MICROSYSTEM INTERACTION AS PREDICTORS OF SEXUAL RISK BEHAVIOURS AMONG IN-SCHOOL ADOLESCENTS IN ANAMBRA STATE, NIGERIA

1**Onwurah, Chrysantus Chinyere (PhD),** 2 **Okafor, Jerome (Prof),** 3**Igwilo Sabina Nwakaego, &** 4**Makata, Ngozi Eucharia (PhD)**
1, 2, 3 Human Kinetics and Health Education Department, Nnamdi Azikiwe University, Awka, Anambra State
4 Department of Nursing Science, Nnamdi Azikiwe University, Awka, Anambra State, **NIGERIA**
Corresponding Author: Onwurah, Chrysantus Chinyere. cc.onwurah@unizik.edu.ng

ABSTRACT

Sexual risk behaviour exposes the adolescents to sexually transmitted infection including human immune deficiency disease (HIV), unintended pregnancy unsafe abortion and consequently death. This study determined microsystem as a predictor of sexual risk behaviours of in-school adolescents in Anambra State. The study was guided by three research questions and one null hypothesis. Correlational research design was used and the sample consisted of 1470 senior secondary school students of SS1 and SS2 classes selected using multi-stage procedure. The instruments for data collection were, Microsystem of In-School Adolescents Questionnaire (MIAQ) and Sexual Risk Behaviours Questionnaire (SRBQ), Research questions 1 and 2 were answered using percentage and research questions 3 was answered was answered using simple linear regression while the hypothesis was tested using simple regression analysis. The results showed that majority of the in-school adolescents had good interactions in their microsystem. Microsystem is a significant predictor of their sexual risk behaviours. And the following recommendations among others include; Health educators should find innovative ways of educating the secondary school students on the dangers of sexual risk behaviours, using peer and media since it has been found to be a predictor of sexual risk behaviours.

Keywords: Adolescents, Microsystem, Interaction, Predictor, In-School, Sexual risk Behaviours.

INTRODUCTION

Adolescents are at the beginning of their sexual and reproductive lives. Physiologically, the changes in reproductive organs that occur in them often serve as motivating force on their quest to experiment sex. Some naturally explore and take risk in many aspects of their lives, including sexual risk behavious. Those who have sex may change partners frequently and have more than one partner in the same period or engage in unprotected sex (Nwoke, Okafor & Nwankwo, 2012). According to Seme and Wirtu (2008) adolescence is the time of transition from childhood to adulthood during which young people experience changes following puberty. Seme and Wirtu also said that adolescents have limited knowledge about sexual and reproductive health and know little about the natural process of puberty. This lack of knowledge about reproductive health may have serious consequences. According to Dingeta, Ojira & Asefa (2012) the common sexual risk practices in this group include early sexual debut, multiple sexual partners, unprotected sexual intercourse, engaging in sex with older partners and non-regular partners such as commercial sex workers. Approximately, half of the new Human Deficiency Virus (HIV) infections globally occur in the age group 15 to 24 years. Many young people engage in sexual risk behaviours that can result in unintended health

outcomes. Sexual risk behaviours place adolescent at risk for sexually transmitted infections (STIs), including HIV and acquired immune deficiency syndrome (AIDS), unwanted pregnancy and unsafe abortion. Sexual risk behaviours are defined as sexual activities that may expose individual to the risk of STIs, including HIV and AIDS unplanned pregnancy and unsafe abortion. The common sexual risk behaviors among in-school adolescents includes unprotected sexual intercourse, engaging in sex with adult partners, multiple sexual partners, non-regular sexual partners, oral sex, same sex sexual relationship engaging in group sex, engaging in sex with commercial sex workers, sex under the influence of alcohol and drug.

Globally, 47 percent of high school students were reported having had sexual intercourse and six percent of all high school students reported that they had sex before 13 years, 15 percent reported having had four or more sexual partners (Center for Disease Prevention and Control (CDC), 2011). Adolescent sexual behaviours have been of public health concern in Nigeria; if they are not properly addressed they may become more compounded. Adolescents experience numerous developmental challenges at varying stages, including: increasing need for independence, evolving sexuality, transition through education and beginning employment, consolidating advance cognitive abilities, negotiating changing relationship with family, peers and broader social connection, assuming legal responsibilities and developing personal ethics and healthy identity (Cameron & Karabanoe, 2003). It is the period in which patterns of behaviours which has long-life consequences are formed and become established. For instance, it is in adolescent stage that many individuals begin sexual relation and some may become involved in risky sexual behaviours with life threatening consequences. The adolescent period is marked by increasing involvement in risk behaviours, while the risk behaviours can predispose them to poor long-term outcomes.

