ORIGINAL RESEARCH ARTICLE

Teachers' Perspectives on Sexual and Reproductive Health Interventions for In-school Adolescents in Nigeria

Joshua O. Aransiola^{1,2,3}, Sola Asa.^{3,4}, Patience Obinjuwa^{3,5} Oluseyi Olarewaju³, Olubukola O. Ojo^{3,6} and Adesegun O. Fatusi^{3,7}

¹Department of Sociology and Anthropology, Faculty of Social Sciences, Obafemi Awolowo University, Ile-Ife, Nigeria; ²School of Public Health, University of the Western Cape, Bellville, Cape Town, South Africa; ³Population and Reproductive Health Programme, Obafemi Awolowo University, Ile-Ife, Nigeria; ⁴Department of Demography and Social Statistics, Faculty of Social Sciences, Obafemi Awolowo University, Ile-Ife, Nigeria; ⁵Department of Pediatrics and Child Health, Faculty of Clinical Sciences, College of Health Sciences, Obafemi Awolowo University, Ile-Ife, Nigeria; ⁶Department of Education Foundation and Counselling, Faculty of Education, Obafemi Awolowo University, Ile-Ife, Nigeria; ⁷Department of Community Health, College of Health Sciences, Obafemi Awolowo University, Ile-Ife, Nigeria

*For correspondence: E-mail: aransiola2@yahoo.com, aransiolajo@gmail.com, earansi@oauife.edu.ng on jarionsola@uwc.ac.za; Phone: +27-73-010-9875 or +234-703-117-0269

Abstract

High prevalence of early and unprotected sex, resulting in adverse reproductive health outcomes, has been reported among adolescents in Nigeria. While school-based sexual and reproductive health interventions for in-school adolescents is widely recognized, little is known on the kind of involvements desired by teachers and their perceptions of handling students' reproductive health concerns. In this study, the teachers favoured school-based reproductive health education (RHE), but have divers' opinions on what should be included in such RHE. Majority was not willing or comfortable in personal counseling of students but can teach RHE in classroom environment. They support the current approach of expelling pregnant school girls. The article advocates for gender-sensitive and developmental-oriented approaches that will ensure rehabilitation and re-integration of pregnant girls into the school system after their delivery, and recommend the need to build teachers skills and promote students-teachers dialogue in order to optimize school environment for addressing ASRH. (*Afr J Reprod Health 2013*; 17[4]: 84-92).

Keywords: Adolescent sexuality, In-School Adolescents, Reproductive Health Education

Résumé

La prévalence élevée du début précoce des rapports sexuels non protégés, ce qui entraîne des résultats sanitaires néfastes sur la reproduction, été rapportées chez les adolescents au Nigeria. Alors que les interventions de la santé sexuelle et de la reproduction en milieu scolaire pour les adolescents encore à l'école est largement reconnue, on connait peu le type d'implications souhaitées par les enseignants et leurs perceptions de la manipulation des problèmes de santé de la reproduction des élèves. Dans cette étude, les enseignants ont préféré l'éducation de santé de la reproduction en milieu scolaire (ESR), mais avaient des opinions diverses sur ce qui devrait être inclus dans une telle ESR. La majorité des enseignants ne voulaient pas adopter, ou ne se sentaient pas à l'aise avec, l'orientation personnelle pour les élèves, mais peuvent enseigner ESR dans un milieu de salle de classe. Ils soutiennent l'approche actuelle de l'expulsion des étudiantes enceintes. L'article plaide pour des approches sensibles au genre et qui sont orientées vers le développement et qui assureront la réhabilitation et la réinsertion des jeunes filles enceintes dans le système scolaire après leur accouchement et recommande la nécessité de renforcer les compétences des enseignants et de promouvoir les dialogues entre étudiants et enseignants afin d'optimiser le milieu scolaire pour s'occuper des DSRA. (Afr J Reprod Health 2013; 17[4]: 84-92).

