



Impact of educational status on HIV/AIDS knowledge, attitude and misconceptions among pregnant women

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ABSTRACT

The primary objective of this study was to assess the influence of educational level on HIV knowledge, attitude and misperceptions that may act as barriers in HIV prevention. It was a descriptive cross-sectional study conducted among pregnant women who came for antenatal clinic visits in a teaching hospital in Sagamu, a town in Ogun State, Nigeria. The age range of the respondents was 20-59 years. Age range 30-39 years accounted for the highest percentage (53.1%). Majority (76.7%) were of monogamous family. While 63% had tertiary education and above, 29.3% had secondary, 6.5% primary and a minor percentage (1.2%) had no formal education. Respondents with tertiary educational level had the major percentage (89%) of those who indicated that HIV/AIDS is caused by virus, highest percentage on the modes of HIV/AIDS prevention (avoid causal sex (77.6%), highest knowledge of mother to child transmission (during breast feeding (52%) and a better receptive attitude (willing to care for a HIV positive family member (87%.) towards people living with HIV/AIDS (PLWHA) as compared to other respondents. Structured education in the form of health talks which could be delivered at their different educational levels should be targeted at pregnant women during clinic hours.

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INTRODUCTION

Since its emergence in 1981, the HIV pandemic has become one of the most serious infectious disease challenges to public health. Entering its' third decade, virtually every country is affected by it. It affects people regardless of gender, geography or sexual orientation. Joint United Nations Program on HIV/AIDS (UNAIDS) estimated 33.4 million

people living with HIV globally in 2008 (UNAIDS, 2009). More than two thirds (68%) of all people who are HIVpositive lived in Sub-Saharan Africa where more than three quarters (76%) of all AIDS deaths occurred in 2007 (UNAIDS/WHO, 2007).

In sub-Saharan Africa as a whole, women account for approximately 60% of estimated HIV infections (UNAIDS, 2008;

Garcia-Calleja, 2006). According to the technical report from the federal ministry of health, about 3.11 million people are estimated to be living with HIV in Nigeria by the end of 2010, thereby making about 9% of the global HIV burden (FMH, 2010). While globally, women constitute 48% of adults infected with HIV, in Nigeria, they constitute 57% with new infections occurring in the 15-25 years old age group (UNAIDS, 2006; FMH, 2006).

Without effective measures or awareness campaigns to deal with mother-to-child transmission, 390 000 out of the global 430 000 children newly infected with HIV during 2008 were from sub-Saharan Africa (UNAIDS, 2008). It has been demonstrated that increased knowledge about AIDS is not a predictor for behavioural change (Onah et al., 2004) although knowledge about the disease is a prerequisite for change (Fawole et al., 1999). Individuals' knowledge of HIV transmission and accurate assessment of their own risk seem to be among the key factors in adoption of safer sexual practices (UNAIDS, 2001).

Health researchers and health care professionals, from both the developed and developing worlds, have long been concerned about the link between health and education (World Bank, 2000). Several different types of biological, psychological and social pathways have been proposed as possibly explaining the association between education and health in general and HIV/AIDS in particular (NIH, 2003). According to research studies, persons with limited health literacy skills are more likely to skip important preventive measures such as mammograms, Pap smears, and flu shots (Scott et al., 2002). They are also more likely to have chronic conditions and are less able to manage them effectively. Studies have found that patients with chronic diseases such as diabetes (Schillinger, 2003) or HIV/AIDS (Kalichman and Rompa, 2000) who have limited health literacy skills have less knowledge of their illness and its management.

In a study to assess the effects of a health education intervention on two nursing groups in Cairo University, Egypt (Eman and Abdelhai, 2011), it was found in general, that the undergraduate nursing group seemed to have exhibited better acquisition of knowledge than the postgraduate after the intervention. Better knowledge detected among the undergraduates was related to more readiness in accepting information and recalling it than the post-graduates who were older and more preoccupied in their work.

Proper knowledge regarding possible routes of transmission is not only crucial for decreasing the infection rate, but it is also important to dispel persistent myths as partial knowledge can further prolong the risk of infection (Babakian et al., 2004). Lack of knowledge and misconception about HIV/AIDS are key factors in the lack of prevention effort and it has been shown that people need a solid factual understanding of HIV and its transmission, access to relevant services, and the confidence and social power to initiate and sustain behaviour change in order to prevent the spread of HIV/AIDS (Cindy et al., 1998).