According to World Health Organisation (2002), adolescents often engage in risk behaviours that pose a threat to their future health. The adverse health consequences of these behaviours have been recognized as important public health issues and are associated with certain factors. In an effort to reduce the maternal and infant mortality high rates of STIs and drop out of school, Nigerian government developed a national reproductive health policy aimed at preventing sexual risk behaviours among adolescents that could lead to STIs and HIV, unplanned pregnancies, unsafe abortion and dropout from school (WHO, 2000). According to WHO, the policy identified the major areas of adolescent health care needs and described broad strategies for intervention of sexual risk behaviour. The programme has been hampered, however, by outdated and incomplete information on sexual knowledge, attitudes and behaviour of adolescents in Nigeria. Effective interventions in Nigeria have been hindered by dearth of information on contextual factors that predict sexual risk behaviours (Slap et al. 2003). Understanding ecological factors like microsystem that influence risk behaviours of adolescents is vital in designing and implementing sexual risk reduction interventions in specific context.

Bronfenbrenner (1977) defined microsystem as a complex of relations between the developing person and environment in an immediate setting containing that person (e.g. the developing persons home, school, etc). Bronfenbrenner (1979) described microsystem as a pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting with particular physical and material characteristics. The microsystem involves a child's primary caregivers (teachers), parents, or peers. Microsystem according to Berk (2000) is the layer closest to the child and contains the structures with which the child has direct contact. At microsystem level, bi- directional influences are strongest and have the greatest impact on the child. However, according to Berk, interactions at outer levels can still impact the inner

structures. This core environment stands as the child's venue for his/her initial learning about the world. As the child's most intimate learning setting, it offers him or her reference point for the world. The real power in this initial set of interrelations with family for the child is what they experience in terms of developing trust and mutuality with their significant people. Swick (2004) opined that the family is the child's early microsystem for learning how to live. The caring relations between child and parents (or other caregivers) can help to influence a healthy personality. For example, the attachment behaviours of parents offer children their first trust-building experience (Brazelton & Greenspan, 2000).

Bronfenbrenner, (1986) postulated that microsystem of an adolescent consists of a social network of interpersonal relationships involving direct face-to-face interactions with people with whom the developing person has a lasting relationship, who are influential in their life, and who in turn, are influenced by the adolescent. The primary microsystem for an adolescent is often their parents or guardians followed by their friends. This study will determine how the influence of parents, guardians and peers/friends predict the adolescent sexual behaviours.

Peer groups can provide powerful social rewards such as status and acceptance but can sometimes lead to detrimental behaviour such as taking sexual risks (Henrich, Brookmeyer, Shrier & Shahar, 2006; Prinstein & Dodge, 2008). In this study, microsystem encompasses the relationships and interactions a child has with his or her immediate surroundings such as the parents in the family or childcare environments and the peers. The adolescent's interaction with the parents, guardians and peers would predispose him/her to sexual risk behaviour.

According to Whitaker and Miller (2000) the impacts of parents and peers are interactively related as demonstrated by research findings that adolescents' sexual behaviours are more closely aligned with peer norms if adolescents have not discussed sex or condoms with their parents, although supportive friendships have been associated with fewer sexual partners. Such interactions between the parent and peer contexts suggest that examining only one proximal source of supportive relationships may not elucidate the whole story of social influences on adolescent risk behaviour but to examine the family–peer mesosystem; that is, the development of behaviour across two or more social milieu which may be a more powerful way to measure supportive relationships' influences on adolescent risk behaviour (Bronfenbrenner & Crouter, 1983). Several studies have reported that peer characteristics influence the sexual behaviours of the adolescents. If their peers have permissive values about sex, or are actually having sex, using condoms and other contraception, they are likely to have sex, use condom and other contraception (Isarabhakdi, 2000 & Bamidele, Abodurin,& Adebimper, 2009). Werner-Wilson (2007) noted that generally, adolescent males and females reported similar perceptions of peer pressure, but males were more likely to submit to peers influence. Moreover, studies have found linkages between family connectedness and sexual risk taking whereby those who score highly on perceived family connectedness are less likely to sexual activity than those who live alone or have loose connections with their parents (Cherie & Berhane, 2015; Markham, et al., 2003; & Pilgrim, et al., 2014) sexual behaviours (Werner-Wilson, 2007).