Mots clés: Sexualité des adolescents, adolescents qui fréquentent l'école, éducation sur la santé de la reproduction

Introduction

High prevalence of premarital and unprotected sex has been reported among adolescents in several settings and studies, resulting in adverse reproductive health outcomes¹⁻⁴. Poor reproductive health knowledge is one of the factors indicated in literature as contributing to early and unprotected sex and other risky adolescent sexual behaviour^{5,6}. Although parents are still the primary agents for

socializing children, schools play an important role as secondary socialization agent especially in societies where a high proportion of adolescents attends schools^{1,7}. Teachers, therefore, occupy a central role in the lives of students not only because of the need to develop the academic potential of young people but also because of the influence they have in shaping and reshaping behaviour and life course in many areas of life. Not surprising, several researchers have reported the roles of teachers in school-based reproductive health programme as critical to addressing reproductive health challenges of in-school adolescents^{8,9}.

Studies in some settings, including some carried out in urban communities in Nigeria, have also reported that many teachers were favourably disposed to the introduction of Reproductive Health Education (RHE) or Sexuality Education in schools, and were willing to be involved in such an initiative^{3,10}. In some other settings, contrary results have been obtained. An intervention study in rural communities in south-west Nigeria, for example, has shown that despite improved attitude towards the teaching of sexuality education after receiving training, majority of teachers were still unwilling to be involved in sexuality education¹¹. There is scarce information in the literature regarding the kinds of involvement desired by teachers and the different aspects in which they are willing to be involved. Similarly, little is known about their perceptions of how students with reproductive health problems such as unwanted pregnancy should be handled in schools. This information is important for designing and implementing effective school-based sexuality education programs for students. This research seeks to address some of these research gaps. Specifically, the study explores the level and kind of involvements that teachers desire in the context of school-based reproductive health programme and their attitude to specific curricula issues. This study asked? What kind of reproductive health services are available to in-school adolescents in the study areas? In what ways do teachers perceive the need for school based reproductive health education and services? What level involvements are desired by the teachers in inschool reproductive health programmes and what

are the teachers' perceptions of how adolescents with reproductive health problems are currently being handled in schools and their suggestions for future strategies. This study is part of a broader baseline study for an adolescent health initiative aimed at understanding and informing effective responses to sexual and reproductive health needs of in-school adolescents in the study area.

Methods

Study setting and data

The study utilized a qualitative approach with data collected through the use of focus group discussions in two towns (Ile-Ife and Ilesa) in Nigeria. The two towns selected for this study are two of the most urban communities in Osun State, Southwest Nigeria. They are both located in Ife-Ijesa zone of the State, although separated by about 50 kilometers. Each of the two towns hosts two local government areas (LGAs). In Ile-Ife, there are Ife Central LGA and Ife East LGA while Ilesa hosts Ilesa East LGA and Ilesa West LGA. Figures from the 2006 national population census indicated that the two LGAs in Ife have a combined population of 355,818 while those of Ilesa have a combined population of 212,225. The inhabitants of both towns are Yoruba - the dominant indigenous group in Southwest Nigeria. Ile Ife is traditionally believed to be the cradle of the Yoruba race. Both towns also host a higher institution of learning, thereby exposing the adolescents in the communities to more urbanized lifestyles relative to adolescents in other towns in the state where such institutions are lacking.

Study participants

Recruitment of participants started with the selection of the schools in Ile-Ife and Ilesa through multi-stage random sampling. At the first stage, the list of all registered secondary schools in the four Local Governments in the two towns was obtained from Osun State Ministry of Education in Oshogbo. Our focus was on secular schools, with mixed-sex students' population, and with classes spanning the entire secondary school years according to Nigeria's national educational curriculum (that is, JSS 1 – SSS 3). Most schools

in the two towns met the three criteria our reasons for these criteria, in the first place, included the fact that the teachers in single sex schools are less likely to have adequate information on the pattern of adolescent interaction with opposite sex within the school environment. Also, religious-based schools were excluded to avoid any religious bias in the study. Secondary schools with only either junior arms (i.e. Junior Secondary Schools (JSS)) or only senior arms (i.e. Senior Secondary Schools (SSS)) were further excluded from the list of the schools. A sampling frame was derived for each of the four local LGAs from the original list of schools provided by the Ministry of Education, consisting of schools that met the three specified criteria. A stratified sampling approach was used to select two schools – one public and one private school – from the sampling frame for each LGA. Thus, a total of eight government-registered secondary schools were randomly selected, consisting of four public and four private schools.

