----------|----------|
|                                  | $\beta$                     | SE    | $\beta$                   | <i>T</i> | <i>p</i> |
| Model 1                          |                             |       |                           |          |          |
| (Constant)                       | -2.931                      | 0.535 |                           | -5.479   | 0.000    |
| Age in years                     | 0.264                       | 0.036 | 0.318                     | 7.279    | 0.000    |
| Highest level of school attended | 0.809                       | 0.114 | 0.310                     | 7.094    | 0.000    |
| Model 2                          |                             |       |                           |          |          |
| (Constant)                       | -2.384                      | 0.572 |                           | -4.168   | 0.000    |
| Age in years                     | 0.268                       | 0.036 | 0.324                     | 7.438    | 0.000    |
| Highest level of school attended | 0.800                       | 0.113 | 0.307                     | 7.049    | 0.000    |
| Migration status                 | -0.438                      | 0.169 | -0.100                    | -2.596   | 0.010    |

Model 1 Adjusted  $R^2 = 0.288$ ;  $R^2$  change = 0.291; ANOVA  $F = 97.824$  ( $p = 0.000$ )

Model 2 Adjusted  $R^2 = 0.296$ ;  $R^2$  change = 0.010 ( $p$ -value = 0.010; ANOVA  $F = 68.248$  ( $p = 0.000$ ))

**Table 3:** Hierarchical regression model for awareness of contraceptive scores

|  | Unstandardised coefficients |       | Standardised coefficients |          |          |
|--|-----------------------------|-------|---------------------------|----------|----------|
|  | $\beta$                     | SE    | $\beta$                   | <i>T</i> | <i>p</i> |
| Model 1  |                             |       |                           |          |          |
| (Constant)                                       | -0.948                      | 0.207 |                           | -4.580   | 0.000    |
| Age in years                                     | 0.067                       | 0.014 | 0.225                     | 4.795    | 0.000    |
| What is the highest level of school you attended | 0.256                       | 0.044 | 0.273                     | 5.807    | 0.000    |
| Model 2  |                             |       |                           |          |          |
| (Constant)                                       | -0.934                      | 0.223 |                           | -4.190   | 0.000    |
| Age in years                                     | 0.067                       | 0.014 | 0.226                     | 4.793    | 0.000    |
| What is the highest level of school you attended | 0.256                       | 0.044 | 0.272                     | 5.792    | 0.000    |
| Migration status                                 | -0.011                      | 0.066 | -0.007                    | -0.174   | 0.862    |

Model 1 Adjusted  $R^2 = 0.179$ ;  $R^2$  change = 0.183; ANOVA  $F = 53.395$  ( $p = <0.001$ )

Model 2 Adjusted  $R^2 = 0.178$ ;  $R^2$  change = 0.000; ANOVA  $F = 35.534$  ( $p = <0.001$ )

methods were noted between migrants and non-migrants, as shown in Table 3. The minimum and maximum scores obtained were 0 (for those who were not aware of any of the methods) and 4 (for those who were aware of any four of the methods). A large proportion (69%) of the respondents were not aware of any of the methods mentioned while only 1% were aware of any four of the methods. The study showed, in summary, that migration status was not a significant predictor of awareness of contraceptive methods (see Table 3).

#### **Migration status and sexual behaviour**

The data gathered show that 42% of the respondents had experienced penetrative sexual intercourse. The proportions of non-migrants (42%) and migrants (43%) who had experienced penetrative sexual intercourse at the time of the study were not significantly different ( $p = 0.885$ ). Among the sexually active respondents, about a fifth had multiple sexual partners in the 12 months preceding the study. Non-migrants had a marginally higher proportion (21%) of girls with multiple sexual partners than migrant girls did (18%). The study shows, however, that the difference was not statistically significant ( $p = 0.571$ ). Close to a third (32%) of the participants had ever used any contraceptive method at the time of the study. There were no variations across the boundary of migration status ( $p = 0.824$ ). The study further shows that 18% of the sexually active non-migrant girls had ever used condoms during intercourse while 15%

of the sexually active migrant girls had ever used condoms during intercourse ( $p = 0.828$ ). The study found no association between migration status and sexual practices such as involvement in penetrative sex, multiple sexual partnerships and use of contraceptives.