Statement of the Problem

Adolescents have sequence of pubertal changes and also it is a period of high sexual drive. Research shows that the years are the most turbulent and confusing stage of life when physical, social, cognitive and biological changes occur. All these may lead the secondary school students into sexual risk behaviours like early sexual intercourse, multiple sexual partners, unprotected sexual intercourse, engaging in sex with older partners, non-regular sexual partners

and sex encounter with commercial sex workers. At this time adolescents are expected to acquire education and skills either in formal or non-formal settings needed for the future.

Unfortunately, many adolescents become sexually active before 16 years because of their early exposure to sex and pornographic movies. Boys at this time tend to have more sex exploitation than girls and their sexual contacts are generally unprotected. This sometimes results in sexual risk behaviour related illnesses and problems such as STIs, HIV and AIDS, unplanned pregnancies and the resultant illegal life threatening abortions. They are supposed to have adequate knowledge and positive attitudes towards issues relating to sexuality because they have gone through primary and junior secondary schools and have gone through some subjects' materials on safer sex. Also, most of the in-school adolescent in their homes are supposed to have been adequately advised. Nigerian government for example developed a national reproductive health policy aimed at preventing sexual risk behaviours among young people of adolescent age leading to STIs (including HIV), unplanned pregnancies and drop out from school (United Nations Programme on Aids (UNAIDS), 2000). A lot of children are involving in sexual risk behaviours and a hospital-based research has shown that 80 percent of patients with abortion complications were among adolescents.

Purpose of the Study

The main purpose of this study was to determine how microsystem interaction predicts in-school adolescents sexual risk behaviours in Anambra Sate. The study determined:

1. percentage of in-school adolescents who had healthy microsystem interaction.
2. percentage of in-school adolescents who had exposure on sexual risk behaviours.
3. how interaction to microsystem predicts in-school adolescents sexual risk behaviours.

Research Questions

The following research questions guided the study.

1. What percentage of in-school adolescents are exposed to microsystem.
2. What percentage of in-school adolescents are exposed to sexual risk behaviours.
3. how interaction to microsystem predicts in-school in-school adolescents sexual risk behaviours

Hypotheses

This null hypothesis guided the study and was tested at 0.05 levels of significance;

1. Interaction to Microsystem by secondary school students' will not significantly predict their sexual risk behaviours.

Methodology

Correlational research design was employed in the present study. Microsystem interaction was correlated with in-school adolescents sexual risk behaviours. The area of study was Anambra State. The population of the study consisted of 49,284 senior secondary school students (SS1 and SS2) in Anambra State. Multi stage sample procedure was used to select the sample size of 1470 (made up of 735 of SS1 and 735 of SS2) in-school adolescent in Anambra State. The instruments for data collection were two structured questionnaires known as Microsystem of In-School Adolescents Questionnaire (MIAQ) and Sexual Risk Behaviours Questionnaire (SRBQ). The first questionnaire MISQ contains 8 items and the second questionnaire SRBQ contains 23 items where the respondents were required to indicate on four point scale, using always (A), often (O), occassionally (OC) and never (N) on the question items respectively. Research question 1 determined the range of Scores of in-school adolescents on their interaction to microsystem of 8 to 19 indicated students' poor interaction with the system while

20 to 32 indicated students' good interaction with the system. The face and content validity of the instruments was obtained through the judgments of four experts. The internal consistency of the instruments was computed using Cronbach alpha reliability coefficient. Research questions 1 and 2 were answered percentages, research question 3 was answered using simple regression analysis while the Hypothesis 1 was tested using simple regression analysis at 0.05 level of significance.

Results:

Research Question 1

What percentage of in-school adolescents are on their microsystem in Anambra state?

Table 1: Range of Scores of in-school adolescents on their Microsystem (n=1405)

Components	Range of Scores	n	%	Remarks
Microsystem	8 - 19	155	11.0	Poor interaction
	20 - 32	1250	89.0	Good interaction

Table 1 shows that the scores ranging from 20 to 32, 1250 (89%) of the students had good interaction with microsystem while 155 (11%) other students who scored between 8 and 19 have poor interaction with microsystem

Research Question 2

What percentage of in-school adolescents are their sexual risk behaviours in Anambra state?