In contrast to other studies which demonstrated that high education level was associated with higher knowledge scores about HIV (Hayyawi et al., 2010; Eman and Abdelhai, 2011) revealed that better overall knowledge scores were recorded among nursing undergraduates than among post-graduates nurses.

Educational efforts need to be targeted at those who are most misinformed to meet the needs of different populations but despite the fact that better educated respondents (with more years of formal education) had significantly higher knowledge of HIV/AIDS education level was not significantly associated with attitudes towards PLWHA (Tee and Huang, 2009).

The primary objective of this study was to assess the influence of educational level on HIV knowledge, attitude and misperceptions

that may act as barriers in HIV prevention, among pregnant women.

MATERIALS AND METHODS

Study location

This was a descriptive study carried out at the anti-natal clinic section of the Olabisi Onabanjo University Teaching Hospital, Sagamu, a 241-bed Ogun State government funded tertiary hospital in south-western Nigeria. At the time of the study, the hospital provided health care services in Ogun and neighbouring States and had an average patients' turnover of 974 in-patients and 6,486 out-patients per month.

Study population

A sample size of 403 pregnant women attending ante-natal clinics calculated through appropriate statistical method was enrolled for this study. The number was determined by a standard normal deviation set at 1.96 which corresponds to 95% confidence level and a margin of sampling error acceptable set at 5%.

Research instrument

A well structured self-administered questionnaire organized to elicit information on the following issues:

1. sociodemographic information (age, type of family, gravidal status, educational background, occupation and marital status).
2. Knowledge of HIV/AIDS
3. Attitude toward PLWHA.

The questionnaire was pretested for comprehensibility, appropriateness of language and sensitivity of questions including average duration of administration. It was administered in English Language during clinic sessions with the assistance of final year pharmacy students who were trained on questionnaire administration, technique and retrieval. We had at least one pharmacist representative of the three major languages: Ibo, Hausa and Yoruba who administered the questionnaire. This was necessitated in order to overcome these language barriers.

Ethical issues

Consent to administer the questionnaire was obtained from the appropriate authorities within the hospital. All pregnant women who came for ante-natal booking care in the hospital during the study period were eligible for the survey except few who refused to be administered the questionnaire. The nature of the study was explained to them and their consent obtained while maintaining maximum confidentiality of information by excluding the names of the respondents or any information that could be linked to anybody. Data collection covered a period of three and half months.

Inclusion criteria

Potential participants were pregnant women attending antenatal clinic in Olabisi Onabanjo University Teaching Hospital, Sagamu.

Exclusion criteria

Non-pregnant women, pregnant women not attending OOUTH, Sagamu and all men.

Data analysis

The data was analyzed using SPSS package version 13.0. Descriptive analyses of frequencies and percentages were generated for all the variables except where specified. The association between the dependent variables was determined.

RESULTS

The age range of the respondents was 20-59 years. Age range 30-39 years accounted for the highest percentage (53.1%) while the age range 50-59 years accounted for 0.5%. Majority (76.7%) were of monogamous family. While 63% had tertiary education and above, 29.3% had secondary, 6.5% primary and a minor percentage (1.2%) had no formal education. The respondents who were first, second, third, fourth or more gravida were 32%, 29.5%, 18.6% and 19.9% respectively. They were mainly business professionals

(36%), civil servants (34.2%) and majority (94%) live with their husbands (Table 1).

Respondent’s knowledge about HIV/AIDS

Causative organism of HIV/AIDS

Respondents with tertiary educational level had the major percentage (89%) of those who indicated that HIV/AIDS is caused by virus, as compared with secondary level (59.3%), primary level (61.5%) and no formal education (20%) (Table 2).

Modes of HIV/AIDS prevention

Respondents with tertiary educational level had the highest percentage on the modes of HIV/AIDS prevention when compared to other educational levels with the following responses given in this order by tertiary, secondary, primary and those with no formal education respectively: avoid causal sex (77.6%, 44.1%, 42.3%, 20%), avoid sex with HIV infected persons (70.9%, 44.1%, 57.7%, 20%), not sharing injection needle (83.5%, 50%, 46.2%, 40%) , reject transfusion of unscreened blood (76%, 42.4%, 42.3%, 60%) and abstain from penetrative sex (37.4%, 13.6%, 11.5%, 0.0%) (Table 3a et b).

