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PSYCHO-CULTURAL VARIABLES PREDICTING ATTITUDE OF STUDENTS' TOWARDS HIV COUNSELLING AND TESTING IN SELECTED TERTIARY INSTITUTIONS IN LAGOS STATE, NIGERIA.

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Abstract

The aim of the present study was to assess attitude of young people (n=287, mean=20.5 years) towards testing for HIV/AIDS. The participants completed a standard socio-demographic questionnaire, indicating sexual behaviour, cultural beliefs and practices, attitude to HCT, and knowledge of HIV/AIDS. Descriptive and inferential statistics at 0.05 alpha level were used to analyze the data. The study indicates that most participants have poor knowledge of HCT centres in their communities, but had a fairly high knowledge level of HIV. The findings of this study include that there is a significant difference in the disposition to HCT between respondents who have experienced sexual intercourse and those who have not ($t = 3.866$, $df = 285$: $p < 0.05$) and between male and female respondents ($t = 4.775$, $df = 285$; $p < 0.05$). The study also shows that knowledge of HIV/AIDS was the strongest predictor of attitude of young people towards HCT ($\beta = 0.547$; $t = 3.458$ $p < 0.05$), closely followed by cultural practices ($\beta = 0.324$; $t = 2.740$ $p < 0.05$) while sexual behaviour was not a strong predictor ($\beta = 0.041$; $t = 0.543$ $p > 0.05$). The present study challenged the adequacy of reproductive health knowledge available to Nigerian students and based on the findings in this study, it was recommended that young people should be sufficiently enlightened and counselled on the imperative of HIV counselling and testing.

Keywords: HIV counselling and testing (HCT), young people, attitude, knowledge of HIV/AIDS

Introduction

Infection with human immunodeficiency virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) remains a major global threat to good health. HIV/AIDS cases have been reported in all regions of the world, it is become a major health issue in Nigeria (HDR, 2004; Adekeye, 2005). Most people living with HIV/AIDS (95%) reside in the low- and middle-income countries, where most new HIV infections and AIDS-related deaths occur (UNAIDS, 2006). Young people between ages 15 and 24 years are at risk on an unparalleled scale (UNESCO, 2006; UNICEF, UNAIDS, WHO, 2002). It is estimated that about 3.8 million people are living with HIV in Nigeria, which implies that one out of every seven

Africans living with HIV is a Nigerian. According to a recent estimate, almost 16,000 new infections occur everyday in the world, 90 percent of which occurs in Africa (UNAIDS 2007). Young people constitute an important segment of the world's total population and 50-60% of new cases of HIV are among this group. Although issues surrounding young people are multifaceted, the study focused on some psycho-cultural variables such as knowledge of HIV/AIDS, cultural influence and sexual behavioural disposition of young people to predicting their attitude to HIV counselling and testing (HCT). The terms young people and adolescents are used synonymously in this study to refer to people between 15 and 24 years. The World Health

Organization (WHO, 2002) defined adolescents as those between one year and 19 years and youths as persons between 19 and 24 years. For the purpose of this study, adolescents refer to those between ages 15 and 24 years. Therefore, the terms adolescents, youths and young people are be used interchangeably.

Statement of Problem

Due to their vulnerability, young people encounter numerous psychological, social and economic obstacles, and because of the inability of government, parents and other significant persons to monitor the population under consideration in this study, some resort to prostitution, armed robbery, thuggery, bullying and engaging in careless and risky sexual behaviours. HCT is therefore indispensable in the fight against HIV/AIDS as a first step in reducing the incidence of HIV/AIDS in Nigeria. It is widely recognized by policy makers, health practitioners and human rights advocates alike that the low uptake of HIV testing and counselling is a major challenge in the response to the epidemic that needs to be urgently addressed (UNAIDS 2007). Although studies have shown that young people are especially vulnerable to HIV (Adekeye, 2009; HRD, 2004 and UNAIDS, 2006), some other studies (Abogunrin, 2004; UNAIDS, 2006 and WHO, 2006) equally point out that they have enormous potential for changing the course of the epidemic. Young people are particularly at risk of HIV infection because they are in the transition phase of their life, coupled with their feeling of invincibility while experimenting with sexual experiences (Adekeye, 2005; Adegoke, 2004; Tavoosi, Zaferani, Enzevaei, Tajik & Ahmadinezhad, 2004). Studies conducted on young people in Nigeria shows that sexual experimentation and increase in sexual activities are at the maximum during this period (Adekeye, 2009; Adegoke, 2003; Olatunji 2000; Araoye and Fakeye, 1998; Oladele, 1994). The combination of adolescent risky sexual