#### **Discussion**

The results of this study suggest that reproductive health knowledge is lower in the study population than it is in the general population. On the possibility of reducing the chance of contracting HIV through consistent use of condoms, for example, only 31% of all the participants and 39% of girls within the age bracket of 15–19 years in the study population had the correct knowledge. In the general Nigerian population, 48% of girls within the same age bracket had the correct answer to this question (NPC Nigeria and ICF Macro 2009). While 63% of Nigerian girls aged 15–19 years had the correct response to the question on the possibility of reducing the chances of being infected by limiting sex to one uninfected partner (NPC Nigeria and ICF Macro 2009), only about 37% of out-of-school girls in Iwaya community had the correct answer to this question. For all the other indicators of knowledge of HIV and AIDS employed for the Demographic Health Survey, the proportion of respondents with correct knowledge was far lower than that of the national proportion. This suggests that schooling status is a probable determinant of knowledge

about HIV and AIDS since this is one major factor that differentiates the study population from the general population, other factors being location and wealth status.

In addition to the effect of schooling status on knowledge of HIV and AIDS among girls, the study has further shown that migration status is associated with knowledge of HIV and AIDS. This study corroborates the position of Ho and Loke (2003) on the influence of migration status on knowledge of HIV/AIDS. Migrants are less knowledgeable about HIV and AIDS. Reasons for the observed differentials in knowledge of HIV/AIDS are found in the social exclusion theory which recognises migrant status as a basis for social exclusion. Migrants may be disadvantaged because they cannot speak local languages well. It is not uncommon, for example, to find situations where information about HIV and AIDS is made available to people in local languages to ensure that most comprehend the messages. While this may work for the majority, it can also work against many migrants who do not speak the local languages.

It is also possible that migrants strive to reduce their visibility for fear of being displaced from the space they occupy 'illegally'. Since many of them reside in shanties as squatters, they live in constant fear of being displaced by government (Ugbodaga 2011). For this reason, they may stay away from programmes aimed at creating awareness and imparting knowledge on HIV/AIDS out of fear that such programmes may expose them. This way, they are excluded from events and programmes that are capable of increasing their knowledge on HIV and AIDS. In addition, migrants tend to have limited access to formal institutions within the society. Institutions commonly used to disseminate information on reproductive health are schools, health institutions, religious institutions and youth groups/associations. This study did not gather data on access to formal institutions, however, and cannot conclude that reduced access to formal institutions by migrants contributes to their lower level of knowledge of HIV and AIDS. Rather, it identifies this gap in knowledge.

The study documents a very low level of awareness of contraceptive methods among out-of-school girls across the migration status divide. The Demographic Health Survey in Nigeria shows that about 43% of girls within the age bracket of 15–19 years had heard of any contraceptive method (NPC Nigeria and ICF Macro 2009), while this study shows that only 40% of girls within the same age bracket had heard of any contraceptive method. There appears to be a generally low level of awareness of contraceptive method in the general population and in the population of out-of-school girls in Iwaya community. The finding implies little effort has been targeted at creating awareness of contraceptive methods among adolescent girls in Nigeria outside the promotion of condom use by government and other stakeholders, as a way of curbing the spread of HIV (Monjok et al. 2010).