Knowledge of HIV transmission from mother to child

On the over all, tertiary educational level respondents had the highest knowledge

of mother to child transmission of HIV/AIDS as indicated by the reponses given respectively by tertiary, secondary, primary and those with no formal education : during pregnancy (57.1%, 55.9%, 26.9%, 60%), during delivery (43.3%, 22.9%, 11.5%, 0.0%) and during breast feeding (52%, 38.1%, 42.3%, 40%) (Table 4).

Attitude of respondents toward people living with HIV/AIDS

With regard to attitude, respondents with tertiary educational level had a better receptive attitude compared to others although those with no formal education were more willing to buy fresh vegetables from HIV positive food sellers. These can be seen from the responses indicated by tertiary respondents as compared to those with no formal education respectively : willing to buy fresh vegetables from HIV positive food sellers (52.4%, 41.5%, 50%, 60%), willing to allow an HIV positive trader to trade in the market (72.4%, 51.7%, 57.7%, 60%), willing to care for a HIV positive family member (87%, 82.2%, 73.1%, 80%), willingness to employ a healthy looking HIV positive person (56.3%, 45.8%, 46.2%, 40%) (Table 5).

Table 1: Socio-demographic characteristics of respondents.

Age (years)	Frequency	Percentage (%)
20-29	151	37.5
30-39	214	53.1
40-49	36	8.9
50-59	2	0.5
Total	403	100
Type of Family		
Monogamous	309	76.7
Polygamous	94	23.3
Total	403	100
Gravida		
First	129	32.0
Second	119	29.5

Third	75	18.6
Fourth and above	80	19.9
Total	403	100
Educational Background		
No formal education	5	1.2
Primary	26	6.5
Secondary	118	29.3
Tertiary and above	254	63.0
Total	403	100
Occupation		
Civil servant	138	34.2
Health professional	22	5.5
Business professional	145	36.0
Student	47	11.7
Unemployed	36	8.9
Any other (specify)	15	3.7
Total	403	100
Marital Status		
Live together with husband	379	94.0
Separated	15	3.7
Single parent	9	2.2
Total	403	100

Table 2: Knowledge of the cause of HIV/AIDS with educational level of the respondents.

Educational	Bacteria	Evilspirit/ witchcraft	Virus	Fungi	Excessive drinking of alcohol
No formal education n=5 (%)	1 (20)	3 (60)	1 (20)	0(0)	0(0.0)
Primary in=26 (%)	4 (15.4)	3 (11.5)	16 (61.5)	2 (7.7)	1 (3.8)
Secondary n=118 (%)	32 (27.1)	7 (5.9)	70(59.3)	8 (6.8)	1 (0.8)
Tertiary and above n= 254(%)	25 (9.8)	2 (0.8)	226 (89)	1 (0.4)	0(0.0)

Table 3a: Comparison of educational level with knowledge of prevention of HIV/AIDS among the respondents.

Educational level	A	B	C	D	E	F
No formal education n= 5(%)	1 (20)	3 (60)	1(20)	3 (60)	2 (40)	0(0.0)
Primary n= 26(%)	11(42.3)	13 (50)	15 (57.7)	7 (26.9)	12 (46.2)	4 (15.4)
Secondary n= 118(%)	52 (44.1)	66 (56)	52 (44.1)	39 (33.1)	59 (50)	20 (17)
Tertiary &above n =254(%)	197 (77.6)	175(68.9)	180(70.9)	157 (61.8)	212 (83.5)	51 (20.1)

A= Avoid causal sex, B= Use condom during sex , C= Avoid sex with HIV infected person, D= Avoid sex with prostitutes, E= Not sharing injection needle , F= Avoid contact with HIV infected person.

Table 3b: Comparison of educational level with knowledge of prevention of HIV/AIDS among the respondents (contd).