behaviour with often a lack of both information and access to services makes young peoples' attitude to HCT a research priority. The present study in Lagos, Nigeria covered young people between 15 and 24 years. This study aims to explore the uptake of HCT, knowledge of HIV/AIDS, influence of culture and sexual behaviour of this group and how these variables predict their attitude towards HCT.

Literature Review

Based on available literature (Adekeye, 2009; HDR, 2004; Simbayi, Shisana, Chauveau & Ramlagan, 2003; UNICEF, 2006, 2007 and WHO, 2007) there is no gainsaying the fact that HIV is a generalized epidemic affecting all segments of the society especially young people. It has been documented that HIV is ravaging the lives of the younger population due to features such as sexual experimentation and the general belief of invincibility (Adekeye, 2005; Adegoke, 2004). Also, Akinboye (1985), Noel (1988) and WHO (2003) reported that since adolescence is a period of intense sexual drive and experimentation, they constitute a vulnerable group at great risk of contracting HIV. Araoye & Fakeye (1998) reported on the prevalence of STI among young people, especially university students in Nigeria. UNDP (1997) reports that among all age groups in the United States of America for example, girls aged 15-19 years have the highest incidence of gonorrhoea among females and boys aged 15-19 years with the second highest incidence among males. All these point to the fact that young people are the most vulnerable group to sexually transmitted infections including HIV/AIDS. Young people are perhaps the most important group in a given society and going by their features and population; they are a country's most valuable future assets (UNFPA, 2003).

Grubman and Oleske (1996) noted that in sub-Saharan Africa, 75% of all new cases of HIV infection occur in individuals below 20 years of

age. They compare this with data from the United States and reported that relatively in the US, an analysis of the age of acquisition of HIV fell from over 30 years in 1980 to 25 years during the period between 1987 and 1991 and that during that time, 25% of newly infected people were under the age of 22 years. Papalia, Olds & Feldman (2001), Rwenge (2000) and Toroitich-Ruto (2000) all agree that the rate of adolescent sexual behaviour, especially risky sexual behaviour, was fast becoming a public health concern. Culturally, information about sexuality more often than not is unavailable to young people. It is traditional to protect young people from receiving education on sexual matters in the false belief that ignorance will encourage chastity (Ransome-Kuti, 1996). Many parents prefer to remain silent on issues relating to sexual behaviour, dating, sexual intercourse and contraception. They tend to ignore the fact that young people, due to their inquisitive minds, will get answers from other sources such as peers, the media, older adolescents, and magazines among others (Adekeye, 2005). Amazigo, Silva, Kaufman & Obikeze (1997) note that reproductive health information is not always readily available to adolescents in Nigeria while Hottois, (1972), Bamigboye, (1987), Amazigo *et al.*, (1997) and UNAIDS, (1998) advocate the need for information to be made available to this category of people. Vulnerability to HIV/AIDS is systematically patterned to render some young people more likely to be infected than others. Gender, socio-economic and cultural status, sexuality and age are important factors structuring such vulnerability, and the perception of risk and high knowledge about HIV/AIDS do not necessarily translate to behaviour change (Toroitich- Ruto, 2000).

Method

Population

The target population for the study is all young persons in tertiary institutions in Lagos State, Nigeria. It is estimated that half of the 33.2

million people in the world who are infected with HIV were infected between the ages of 15 and 24 (UNAIDS, 2009). Persons in this category are young people and they constitute an important segment of the world's total population. Among the new cases of HIV, 50-60% are young people. This establishes the fact that young people are in the centre spread of the HIV/AIDS epidemic. A total of 287 respondents were included in the study: 166 (58%) males and 121 (42%) females. The mean age was 21 years.