The differences in knowledge of HIV and AIDS between migrants and non-migrants do not translate into differences in sexual practices such as involvement in penetrative sexual intercourse and multiple sexual partnerships. This agrees with earlier studies which suggest that high knowledge of HIV and AIDS does not necessarily translate into lower involvement in risky sexual practices such as

multiple sexual partnerships and unprotected sex (Peltzer and Promtussananon 2005, Lema et al. 2008, Ola and Oludare 2008, Ebeniro 2010). This does not, however, detract from the need to continue educating young people on reproductive health. Our study suggests that the dissemination of reproductive health information should be done through channels that will accommodate the greater majority without leaving out large minorities like migrants in a place like Lagos where a significant proportion of the people are migrants.

## Conclusion

This study set out to explore the predictive power of migration status on knowledge of HIV and AIDS; awareness of contraceptives; and sexual practices such as involvement in penetrative sex, and use of contraceptives among out-of-school adolescents in Iwaya community, Lagos state, Nigeria. The study has shown that being a migrant is partly responsible for low level of knowledge of HIV and AIDS, but is not a significant predictor of awareness of contraceptives or any of the sexual practices explored in the study. The study underscores the need to consider what is suitable for out-of-school adolescent migrants in designing programmes for young people. The study also shows the need for further studies on the association between migration status and reproductive health knowledge and sexual practices. Particularly, it underscores the need for more nationally representative studies that will make room for controlling the effects of potential confounding variables such as spatial location and access to wealth in the study of the relationship between migration status and reproductive health knowledge.

## Limitations of the study

While an attempt has been made to control the effects of age and education in the evaluation of the effect of migration on reproductive health knowledge and sexual practices in this study, there is a likelihood that variables such as location and access to wealth are partly responsible for the variations in the level of knowledge and sexual practices of out-of-school adolescents in general, and out-of-school adolescent migrants in particular. Therefore what may ordinarily look like the consequence of migration status as an independent variable may be partly due to any of the other factors stated above which this study was not able to accommodate. The study also relied on self-reports in determining whether participants were born in the community or migrated into it, and in determining their involvement in sexual practices. There was therefore no way to validate the participants' claims on these issues.