The second stage focused on selecting teachers from the selected schools, and cluster sampling approach used. During this stage, Principals of the selected schools were contacted and their permission sought. The Principals provided the list of teachers in their schools as well as facilitated the mobilization of required teachers. The list of teachers were separated into two groups by sex (men and women) and between 10 and 12 teachers selected from each group using simple random approach. Additional 2 to 3 teachers were selected in the same way and placed on the waiting list to replace any of the selected teachers who decline or may otherwise be unavailable ultimately to participate in the study. In total, 16 FGDs (2 in each school – 1 men group and 1 women group) were conducted in the 8 schools selected for this study. Table 1 presents the FGD characteristics of the teachers selected for this study.

Data Collection

The FGD sessions were conducted in English language since all the participants were fluent in English. The FGD guide contained series of questions which seeks to ascertain the teachers' knowledge about sexual involvement of in-school adolescents and to explore their perspective about

associated factors and available adolescent reproductive health services/interventions in the schools. The questions also sought their views on school-based adolescent reproductive health programme in their environment, their willingness to be involved in such programmes and the level of involvement desired. The FGD also explored the teachers' insights about the current sexual and reproductive health practices as well suggestions regarding the handling of adolescent health challenges, especially teenage pregnancy, in school environments.

Table 1: FGD Characteristics of the Teachers

FGD	FGD	No. of	FGD	Age Range of
Locations	Number	participants	Group	participants
Ile-Ife	1	11	Male	30-55 years
	2	12	Female	29-54 years
	3	12	Male	35-58 years
	4	10	Female	32-57 years
	5	11	Male	31-51 years
	6	12	Female	33-59 years
	7	12	Male	38-59 years
	8	12	Female	34-49 years
Ilesa	9	12	Male	28-49 years
	10	10	Female	35-58 years
	11	11	Male	30-57 years
	12	11	Female	31-48 years
	13	12	Male	33-53 years
	14	12	Female	32- 50 years
	15	12	Male	40-57 years
	16	10	Female	37-55 years

Ethical approval was obtained from Health Research Ethics Committee of the Obafemi Awolowo University Teaching Hospitals Complex before the study commenced. Permission of the Osun State Ministry of Education, the Local Education Board and school principals were also secured. Informed consent was obtained from all participants prior to the FGDs while the anonymity of the participants and confidentiality of the information from respondents were guaranteed. All FGDs were audio-recorded while a note-taker was also present during the FGD sessions. Permission was obtained from the participants prior to audio-recording of the sessions. The recorded data were later transcribed verbatim using standard transcription techniques. All informed consent documents, audio recordings and transcripts were kept under lock and key at the study site.

Data Analysis

The analysis of the data was carried out with the aid of Text-based Beta Computer Software. Grounded theory approach was used to analyze the data. Hence, the data were coded for new categories until the level of saturation was reached. The report is presented under the subthemes identified in the study.

Results

Young people's involvement in sexual activities

In response to the question about the involvement of adolescents in sexual acts in their communities, FGD participants were generally of the opinion that most adolescents are involved in sexual intercourse. The teachers who were participants in the FGD noted that the extent of young people's involvement in sexual activities is alarming and disturbing. They attributed the problem to peer influence, influence of the media through movies, music and internet and poor parental upbringing. A participant noted;

"The challenge of sex among youths is very paramount and very rampant. It is an understatement to say youths know nothing about sex; some have more information about sex than their parents because of the porosity of our environment. The society is so porous to the extent that these youths go to pornographic sites on the web freely and have access to pornographic materials on the street. Government is supposed to sanction pornographic sites or materials from the media". Male Teacher, Ile – Ife

Another participant retorted;

"Many youths come from bad families where they are not given good training. Such children are highly involved in sexual activities and influence other children because they are bad examples". Female

Teacher, Ilesha

The participants noted that there are many problems associated with adolescents' sexual activities in their schools. These include: high rate of unwanted pregnancy leading to many

adolescent girls dropping out of school; unsafe abortion, which had led to deaths of some female students; and the spread of STIs, including HIV, among young people.