Research design

The survey method was employed as the research design for this study. According to McQueen & Knussen (2006), the survey method helps to collect data from large numbers of participants on a particular topic and may involve self-report questionnaires or highly structured interviews.

To achieve the objectives of this study, three research questions and three hypotheses were raised. The research questions are: 1. Do young people understand what HIV connotes, means of transmission, prevention and the sources of HIV information? 2. Are the participants sexually active? 3. Do young people possess adequate knowledge of HCT centres in their communities?

Hypotheses

there will be a significant difference in the disposition to HCT between respondents who have engaged in sex in the last six months and those who have not there will be a significant difference in the disposition to HCT between male and female respondents there will be a significant combined contribution of knowledge of HIV/AIDS, sex and age in the prediction of attitude of young people towards HIV counseling and testing (HCT).

Instrument

The instrument titled Questionnaire on HIV Counselling and Testing (QHCT) was adapted from Questionnaire on HIV VCT (QHVCT) by Adekeye (2009). A split half reliability was conducted and the correlation coefficient yielded between .78 to .86. the QHCT has two sections- A and B. Section A deals with the demographic details of the respondents such as sex, age and sexual activity, while Section B contains the four research trajectories that make up the Questionnaire on HIV CT (QHCT). The four trajectories are:

1. Youths' Sexual Behaviour Scale
2. Cultural Practices and Beliefs Scale
3. Attitude towards HIV/AIDS Scale
4. Knowledge of HIV/AIDS Scale

Data collection

The questionnaire forms were administered to the respondents with the aid of trained research assistants. The questionnaires were collected immediately the respondents were through with them.

Data analysis

The data were analysed using SPSS, version 17. The data were expressed as both descriptive and inferential statistical methods, such as frequency counts and percentages, t-test

statistic and regression analysis and a P-value of ≤ 0.05 was considered as significant.

Results

Table 1 shows the general knowledge of HIV/AIDS measured on four levels viz knowledge, routes of transmission, how to prevent the transmission of HIV/AIDS and respondents' sources of HIV information. Data indicates a fairly high knowledge level of HIV (HIV causes AIDS, 93% and HIV is presently incurable 77%). Ninety-eight percent (94%) correctly identified sexual intercourse without condoms as one of the routes of transmitting HIV, while the response to HIV prevention shows that young people have the capacity to stay away from HIV infection. Ninety-two percent (92%) correctly identified using condom during sex to prevent HIV while 72% and 86% identified being faithful to ones partner and abstaining from sex to prevent HIV respectively. Five hundred and fifty seven (255 or 89%) indicated radio as their source of HIV information while 218 (76%) indicated television. Seventy seven percent (64%) got their HIV information from family members. Others are posters/billboards (34%), nurses (41%) and doctors (57%).

Table 1: General knowledge of HIV of young people and sexual experimentation

Knowledge of HIV	Frequency	Percentage
HIV causes AIDS	267	93
HIV is a contagious disease	213	74
HIV is presently incurable	223	77
Transmission of HIV HIV/AIDS is transmitted through		
Sexual intercourse without condoms	271	94
Blood from an HIV infected person	211	74
Sharing of needles among drug users	176	61
Prevention of HIV		
Abstaining from sex	247	86
Being faithful to ones partner	206	72
Using condom during sex	265	92
Sources of HIV information		

Sources	%	Sources	%	Sources	%
Television	76	Radio	89	Newspaper	43
Church/Mosque	28	Parents	53	Friends	27
Doctors	57	Nurses	41	Other Sources	15
Family members	64	Posters/Billboard	34	Teachers	58

Table 2 shows that 192 or 67% of respondents have engaged in some form of sexual relationship while 95 or 33% have not had sexual intercourse in the last six months. Of the 287 respondents, only 33.4% have tested for HIV while 179 (62.4%) have not, 12 respondents did not respond to the question.