Educational level	A	B	C	D	E	F
No formal education n= 5(%)	0(0.0)	0 (0.0)	2 (40)	3 (60)	0(0.0)	1 (20)
Primary n=26(%)	9 (34.6)	1(3.8)	6 (23.1)	11 (42.3)	3(11.5)	1 (3.8)
Secondary n=118(%)	30 (25.4)	13 (11)	29 (24.6)	50 (42.4)	16 (13.6)	2 (1.7)
Tertiary &above n=254(%)	141 (55.5)	78(30.7)	130 52.2)	193 (76)	95 (37.4)	5(2)

A = Have sex only with a faithful uninfected partner, B = Avoid anal sex, C = Avoid sex before marriage, D = Reject unscreened blood transfusion, E = Abstain from penetrative sex, F = No way a person can avoid HIV infection.

Table 4: Comparison of educational level with knowledge of HIV transmission from mother to child.

Educational level	During pregnancy	During delivery	During breast feeding
No formal education n= 5(%)	3 (60)	0(0.0)	2 (40)
Primary n=26(%)	7 (26.9)	3 (11.5)	11 (42.3)
Secondary n=118	66 (55.9)	27 (22.9)	45 (38.1)
Tertiary and above n= 254(%)	145 (57.1)	110 (43.3)	132 (52)

Table 5: Comparison of educational level with attitude of respondents toward people living with HIV/AIDS.

Parameter	No formal education n=5 (%)	Primary n=26 (%)	Secondary n=118 (%)	Tertiary n=254 (%)
AA	Yes 3(60)	13 (50)	49 (41.5)	133 (52.4)
	No 2 (40)	13 (50)	69 (58.5)	121 (47.6)
AB	Yes 3(60)	15 (57.7)	61 (51.7)	184 (72.4)
	No 2 (40)	11 (42.3)	57 (48.3)	70 (27.6)
AC	Yes 3(60)	13 (50)	70 (59.3)	195 (76.8)
	No 2 (40)	13 (50)	48 (40.7)	59 (23.2)
AD	Yes 2(40)	14 (53.8)	76 (64.4)	194 (76.4)
	No 3 (60)	12 (46.2)	42 (35.6)	60 (23.6)
AE	Yes 4 (80)	19 (73.1)	97 (82.2)	221 (87)
	No 1 (20)	7 (26.9)	21 (17.8)	33 (13)
AF	Yes 4 (80)	12 (46.2)	41 (34.7)	118 (46.5)
	No 1(20)	14 (53.8)	77 (65.3)	136 (53.5)
AG	Yes 2(40)	12 (46.2)	54 (45.8)	143 (56.3)
	No 3 (60)	14 (53.8)	64 (54.2)	111 (43.7)

AA= Respondent is willing to buy fresh vegetables from HIV positive food seller, AB= Respondent would allow a HIV positive trader but not sick to continue to trade in the market, AC= Respondent would be willing to sit in the bus/church near an HIV positive person, AD= Respondent would be willing to shake the hand of an HIV positive person, AE= Respondent would be willing to care for a family member who became sick with the AIDS virus, AF= Respondent would want it to remain a secret if a member of her family became infected with the AIDS virus, AG= Respondent is willing to employ a healthy-looking person who is HIV positive.

DISCUSSION

Knowledge of HIV/AIDS

The present study aimed to assess impact of educational status on HIV/AIDS knowledge and attitudes among pregnant women attending a University teaching hospital, in Nigeria.

The tertiary respondents had the highest HIV/AIDS knowledge, preventive modes and better attitude across board. A similar study (Negi et al., 2006) also reported that higher educational and socioeconomic status of pregnant women were associated with increase in awareness towards AIDS. With their high educational background, they can read, hear and understand from television, radio and other sources quality information about basic HIV/AIDS knowledge. Only the tertiary level respondents in our study gave encouraging responses about the ways of prevention of HIV, especially regarding, not sharing of injection needles and syringes and rejection of unscreened blood, which compare with findings of other studies (Hayyawi et al., 2010; Eman and Abdelhai, 2011).

The findings also indicated that the majority of the respondents had an average knowledge of the cause of HIV/AIDS, average receptive attitude toward HIV positive patients. Responses from both tertiary and secondary levels were however better than that obtained in earlier studies (Amira et al., 2009; Ramezani and Malek-Afzali, 2008). The respondents obtained an over all below average knowledge of routes of HIV transmission from mother to child which is consistent with some similar work in the country (Ezegwui et al., 2005) and in other countries like Uganda and Tanzania (Harms et al., 2003) although knowledge of mother to child transmission during breast feeding was better than that obtained among nursing groups (Eman and Abdelhai, 2011) before their educational intervention on the study groups.