Table 2: Range of Scores on in-school adolescents on Sexual Risk Behaviours (n=1405)

Range of scores	N	%	Remarks
23 – 57	1281	91.2	Good sexual risk behaviour
58 – 92	124	8.8	Bad sexual risk behaviour

In table 2 it was observed that scores ranging from 23 to 57, 1281(91.2%) of secondary school students had good sexual risk behaviours, while 124(8.8%) students who scored between 58 and 92 had bad sexual risk behaviours.

Research Question 3

How Microsystem interaction predicts in-school adolescents sexual risk behaviours in Anambra State?

Null Hypothesis 1

Interaction to microsystem of in-school adolescent will not significantly predict their sexual risk behaviours.

Table 3: Simple Regression Analysis of Microsystem Interaction of in-school adolescents on their Sexual Risk Behaviours (1405)

Variable	R	R^2	R^2 Adj	B	% variance	Cal. F	df	Crit. F	Remark
							1		
Microsystem	.055	.003	.002	153	0.2	4.28	1403	3.84	S

Table 3 reveals that microsystem of in-school adolescents had R^2 adjusted of 0.002. This indicates that microsystem had the predictive power of 0.2 percent for sexual risk behaviours of in-school adolescent. Also at 1df numerator, 1403 df denominator and 0.05 level of significant, the calculated F value 4.28 was greater than the critical F value of 3.84. Therefore,

the in-school adolescents' microsystem was a significant predictor of their sexual risk behaviours.

DISCUSSIONS

Percentages of in-school adolescents on their microsystem

Majority of the in-school adolescents had good interaction with microsystem. This might be that the parents of the students gave them support, had parent-child communication or that their parents monitored them and their peers/friends. These might have influenced the secondary school students' behaviour positively. The finding was in line with the study of Berk (2000) which revealed that the relationship between the child and the family units shapes all aspects of child's physical and mental development. This might be so because the family unit has also been described as critical components of care environment of children. Also this may be due to the conventional advices and support secondary school students from their family members. This according to UNICEF (2005) ensures they receive the appropriate nurturance for good social and health outcomes. This finding is also in line with the findings of Printein and Dodge (2008) who found out that peer groups could provide powerful social rewards such as status and acceptance. However, the finding is in disagreement with the findings of Henrich, Brookmeyer, Shrier and Shahar (2006) which revealed that peer groups could sometimes lead to detrimental behaviour such as taking risks. This is because individuals may become friends with each other because of their propensity to engage in risky behaviours and their tendency to want to be around others who share the same interest. Also, students tend to listen more to their peers or friends especially in matters related to sexual activities. The implication of this finding is that there is need to create awareness on the in-school adolescents' microsystem so that they can have good interaction with fellow peers as well as their parents.

Percentages of in-school adolescent on their sexual risk behaviours

Most of the students had bad sexual risk behaviours. This finding was surprising since the secondary school age is a transition time where the students experience changes following puberty. These changes could lead them out of curiosity to experiment sex that predisposes them to engage in common sexual risk behaviours. The reason might be because they had good interaction in their ecosystem which influenced them positively. Majority of the students had good sexual risk behvaiour and the possible reason for the difference in this present study might be due to the level of interaction that existed in the secondary school students' ecology.The finding was in disagreement with the findings of Kassa, et al. (2016) that a large number of in-school adolescents were involved in risky sexual intercourse, having multiple sexual partners, inconsistence use of condom and having sex with commercial sex workers.

Microsystem Interaction as Predictor of in-school adolescents on their Sexual Risk Behaviours.

The finding showed that microsystem which comprised of family and peers/friends was a predictor of the in-school adolescents sexual risk behaviours. It also showed that microsystem had the predictive power of 0.2 percent for their sexual risk behaviours. This margin was expected because the students had good interaction with their families and peers. This could be explained by the fact that a peer system is unique to students in that they could be greatly affected by the interactions and beliefs of the peers. The findings of the study revealed that interactions within the family-peer microsystem may likely reduced children's involvement in sexual risk behaviour. Poor parental control and peer group pressure are factors that could likely expose the secondary school students to sexual risk behaviours. This could likely be as a result of ignorance due to poor knowledge about sexual issues. According to the study by Duru, et al. (2010), friends and other peer groups had been consistently shown to be sources of

information on reproductive health issues especially among young persons. They are likely to spread wrong information. The findings agreed with the findings of Cherie and Berhane (2015) that the most important factor associated with sexual risk behaviours was peer pressure. The implication of this finding is that school peer education programme should be encouraged and strengthened to create a culture of positive peer influence.