Table 2: Sexual Experimentation

Level of Sexual Experimentation	N	%
Have had sexual intercourse	192	67
No sexual intercourse	95	33
Ever Screened for HIV		
Yes	96 (33.4%)	
No	179 (62.4%)	
No Response	12 (4.2%)	

Table 3: Knowledge of HCT Centres in Communities/States

HIV Counselling & Testing Centres	Frequency	%
Government Hospitals	121	42
Private Hospitals	109	38
Clinics	69	24
Counselling centres	32	11
Drug shop/Pharmacy	23	8

Table 3 indicates poor knowledge of HCT centres, 42 and 38% of respondents are aware that government and private hospitals provide HCT services respectively. Nineteen percent (24%) indicated clinics and 11% counselling centres. Twenty three respondents (8%) reported that drug shop/pharmacy provides HCT services.

Table 4: Means, Std Deviations and t value by Gender

Gender	N= cases	Mean	Std. Dev.	df	t-value	Sig.
Male	166	17.2107	2.784	285	4.775	.014
Female	121	16.2110	2.232			

Table 4 reveals there was a significant difference in the attitude of male and female respondents towards HCT ($t = 4.775$, $df = 285$; $p < 0.05$). Hypothesis 1 was therefore sustained.

Table 5: Means, Std Deviations and t value by Sexual Experience

Sexual Experience	N= cases	Mean	Std. Dev.	df	t-value	Sig.
Have had Sex	192	20.5521	3.724	285	3.866	.000

Not Sexually Active	95	18.1020	3.120			
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Table 5 shows that there is a significant difference in the disposition to HCT between respondents who have experienced sexual intercourse and those who have not ($t = 3.866$, $df = 285$; $p < 0.05$). Hypothesis 2 was therefore sustained.

Table 6: Model Summary of Multiple Regressions

Predictors	R	R ²	R ² Adjusted	Std. Error
Knowledge of HIV/AIDS, Youths Sexual Behaviour, Cultural Practices	.453a	.205	.186	2.33631

a. Predictors: Knowledge of HIV/AIDS, Youths Sexual Behaviour, Cultural Practices

Table 7: Regression Analysis on Attitude towards HCT

Sources	SS	df	MS	F	Sig.
Regression	151.670	3	50.557	9.248	.000a
Residual	595.888	283	5.467		
Total	747.558	286			

a. Predictors: (Constant), Attitude towards HCT, Youths Sexual Behaviour, Cultural Practices

b. Dependent Variable: Attitude towards HCT

Table 8: Relative Contribution of the Independent Variables to the Prediction of Attitude of Young People towards HIV Counselling and Testing (HCT).

Model	Predictors	Unstandardized Coeff		Standardized Coeff	t	Sig.
		B	Std Error	Beta		
1	(Constant)	10.776	1.753		6.207	.000
	Knowledge	.431	.067	.547	3.458	.001
	Sexual Beh.	.088	.043	.041	0.543	.543
	Culture	.268	.058	.324	2.740	.005

Dependent Variable: HIV Counselling and Testing

Data in Table 6 and 7 reveals that knowledge of HIV/AIDS, youths sexual behaviour and cultural practices would significantly predict attitude of young people towards HCT ($R = 0.453$; $R^2 = 0.205$; $F_{(3, 283)} = 9.248$; $p < 0.05$). When combined, the three predictor variables predicted about 21% of the variation in attitude towards HCT. Table 8 reveals the relative contributions of knowledge of HIV/AIDS, youth's sexual behaviour and cultural practices to predicting attitude towards HIV VCT. The summary table revealed that of all the three predictor variables, youth's sexual behaviour was not a strong predictor of attitude of young

people towards HCT. With youths sexual behaviour ($\beta = 0.041$; $t = 0.543$ $p > 0.05$), Knowledge of HIV/AIDS ($\beta = 0.547$; $t = 3.458$ $p < 0.05$) and cultural beliefs and practices ($\beta = 0.324$; $t = 2.740$ $p < 0.05$). In effect, knowledge of HIV/AIDS is the best predictor of attitude towards HIV counselling and testing (HCT). The hypothesis which stated that there is a significant combined contribution of knowledge of HIV/AIDS, youth's sexual behaviour and cultural beliefs and practices in the prediction of attitude of young people towards HIV counselling and testing was accepted for knowledge of HIV/AIDS and

cultural beliefs and practices but rejected for youths sexual behaviour.