Availability of adolescent reproductive health education and services in the school

The reported level of involvement of adolescents in sexual activities calls for the examination of the various services available in-school for adolescents on their reproductive health issues. obtained clearly indicated that Responses reproductive health information and services are rarely available for the students in the school setting. The only source of reproductive health information available for the students in the schools is what the teachers teach in Biology and Integrated sciences. Although, some governmental organizations (NGOs) were visiting some secondary schools in Ilesha to provide reproductive health education and limited services occasionally, none of such was available to secondary schools students in Ile-Ife. The teachers also noted that only few schools were being reached by the NGOs in Ilesha and the services provided in the said schools were limited with the NGO indicating that it is resource-challenged. Most adolescents were reported as seeking reproductive health information and assistance from their friends and siblings while some are involved in self-medication and others visit quack doctors for their reproductive health problems. The quotation below reflects teachers' opinions on why reproductive health services are not available to inschool adolescents in the study area.

> "There is currently no government policy on the provision of reproductive health services for in-school adolescents in the state. Individual NGOs who sees the need are only trying to provide some services which are grossly inadequate for the students". Male Teacher, Ilesa

Attitude of teachers to school-based reproductive health education and services

Most of the FGD participants expressed the opinion that school-based reproductive health

programmes are necessary to improve the knowledge of in-school adolescents regarding reproductive health issues, and contribute to reduction of the incidence and prevalence of risky sexual practices among them. Such programmes could either be integrated into the existing curriculum as part of subjects being taught or as a separate subject that can be taught and examined. A participant noted that;

"Most youths do not usually realize that there is the other side of the coin until they fall victim of their sexual activities". Male Teacher, Ile – Ife

Another participant also noted;

"Family life education or sex education should be introduced into school curriculum to reduce the rate of premature parents. The societal moral standard is now dropping due to civilization; most youths have access to pornographic materials. Hence, it is important for young people to know the long- and short-term effects of sexually transmitted diseases". Female Teacher, Ilesha

The teachers, however, have divergent views on the kind of topics and issues to be included in reproductive health programme for the students. Some believed that every aspect of reproductive health issues should be taught as this will allow the students to have comprehensive knowledge of reproductive health issues and those who cannot delay sex till marriage can protect themselves appropriately. As a participant noted;

"This is a modern world. It is said that 'prevention is better than cure or even cheaper'. At that age (secondary school girl) the girl should be given contraceptive to prevent early pregnancy. She should be taught different contraceptive method and when she is ready in the future to have babies she should discontinue their use. This is what is done in western part of the world". Female teacher, Ile – Ife.

Others opined that topics to be taught should be limited to pubertal issues (including teaching

girls about menstrual circle), dangers of sexually transmitted diseases and the need to avoid them. This group also wants the topic of HIV and AIDS to be included into the topics to be taught in order to help students understand the adverse effect of unprotected sexual act.