The result also showed that the in-school adolescents' microsystem was a significant predictor of their sexual risk behaviours. Parents are the primary socializing agents and have significant influence on their children's behaviour. This result was in consonance with the findings of Amoateng, et al. (2014) that individual and contextual factors like peer influence and parent-child communication significantly predicts sexual risk behaviours of the adolescents. This result was in line with that of Abu and Akerele (2006) who found that there was significant difference between parental care and adolescents' sexual risk behaviours. This finding is in agreement with the findings of Henrich, et al. (2014) that adolescents who reported engaging in sexual risk behaviour reported decrease in the quality of their relationship with their parents and friends over the course of time. The implication of these findings is that parents play an important role in whether their adolescents engage in sexual risk behaviour or not. Another implication of this result is that the interactive effects of parents' connectedness and supportive friendships appeared to be equally useful for both prevention and reduction of sexual risk behaviours. The finding was not surprising because students who are close to their parents and whose parents encourage them to keep good friends are more likely to keep away from sexual risk behaviours. This finding is in agreement with that of Merchand and Smolkowski (2012) that association of parental monitoring and positive family relationship to the students minimized them engaging in sexual risk behaviours.

CONCLUSIONS

Based on the findings of the study and their discussion, it is clear that in-school adolescent in Anambra State had bad sexual risk behaviour and microsystem is a predictor of in-school adolescents sexual risk behaviours in Anambra State.

RECOMMENDATIONS

Based on the conclusion, the following recommendations were made:

1. Adolescents' intervention programme designers and those implementing the programme should organise campaigns towards increasing the scope of parental communication strategies and quality monitoring of their children.
2. Health educators should find innovative ways of educating the secondary school students on the dangers of sexual risk behaviours, using peer and media education.
3. Health education designers should design a comprehensive sex education for secondary school students' curriculum, targeting sexual risk bahviours and its consequences.

REFERENCES

Abu, P. B. & Akerele, E. O. (2006). Parental influence on adolescents' sexual behaviour in Ibadan North Local Government Area of Oyo State, Nigeria. *International Journal of African & African American Studies*, *5*(1), 1-56.

Amoateng, A.Y. & Kalule-Sabiti, I. (2013). Social structure and sexual behaviour of Black African Adolescents in the North West Province, South Africa. *South African Review of Sociology*, *44*(1), 131-157.

Bamidele, J. O., Abodurin, O. L. & Adebimper, W. O. (2009). Sexual behaviour and Risk of HIV/AIDS among adolescents in public secondary schools in Osogbo, Osun State, Nigeria. *International Journal of Adolescent Medical Health, 21*(3): 387-94.

Berk, L. E. (2000). *Child development (5th)*. Boston: Allyn and Bacon.

Brazelton,T. B. & Greenspan, S. I. (2000). The irreducible needs of children. What every child must have to grow, learn and flourish. Cambridge MA: Perseus publishing.

Bronfenbrenner, U. & Crouter, A. C. (1983). *The evolution of environmental models in developmental research*. In W. Kessen (ed). Handbook of Child Psychology,*4*(1), 357-414.

Bronfenbrenner, U. (1977). Towards an experimental ecology of human development. *American Psychologist*, 33, 513-531.

Bronfenbrenner, U. (1979). *The Ecology of human development: experiments by nature and design.* Cambridge, MA: Harvard University Press.

Bronfenbrenner, U. (1986). Ecology of family as a context for human development: Research Perspectives. *Developmental Psychology, 22*(6), 723-742.

Cameron, G. & Karabunow, J. (2003). The nature and effectiveness of program models for adolescent at risk of entering the formal child protection system. *Child Welfare, 82*(4), 443-474.

Cebulla, A. & W. Tomaszewski (2009), *Risky behaviour and social activities*, DCSF Research Report DCSF-RR173.