Discussion

In this study, it was found that young people have good knowledge of HIV/AIDS and majority of them receive HIV information from radio programmes. Various studies report differing findings about the youth's knowledge with regard to the existence of HIV/AIDS. According to the Behavioural Surveillance Survey 2006 (NACO, 2007), as many as 86% of youth surveyed had heard about either HIV or AIDS or both. Studies indicate that for Nigerian and Indian youths, the mass media, especially radio and television, constitutes a major source of information about HIV/AIDS (Adekeye, 2009; Banerji & Mattle, 2005). The respondents however displayed poor knowledge of HCT sites in their communities, 42 and 38 percent of the respondents mentioned government and private clinics respectively. The result of the first hypothesis shows that there was a significant difference in the attitude of male and female respondents towards HCT, with the males showing more disposition towards HCT. This finding is in tandem with some earlier studies (Adekeye, 2009; Bond, Lauby & Batson, 2005; Ayiga, James, Ntozi, Ahimbisibwe, Odwee & Okurut, 2000; Otwombe, Ndindi, Ajema & Wanyungu, 2007). In a study by Ayiga *et al.*, (2000), male respondents were more willing than females to present for HIV testing. Otwombe *et al.*, (2007) reported that there were more males than females presenting for HIV test.

The second result shows that young people who have engaged in sexual activities are more disposed to HIV counselling and testing while those who have not engaged in sexual activities are less disposed to HCT. This suggests that young people who engage in sexual intercourse are aware that it is risky, hence, their readiness to go for HIV testing regardless of whether it is free or not. In contrast to this finding, Bartlett

(2008) notes that sexually active people avoid testing because of anxiety about the possibility of a positive test result while Brian, Ostermann, Whetten & Kumar (2007) found that high-risk groups want to get tested – but their actions do not match up with their intentions. The result of the third hypothesis show that knowledge of HIV/AIDS and cultural beliefs and practices produced some effect in the prediction of attitude of young people towards HCT, with knowledge of HIV/AIDS being the best predictor. Sexual behaviour was however not a good predictor though Papalia, Olds & Feldman (2001); Rwenge (2000) & Toroitich-Ruto (2000) all agreed that the rate of adolescent sexual behaviour especially risky sexual behaviour is fast becoming a public health concern.

Conclusion

This study explored the psycho-cultural variables predicting attitude of young people towards HIV counselling and testing (HCT) in selected tertiary institutions in Lagos state, Nigeria. HIV counselling and testing allows individuals to determine their HIV status and serve as a gateway for both HIV prevention and early access to treatment, care and support. While much effort has been made towards improving knowledge about HIV/AIDS among students in higher institutions in Nigeria, it is also important to understand the extent to which young people are willing to test for HIV, and the factors associated with such willingness. In a study by UNAIDS (2007), only 18 percent of women and 21 percent of men between the ages of 15 and 24 could correctly identify ways to prevent HIV, this indicates that there is still a strong reluctance to access testing amongst much of the population under review. In most developing economies, the priority now is to scale up access to HIV Counselling and Testing especially for young people. More avenues and outlets to increase general knowledge of HIV need be explored, because knowledge of HIV and one's HIV

status can greatly reduce the risk of transmission to others.

References

Abogunrin, A. J. (2004). Sexual behaviour, condom use, and attitudes towards HIV/AIDS among school-going adolescents in Nigeria. *Unpublished Ph.D dissertation*, University of Ilorin, Ilorin.

Adegoke, A. A. (2004). Adolescence and adolescent problems in schools. In Adeyemi Idowu, *Guidance and counselling in education*. Ilorin: Indemac Publishers (Nig.) Ltd.

Adegoke, A. A. (2003). *Adolescents in Africa: Revealing the problems of teenagers in a contemporary African society*. Ibadan: Haddasah Publishing.

Adekeye, O. A. (2009). HIV Voluntary Counselling and Testing for Young People: The antidote for a healthy and positive living in Nigeria. *The Counsellor*: 25 (1)

Adekeye, O. A. (2005). Adolescents and the HIV pandemic. *Ilorin Researcher: Journal of the Postgraduate Students Association, University of Ilorin*. 3 (1): 23-28.