Many participants opposed the teaching of family planning and contraceptive use in secondary schools. Some participants noted as follow:

"If issues like family planning and contraceptive use are included in the reproductive health programme in secondary schools, who is going to handle or teach these subjects. Is it the teachers or the health personnel?" Male Teacher, Ile – Ife

"For me, teaching of contraceptive in schools is not a welcomed idea. It is like exposing the students to promiscuity. When they know the way out, they will indulge in sexual relationships more than ever before. Contraceptive issues should not be introduced into secondary school curriculum". Female Teacher, Ilesha

Willingness of the teachers to be involved in Reproductive Health Education

In response to the question on their possible involvement in school-based reproductive health programme, majority of the teachers indicated willingness to teach reproductive health issues but only under classroom condition when it is included in the curriculum. However, the majority was neither willing nor comfortable to be involved in personal counseling of the students; the key reason they gave was that they were not professionally equipped to do so. One of the participants reiterated:

"If it has to do with class situation and it is part of the curriculum being narrowed down to a syllabus where I am to teach, why not? But if it involves counseling on reproductive health and contraceptive use, I cannot. I think it is better done in the hospitals under medical programmes since we are not professionally trained on that"

Handling of in-school adolescents with reproductive health problems

The most common reproductive health problem of the adolescents obvious to the teachers in the schools was teenage pregnancy. The teachers indicated that pregnant students are normally dismissed from the school as a deterrent to their colleagues. With regards to how to handle pregnant students in the future, most of them maintained that a pregnant school girl should be sent away from the school after the parents have been duly informed and both the girl and the parent have been given the right counselling to prevent the girl from aborting and experiencing complications or any unnecessary havoc. Most participants also expressed the opinion that pregnant school girls should not be re-admitted into their schools but should continue their education in another school if they wish, to prevent them from becoming bad examples to their colleagues. This position was more reiterated among the teachers from private secondary schools; they insisted that it is absolutely impossible for the school to re-admit any of their students dismissed for being pregnant. participant expressed;

"In my own opinion, the girl should not be taken back to the school because of embarrassment and I consider it 'medicine after death' to counsel her, since she is already pregnant". Male Teacher, Ilesha

Another participant opined that:

"There is nothing to be done than to send her home but she can be counselled that she and the baby can still be successful in the future before that action is taken". Female Teacher, Ile-Ife

Discussion

This article examined the perception and the level of involvement that teachers would prefer in school-based adolescent reproductive health education in two urban communities in South-west Nigeria. Teachers reported high level of early sexual involvement among in-school adolescents. Quantitative studies carried out in several parts have suggested that a fair proportion of adolescents engage in early sex. Based on a nationally representative data, Fatusi and Blum¹² reported that a fifth of adolescents 15-19 years engage in sex in Nigeria. The 2008 Nigeria Demographic Health Survey (NDHS) also reported that 24% of never-married female adolescents (15-19 years) and 21.4% of their male counterparts had ever engaged in sex¹³. Furthermore, 19.8% of the males and 16.0% of the females had engaged in sex in the last 12-month preceding the survey. A previous study among inschool adolescents in parts of the study area had also reported that 50% of the adolescents were sexually active²⁶.

Considering that teachers have also reported high level of teenage pregnancy among in-school adolescents, it is likely that most adolescents who engaged in early sex have unprotected sex. Several studies have also shown low contraceptive use among sexually active adolescents in Nigeria. The result of the 2008 NDHS indicated that only 28.2% of adolescent females and 36.2% of adolescent males who engaged in sexual intercourse in the last one year preceding the survey had used condom¹⁴. Low level of utilization of condom among adolescents has significant implications for the transmission of sexually transmitted infections, including HIV/AIDS. The Health Organisation estimates approximately one in five adolescents contract a curable sexually transmitted infection annually 15, while almost half of new cases of HIV occur among adolescents 16,17. Reasons that have been suggested for low adolescent condom use include poor sexual and reproductive health knowledge, inadequate access to contraceptive products and services, dislike for condom, and low self-efficacy for condom use^{18,19}. The overall picture of a combination of high level of early sex and low level of contraceptive use provides a strong justification for strengthening relevant adolescent sexual and reproductive interventions, including effective educational programmes, in schools. Fortunately, review of school-based studies has identified factors that are associated with successful school based education^{20,21}. These could

be used to inform the design of the effective educational intervention.