Centre for Disease Control and Prevention (CDC) (2011). 1991 High School Youth Risk Behaviour. Data Retrieved on July 2, 2012, from http://www.apps.nccd.cdc.gov/youth online

Cherie, A., & Berhane, Y. (2015) Assessment of parenting practices and styles and Adolescent Sexual Behavior among High School Adolescents in Addis Ababa, Ethiopia. *Journal of AIDS and Clinic Research*, 6:2.

Dingeta, T. Ojira, L. & Asefa, N. (2012). Patterns of sexual risk behaviour among undergraduate University students in Ethiopia. *Pan African Medical Journal*, 2, 12-33.

Duru, C. B., Ubajaka, C., Nnebue C. C., Ifeadike, C.O., & Okoro, O. P. (2010). Sexual behaviour and practices among secondary school adolescents in Anambra State, Nigeria. *African medical Journal, 1(2),* 22-27.

Henrich, C. C., Brookmeyer, K. A., Shrier L. A. & Shahar,G. (2006). Supportive relationships and sexual risk behaviours in adolescence: An Ecological – Transactional Approach. *Journal of Pediatric Psychology, 31*(3), 286–297.

Isarabhakdi, P. (2000). *Sexual attitudes and experience of rural Thai youth*. Bangkok Mahidol University: Institute for Population and Social Research.

Kassa, G. M., Degu, G., Yitayew, M., Misaganaw, W. Muche, M. Demelash, T., Mesele, M. & Ayehu, M. (2016). Risky sexual behaviours and associated factors among Jiga High school and Preparatory school students, Amhara Region, Ethiopia. *Internationally Scholarly Research Notices*. http://dx.doi.org/10.1155/2016/4315729.

Markham, C. M., Tortolero, S. R., Escobar-Chaves, S. L., Parcel, G. S., Harrist, R. & Addy, R. C. (2003). Family connectedness and sexual risk-taking among urban youth attending alternative high schools. *Perspectives on Sexual Reproductive Health, 35*(4):

Merchand, E. & Smolkowski, K. (2013). Forced intercourse, individual and family context and risky sexual behaviour among adolescent girls. *Journal of Adolescent Health, 52*(1), 89-95.

Nwoke, E. A., Okafor, J. O. & Nwankwo, B. O. (2012). Socio-demographic correlates of sexual behaviours: A cross-sectional survey of adolescents in Imo State secondary schools. *Journal of Public Health and Epidemiology, 4*(4), 88-92.

Pilgrim, N. A., Saifuddin, A., Gray, R. H., Sekasanwu, J., Lutalo, T., Nalugoda, F.,Sevwadda, D & Wawer, M. J. (2014) Family structure effects on early sexual debut among adolescent girls in Rakai, Uganda.*Vulnerable Child Youth Studies, 9*(3): 193-205.

Prinstein, M. J. & Dodge, K. A. (2008). *Understanding peer influence in children and adolescent*. New York: Guilfor Press.

Richmond (2014). *Children's workforce Development*. Retrieved 12 February, 2014 From www.richmond.gov.uk/risky_behaviour_programme

Seme, A. & Wirtu, D. (2008). Premarital sexual practice among school adolescents in Nekemt Town, East Village. *Ethiopia Journal of Health Development, 22*(2),167-172.

Slap, G. B., Lot, L., Huang, B., Daniyam, C. A., Zink, T. M. & Succop, P. A. (2003). Sexual behaviour of adolescents in Nigeria: Cross-sectional survey of secondary school students. *British Medical Journal*, 326, 1-6.

Swick, K. (2004). *Empowering Parent, Familes, Schools and Communities during the early childhood years*. Champaign, IL: Stipes.

United Nations International Children's Fund (UNICEF) (2005). *The Child in Family*. http://www.unicef.org/childfamily/index_245II.html.

Werner-Wilson R. J. (2007). *Predictors of adolescents' sexual attitudes: The influence of individual and family factors*. Retrieved January 15,

Whitaker, D. J. & Miller, K. S. (2000). Parent-adolescent discussions about sex and condoms: Impact on peer influences of sexual risk behaviour, *Journal of Adolescent Research,* 15, 251-273.

World Health Organisarion (WHO) (2000). *Joint United Nations Programme on HIV/AIDS in Nigeria: Epidemiological fact sheet on HIV/AIDs and sexual transmitted infections*. Geneva: WHO.

World Health Organisarion (WHO) (2002). *The World Health Report, reducing risk and promoting healthy life*. Geneva: WHO.