Knowledge of the cause of HIV/AIDS was very poor among the respondents with no formal education with as high as 60% indicating that AIDS could be caused by evil

spirit/witchcraft which is consistent with another study (Amira et al., 2009) but they had a higher knowledge than the other two levels in areas like avoid sex with prostitutes and reject unscreened blood transfusion which also compares with the result obtained by (Negi et al., 2006) where the higher educational levels could not also favourably compare with the illiterates in the areas of avoid sex with HIV positive persons and prostitutes and not sharing injection needle and reject unscreened blood transfusion. They also had a better attitude in willing to buy fresh vegetables from HIV positive food seller, to allow a HIV positive trader but not sick to continue to trade in the market, and to sit in the bus/church near an HIV positive person than the primary and secondary levels.

Accurate knowledge regarding possible routes of transmission is not only critical for decreasing the infection rate, it is also important to dispel persistent myths as partial knowledge can further perpetuate the risk of infection (Babakian et al., 2004). Poor knowledge and misconceptions about HIV/AIDS are key factors in people's lack of efforts at prevention and it has been shown that people need a solid factual understanding of HIV and its transmission, access to relevant services and the confidence and social power to initiate and sustain behaviour change in order to prevent the spread of HIV/AIDS (Rao and Weiss, 1993).

Attitude

The respondents' attitude toward people living with HIV/AIDS can be said to be encouraging as they scored above 50% in many areas especially where a high willingness to care for a family member who has the AIDS virus cuts across board. This is consistent with earlier work (Tee and Huang, 2009; Amira et al., 2009). It was noticed that respondents with tertiary educational level displayed higher positive attitude toward HIV positive persons when compared with other educational level as majority of them would be willing to interact with them in various non-infective ways. The attitude of

respondents wanting their family members to keep their HIV status secret was also recorded by other researchers (Tee and Huang, 2009; Amira et al., 2009).

Misconceptions

There were a lot of misconceptions about the cause of HIV/AIDS, since as high as 27% of those with secondary education still believed AIDS is caused by bacteria, 60% of the illiterates believed evilspirit/witchcraft and other smaller percentages of respondents believed fungi and excessive drinking of alcohol can cause the disease. There was also a great misconception on ways a mother could infect the child as respondents' knowledge about them was very low. As high as 80% of the illiterates wanting to keep it a secret if any members of their family became infected with AIDS virus is also another form of misconception. Avoiding contact with HIV infected person in areas of buying fresh vegetable, sitting in the same bus with HIV positive person, shaking hands, employing HIV positive persons, not wanting to care for a HIV positive family member were all misconceptions about HIV/AIDS recorded against the respondents. This problem of misconception was also recorded in our previous investigation (Ojieabu et al., 2008). Other researchers also found that respondents incorrectly indicated that one could contract AIDS through casual contact (Sadob et al., 2006). These misconceptions have a bearing on stigma, discrimination and voluntary testing as they can impact on people who are infected to not test and hence unknowingly spreading HIV. In a related study (Femi-Oyewo, 2003), the researcher advocated the power of information, education and communication in prevention and control of HIV/AIDS: the author reported that everybody should be informed on HIV/AIDS.

Conclusion

The results of the study shed light on HIV knowledge among different educational levels of pregnant women, their prevailing misperceptions regarding HIV/AIDS and their

attitude towards PLWHAs. The information gathered from this study can be used to plan education strategies, destroy myths about HIV transmission as well as improve efforts to increase tolerance towards PLWHAs. On the over-all, the respondents showed average levels of HIV/AIDS knowledge and attitudes towards people with HIV/AIDS. A significant positive correlation was found between the educational level and knowledge and with attitudes showing the highest knowledge levels and most positive attitudes towards patients with HIV/AIDS. Education and intervention programs are needed to increase the level of knowledge and awareness of HIV/AIDS among this population. Structured education in the form of health talks which could be delivered at their different educational levels should be targeted at pregnant women during clinic hours.

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