significant Teenage pregnancy presents challenge in short- and long-term, particularly as the young girl can resort to unsafe abortion, has higher risk of poor maternal and child outcome if pregnancy is carried to term, and likely to drop out of school in the process^{22,23}. Several studies have shown that most unmarried pregnant adolescents have strong desire to abort the pregnancy and will seek any possible method to accomplish their aim since teenage pregnancy carry significant stigma among in-school adolescents and negative societal reaction^{10,24,25}. Given the Nigerian scenario, whereby abortion on demand is illegal, most pregnant girls resort to medically unqualified personnel and unsafe procedures in the bid to terminate their pregnancy. The practice of expelling pregnant girls from school, as presently reported by the teachers as well as supported for future cases of teenage pregnancy, while perceived as a step to deter peers, have significant implication for the pregnant adolescent girl. Among others, it deepens her sense of shame, ostracism, and failure. Furthermore, it can compromise future educational attainment and socio-economic development of the girl-child and increase the risk of intergenerational poverty^{24,26}. The practice could also exert more pressure on yet-to-be-discovered pregnant adolescent to have an abortion by all means to save her from shame and disgrace by the school authority. While efforts need to be vigorously mounted to prevent teenage pregnancy, including those that emphasize delay in sexual debut, the practice of expelling pregnant girls needs to be reviewed. This is important since in most cases, such adolescent girls rarely continue their education even after the delivery²⁷. Pregnant adolescent girls need to be properly supported and counseled such that they can return to school and be effectively rehabilitated and integrated after having their babies, such that they can earnestly resume the pursuit of their educational goals. Establishing appropriate mechanism continuous support of in-school adolescents during the pregnancy and their re-integration back in school after delivery can reduce the current gender gap that exists in education in Nigeria. It is

important to note that the present response of the teachers to teenage pregnancy in schools inadvertently cause the pregnant girl to carry most, if not all, the consequences of the early unprotected sex alone with little attention to the male partner involved. Thus, it is a gender-biased practice and needs to be addressed through gender sensitive policies in the state and consequently national level.

Teachers were found to be supportive of including RHE or sexuality education in the syllabus, and appear willing to teach such. However, as the result showed, a large proportion of teachers may be uncomfortable with inclusion of contraceptive issues but are accepting of biology-focused pubertal-related information. The teaching of Biology and Integrated sciences or even merely including reproductive health issues in curriculum may not be sufficient for the students since those courses may have limitations of impacting the desired life skills, and may have other challenges such as availability of adequate class time or appropriateness of the class setting effective results. Programmes targeting attitudinal and behavioural changes and have the characteristic of being responsive to practical adolescent sexual and behaviour issues are likely to need a setting beyond the strict classroom environment. This is in line with similar studies in other countries in Africa such as Tanzania, Zanbia and South Africa²⁸⁻³². It may not be possible for students who have personal problems regarding their sexual and reproductive health, for example, might not be able to disclose such under classroom condition. Paradoxically, teachers, in this study, were not willing to be involved in personal counselling for the students since they believed that they were not professionally equipped to do so. With the period of contact between teachers and students facilitated by school curriculum, and inadequate availability of the alternative adolescent-focused health and development services, there is a need to explore how schools and teachers can serve more effectively in the area of adolescent sexual and reproductive health (ASRH). Among others, there will be the need to appropriately build the skills of teachers and boost their confidence and self-efficacy in handling common ASRH issues. Secondly, there is the need

for ensuring collaboration between the teachers and health services, so that the latter can augment the activities of the former, and provides required technical support as well as serves effectively as referral recipient³³. Reproductive health services which do not necessarily need to be provided within the health facility environments should be made available to the students in school. This will encourage positive and healthy reproductive health behaviour and relationships among the students. There is also the need to increase the confidence of the in-school adolescents to seek assistance from trained teachers whenever they have reproductive health challenges. Capacity- and confidencebuilding on both the side of the teachers and the students can be achieved through in-service training activities for teachers as well as provision of constant medium for students-teachers dialogue at personal levels in the secondary schools as suggested by studies in other similar settings^{8,33}.