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## References

- AHI (Action Health Incorporated). 2011. *A promise to keep: supporting out-of-school adolescent girls to reach their potential*. Lagos: Action Health Incorporated.
- Agbola T, Agunbiade EM. 2009. Urbanization, slum development and security of tenure: The challenges of meeting Millennium Development Goal 7 in metropolitan Lagos, Nigeria. In: de Sherbiniin A, Rahman A, Barbieri A, Fotso JC, Zhu Y. (eds), *Urban population-environment dynamics in the developing world: Case Studies and lessons learned*. Paris: Committee for International Cooperation in National in Demography (CICRED). pp 77–106.
- Anyamene A, Nwokolo C, Anyachebelu E, Obum-Okeke I. 2011. Influence of the knowledge of HIV/AIDS on behaviour change among adolescents in Anambra state, Nigeria. *International Journal of Psychology and Counseling* 3: 154–158.
- Atere AA, Wahab EO, Ajoboye OE, Shokoya HO, Akinwale AA, Oyenuga AS. 2010. Awareness of STIs and contraceptives use among out-of-school youths in Nigeria. *Studies on Ethno-Medicine* 4: 131–137.
- Beall J, Piron L. 2009. *DFID Social exclusion review*. London, UK: Overseas Development Institute.
- Brockerhoff M, Biddlecom AE. 1999. Migration, sexual behaviour and the risk of HIV in Kenya. *International Migration Review* 33: 833–856.
- Dahal S, Pokharel PK, Yadav BK. 2013. Sexual behaviour and perceived risk of HIV/AIDS among returnee labour migrants from overseas in Nepal. *Health Science Journal* 7: 218–228.
- DFID (Department for International Development). 2005. Reducing poverty by tackling social exclusion: A DFID policy paper. London: Department of International Development.
- Ebeniro CD. 2010. Knowledge and beliefs about HIV/AIDS among male and female students of Nigerian universities. *Journal of Comparative Research in Anthropology and Sociology* 1: 121–131.
- Fako TT. 2010. The connection between poverty, sexual activity, knowledge about HIV/AIDS and willingness to test for HIV infection among young people. *European Journal of Social Sciences* 15: 115–128.
- Fako TT, Kangara LW, Forchek N. 2010. Predictors of knowledge about HIV/AIDS among young people: Lessons from Botswana. *Journal of AIDS and HIV Research* 2: 116–130.
- Federal Ministry of Health. 2006. *National HIV/AIDS & Reproductive Health Survey, (NARHS) 2005*. Abuja, Nigeria: Federal Ministry of Health.
- Gubhaju B. 2002. Adolescent reproductive health in Asia. *Asia-Pacific Population Journal* 17: 97–119.
- Ho CF, Loke AY. 2003. HIV/AIDS knowledge and risk behaviour in Hong Kong Chinese pregnant women. *Journal of Advanced Nursing* 43: 238–245.
- Iliyasu Z, Abubakar IS, Kabir M, Aliyu M. 2006. Knowledge of HIV/AIDS and attitude towards voluntary counseling and testing among adults. *Journal of National Medical Association* 98: 1917–1922.
- Lema LA, Katapa RS, Musa AS. 2008. Knowledge on HIV/AIDS and sexual behaviour among youths in Kibaha district, Tanzania. *Tanzania Journal of Health Research* 10: 79–83.
- Maphosa F. 2012. Irregular migration and vulnerability to HIV & AIDS: Some observations from Zimbabwe. *Africa Development* 37: 119–135.
- Monjok E, Smesny A, Ekabua JE, Essien EJ. 2010. Contraceptive practices in Nigeria: Literature review and recommendation for future policy and decisions. *Open Access Journal of Contraception* 1: 9–22.
- NPC (National Population Commission) Nigeria and ICF Macro. 2009. *Nigeria Demographic and Health Survey 2008*. Calverton, Maryland: National Population Commission and ICF Macro.
- Odu BK, Akanle FF. 2008. Knowledge of HIV/AIDS and sexual behaviour among the youths in South-West Nigeria. *Humanity and Social Sciences Journal* 3: 81–88.
- Okanlawon K, Reeves M, Agbaje OF. 2010. Contraceptive use: knowledge, perceptions and attitudes of refugee youths in Oru refugee camp, Nigeria. *African Journal of Reproductive Health* 14: 17–26.
- Ola TM, Oludare BA. 2008. Sexual practices and knowledge about HIV/AIDS among Nigerian secondary school students. *International Journal of Health Research* 1: 197–205.
- Peltzer K, Promtussananon S. 2005. HIV/AIDS knowledge and sexual behaviour among junior secondary school students in South Africa. *Journal of Social Sciences* 1: 1–8.
- Ritcher M, Chersich M, Temmerman M, Luchters S. 2013. Characteristics, sexual behaviour and risk factors of female, male and transgender sex workers in South Africa. *African Medical Journal* 103: 246–251.
- Ugbodaga K. 2011. Lagos to demolish 400 Shanty homes. *PM News*. 18 August 2011. Available at <http://www.pmnewsnigeria.com/2011/08/18/lagos-to-demolish-400-shanty-homes/> [accessed 18 August 2011].
- UN DESA (United Nations Department of Economic and Social Affairs). 2009. *World population prospects: The 2008 revision, Volume II: Sex and age distribution of the world population*. New York: United Nations Department of Economic and Social Affairs.
- Vearey J. 2008. Migration, access to ART and survivalist livelihood strategies in Johannesburg. *African Journal of AIDS Research* 7: 361–374.
- WHO (World Health Organization). 2006. Implementing the global reproductive health strategy: Promoting and safeguarding the sexual and reproductive health of adolescents. Policy brief 4. Geneva: World Health Organization.
- Zheng Z, Zhou Y, Zheng L, Yang Y, Zhao D, Lou C, Zhao S. 2001. Sexual behaviour and contraception use among unmarried young women migrant workers in five cities in China. *Reproductive Health Matters* 9: 118–127.