Akinboye, J.O. (1985). *Guidance and counselling strategies for handling adolescents and youth problems*, (2nd ed.), Ibadan: Claverianum Press.

Amazigo, U; Silva, N.; Kaufman, J. and Obikeze, D.S. (1997). Sexual activity and contraceptive knowledge and use among in-school adolescents in Nigeria. *International Family Planning Perspectives*, 23, 28-33. Retrieved on 8th May 2010 from www.popline.org/docs/1183/121448.html.

Araoye, M. O and Fakeye, O. O. (1998). Sexuality and contraception among Nigerian

adolescents and youth. *African Journal of Reproductive Health*. 2 (2), 11-14. Retrieved on 5th March 2010 from www.advocatesforyouth.org/PUBLICATIONS/factsheet/fsnigeria.html

Ayiga, N.; James, P.M. Ntozi, Ahimbisibwe, F E.; Odwee, J. and Okurut, F. N. (2000). Deaths, HIV testing and sexual behaviour change and its determinants in northern Uganda. *Department of Population Studies, Makerere University, Kampala, Uganda*. Retrieved on 5th May 2010 from http://htc.anu.edu.au/pdfs/resistances_ch6.pdf

Bamigboye, S. O. (1987). *Sex education in schools*. Ilorin: Unilorin Press.

Banerji, P. & Mattle, C. (2005). Knowledge, perceptions and attitudes of youths in India regarding HIV/AIDS: A review of current literature. *The International Electronic Journal of Health Education*, 8, 48-56.

Bartlett, J.G; Branson, B.M; Fenton, K.; Hauschild, B.C; Miller, V. & Mayer, K.H. (2008). Opt-out testing for human immunodeficiency virus in the United States: progress and challenges. *JAMA*. 300:945-51. Retrieved on 24th April 2010 from <http://www.annals.org/cgi/content/full/0000605-200901200-00300v1>.

Brian, W. P.; Ostermann, J.; Whetten, K. & Kumar, V. (2007) *Improvement Still Needed in HIV Testing in High-Risk Groups*. Duke Medical Team, Duke University. Retrieved on 25th April 2010 from http://www.dukehealth.org/HealthLibrary/News/10155?search_highlight=prenatal

Bond, L., Lauby, J. & Batson, H. (2005). HIV testing and the role of individual- and structural-level barriers and facilitators. *AIDS Care*, 17(2), 125-140. Retrieved on 8th May