As indicated earlier, most schools in our study area are similar to the schools we selected for the study: they are secular in nature, have students of both sexes, and have classes from JSS 1 to SSS 3). Furthermore, the schools were randomly selected. Thus, they are considered as being representative of the schools attended by most adolescents in the area. It is, however, important to note that as this may appear to be the strength of our sample, it can also serve as limitations on the other hand as the divergent views of the other school settings, though few in numbers, are excluded in this study. The results have therefore blurred the differences between secular and religious and single sex and mixed schools. Overall, this study provide good insight into the perspectives of teachers, as major stakeholders in adolescent health development adolescents' reproductive health challenges and the potentials of school-based intervention in the study area. The information provided has potential for the strengthening of programmes and interventions to improve the reproductive health of in-school adolescents and to inform for further studies.

Contribution of Authors

Joshua Oyeniyi Aansiola contributed to the study design, managed the data collection, analysis as well as drafted the initial and revised manuscripts.

Sola Asa contributed to the study design, data collection process, analysis and made critical inputs into the revision and finalization of the manuscript.

Patience Obinjuwa contributed to the study design, data collection process, and made inputs into the revision and finalization of the manuscript

Oluseyi Olarewaju contributed to the study design, data collection process, analysis and made inputs into the revision and finalization of the manuscript

Olubukola O Ojo contributed to the study design, data collection process and made inputs into the revision and finalization of the manuscript

Adesegun Olayiwola Fatusi was OAU's Principal Investigator for the study; he contributed to the study design, quality control in the data collection, critically reviewed the initial drafts of the manuscripts and finalized the manuscript.

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References

- Fawole OI, Asuzu MC, Oduntan SO. Survey of knowledge, attitudes and sexual practices relating to HIV infection/AIDS among Nigerian secondary school students. African Journal of Reproductive Health 1999:15-24.
- Jejeebhoy SJ. Adolescent sexual and reproductive behavior: a review of the evidence from India. Social Science & Medicine 1998;46(10):1275-90.
- Cohall AT, Cohall R, Dye B, Dini S, Vaughan RD, Coots S. Overheard in the halls: What adolescents are saying, and what teachers are hearing, about health issues. *Journal of school health* 2007;77(7):344-50.
- Fatusi AO, Hindin MJ. Adolescents and youth in developing countries: Health and development issues

- in context. Journal of Adolescence 2010;33(4):499-508
- Slap GB, Lot L, Huang B, Daniyam CA, Zink TM, Succop PA. Sexual behaviour of adolescents in Nigeria: cross sectional survey of secondary school students. *BMJ* 2003;326(7379):15.
- Amuyunzu-Nyamongo M, Biddlecom AE, Ouedraogo C, Woog V. Qualitative evidence on adolescents' views of sexual and reproductive health in Sub-Saharan Africa. Occasional Report 2005;16.
- Caldwell JC, Orubuloye IO, Caldwell P. Fertility decline in Africa: A new type of transition? *Population and development review* 1992:211-42.
- 8. Hammed MK, Adedigba M, Ogunbodede OE. The role of secondary school teachers in HIV prevention in Nigeria. *Vulnerable children and youth studies* 2007;2(2):173-79.
- Orji E, Esimai O. Sexual behaviour and contraceptive use among secondary school students in Ilesha South West Nigeria. *Journal of Obstetrics & Gynecology* 2005;25(3):269-72.
- Fawole I, Asuzu M, Oduntan S, Brieger W. A school-based AIDS education programme for secondary school students in Nigeria: a review of effectiveness.
 Health education research 1999;14(5):675-83.
- 11. Adegbenro CA, Adeniyi J, Oladepo O. Effect of Training Programme on Secondary Schools Teachers' Knowledge and Attitude towards Reproductive Health Education in Rural Schools IIe-Ife, Nigeria Attitude towards Reproductive Health Education in Rural Schools IIe-Ife, Nigeria. African Journal of Reproductive Health 2007;10(3):98-105.
- 12. Fatusi AO, Blum RW. Predictors of early sexual initiation among a nationally representative sample of Nigerian adolescents. *BMC Public Health* 2008;8:1-14.
- National Population Commission (NPC), ICF Macro. Nigeria Demographic and Health Survey 2010. Calverton, Maryland, USA. 2010.
- National Population Commission (NPC), ICF Macro. Nigeria Demographic and Health Survey 2008. Calverton, Maryland, USA 2008.
- World Health Organisation. World report on violence and health. World Health Organization, Geneva 2002:1– 372.
- Cook RJ, Erdman JN, Dickens BM. Respecting adolescents' confidentiality and reproductive and sexual choices. *International Journal of Gynecology* & amp; Obstetrics 2007;98(2):182-87.
- Kilmarx PH. Global epidemiology of HIV. Current Opinion in HIV and AIDS 2009;4(4):240-46 10.1097/COH.0b013e32832c06db.
- 18. Bankole A, Ahmed FH, Neema S, Ouedraogo C, Konyani S. Knowledge of correct condom use and consistency of use among adolescents in four countries in Sub-Saharan Africa. *African Journal of Reproductive Health* 2007;11(3):197-220.

- East L, Jackson D, O'Brien L, Peters K. Use of the male condom by heterosexual adolescents and young people: literature review. *Journal of Advanced Nursing* 2007;59(2):103-10.
- Kirby D, Laris B, Rolleri L. The Impact of Sex and HIV Education Programs on Youths in Developing Countries, . Research Triangle Park, NC, Family Health International 2006.
- 21. Kirby D, Obasi A, Laris B. The Effectiveness of Sex Education and HIV Education Interventions in Developing Countries in D. Ross, B. Dick and Ferguson (Eds.) Preventing HIV in Young People: A Systematic Review of the Evidence from Developing Countries. Geneva: World Health Organization 2006.
- Mayor S. News: Pregnancy and childbirth are leading causes of death in teenage girls in developing countries. *Bmj* 2004;328:1152.
- 23. Dangal G. An update on teenage pregnancy. *The Internet Journal of Gynecology and Obstetrics* 2005;5(1):205-07
- Ajuwon A, Olaleye A, Faromoju B, Ladipo O. Sexual behavior and experience of sexual coercion among secondary school students in three states in North Eastern Nigeria. BMC Public Health 2006;6(1):310.
- Olukoya A, Kaya A, Ferguson B, AbouZahr C. Unsafe abortion in adolescents. *International Journal of Gynecology & Obstetrics* 2001;75(2):137-47.
- Blum RW, Nelson-Mmari K. The health of young people in a global context. *Journal of Adolescent Health* 2004;35(5):402-18.
- 27. Klein JD. Adolescent pregnancy: Current trends and issues. *Pediatrics* 2005;116(1):281-86.
- Kaaya SF, Mukoma W, Flisher AJ, Klepp K. School-based sexual health interventions in sub-Saharan Africa: A review. Social Dynamics 2002;28(1):64-88.
- Kinsler J, Sneed CD, Morisky DE, Ang A. Evaluation of a school-based intervention for HIV/AIDS prevention among Belizean adolescents. *Health education* research 2004;19(6):730-38.
- Kirby D. The impact of schools and school programs upon adolescent sexual behavior. *Journal of Sex Research* 2002;39(1):27-33.
- Parwej S, Kumar R, Walia I, Aggarwal AK. Reproductive health education intervention trial. *Indian journal of pediatrics* 2005;72(4):287-91.
- 32. Plummer ML, Wight D, Obasi AIN, Wamoyi J, Mshana G, Todd J, et al. A process evaluation of a school-based adolescent sexual health intervention in rural Tanzania: the MEMA kwa Vijana programme. *Health Education Research* 2007;22(4):500-12.
- 33. James-Traore T, Finger W, Ruland C, Stephanie S. Teacher training: Essential for school-based reproductive health and HIV/AIDS education: Family Health International, 2009.