- 2010 from *Aspects of HIV/AIDS*. 4(3). Retrieved on 4th April 2010 from www.sahara.org.za
www.ncbi.nlm.nih.gov/pubmed/15763709
- Grubman, S. & Oleske, J. (1996). HIV infection in infants, children and adolescents. In Wormser, G. P. (Ed.). *A clinical guide to AIDS and HIV*. New York: Lippin-Cott Raven Publishers
- Hottois, J. (1972). *The sex education controversy*. Lexington: University of SanDiego, Massachusetts.
- Human Development Report (Nigeria 2004). *HIV and AIDS: A challenge to sustainable human development*. U.N.D.P.
- McQueen, R. A. & Knussen, C. (2006). *Introduction to research methods and statistics in psychology*. London: Pearson Prentice Hall.
- NACO (Nov 2005 - Feb 2006). *HIV/AIDS awareness in Kolkata's discos*, Volume 9-12.
- Noel, J. L. (1988). The relationship of self-concept and autonomy to oral contraception compliance among adolescent female. *Journal of Adolescent Health*, 2 (3), 11-13. Retrieved on 18 May 2010 from www.questia.com/PM.qst?a=o&se=gglsc&d=5000391834
- Oladele, J. O. (1994). *Fundamentals of psychological foundations of education*. Lagos: Koservice Ltd.
- Olatunji, M.B. (2000). Premarital sexual and contraceptive behaviours of female undergraduates in two Nigeria universities. *Unpublished Ph.D. thesis*. University of Ilorin.
- Otwombe, K.N.; Ndindi, P.; Ajema, C. & Wanyungu. J. (2007). Using VCT statistics from Kenya in understanding the association between gender and HIV. *Journal of Social*
- Papalia, D. E.; Olds, S. W. & Feldman, R. D. (2001). *Human Development* (8th ed.). Boston: McGraw Hill
- Ransom-Kuti, O. (1996). Forward in Guidelines for comprehensive sexuality education in Nigeria. *Active Health Incorporated*. Yaba: Lagos.
- Rwenge, M. (2000). "Sexual risk behaviours among young people in Bamenda, Cameroon", *International Family Planning Perspectives*, 26 (3): 118-123. Retrieved on 4th May 2010 from linkinghub.elsevier.com/retrieve/pii/S1055329007000064
- Simbayi, L, Shisana, O, Chauveau, J, and Ramlagan, S. (2003) Determinants of the use of voluntary counselling and testing services among the sexually active adult population of South Africa. *Antivirus Therapy*. 8 (Suppl.1) Abstract no. 161. Human Sciences Research Council, Cape Town, South Africa. Retrieved on 8th May 2010 from data.unaids.org/pub/GlobalReport/2008/jc1510_2008_global_report_pp325_358_en.pdf
- Tavoosi, A; Zaferani, A; Enzevaei, A; Tajik, P & Ahmadinezhad, Z. (2004). Knowledge and attitude towards HIV/AIDS among Iranian students. *BMC Public Health*, 4(17): Retrieved on 24th March 2010 from http://www.biomedcentral.com/1471-2458/4/17
- Toroitich-Ruto, C. (2000). The Effect of HIV/AIDS on Sexual Behaviour of Young People in Kenya. Nairobi: *Family Health International* 6: 34. Retrieved on 24th April 2010 from womenandaids.unaids.org/docs/KenyaAccessAndBarriers_en.pdf

- UNAIDS (2009). *2009 AIDS Epidemic Update*. Retrieved on 2nd May 2010 from http://data.unaids.org/pub/EPISlides/2007/2007_epiupdate_en.pdf
- UNAIDS (2007). *2007 AIDS Epidemic Update*. Retrieved on 2nd May 2010 from http://data.unaids.org/pub/EPISlides/2007/2007_epiupdate_en.pdf
- UNAIDS (2006). *Report on the Global AIDS Epidemic*; May 2006. Retrieved on 4th May 2010 from <http://www.unaids.org>
- UNAIDS (1998) “*Gender and HIV/AIDS: Taking Stock of Research and Programmes.*” Geneva: UNAIDS. Retrieved on 4th May 2010 from <http://www.unaids.org>
- UNESCO (2006). *Strategy for HIV/AIDS prevention education* Retrieved on 4th May 2010 from http://www.unesco.ru/files/docs/unescos_strategy_for_aids_prevention_education.pdf
- UNFPA (2003). “*State of the World Population 2003*” *Making 1 Billion Count: Investing in adolescents' health and rights*. Retrieved on 4th May 2010 from <http://www.unfpa.org/swp/2003/english/ch1/>
- UNICEF (2007). *HIV/AIDS and children*. Retrieved on 15th May 2010 from <http://www.unicef.org>
- UNICEF (2006). *HIV/AIDS: Prevention of infection among adolescents and young people*. Retrieved on 3rd May 2010 from <http://www.childinfo.org/areas/hivaids/youngpeople.php>
- UNICEF, UNAIDS, WHO. (2002). “*Young People and HIV/AIDS: Opportunity in Crisis.*” Geneva.
- WHO (2007). *HIV/AIDS in the South-East Asia region*. March. New Delhi, *WHO Regional Office for South-East Asia*. Retrieved on 4th May 2010 from <http://www.searo.who.int/hiv-aids>.
- WHO. (2006). *Preventing HIV/AIDS in young people: a systematic review of the evidence from developing countries*, *WHO Technical Report Series No. 938*. August. World Health Organization, Geneva. Retrieved on 4th May 2010 January from www.unaids.org
- WHO (2003). *HIV Testing and counselling: the gateway to treatment, care and support*. Retrieved on 14th May 2010 from <http://www.who.int/hiv/en/>