Predictors of Attitude towards HIV Counselling and Testing (HCT) among Antenatal Clients attending Primary Health Care Facilities in Kano State, Nigeria

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Abstract

Background

This descriptive cross sectional study evaluated social and demographic factors predicting antenatal care (ANC) clients' attitude towards HCT in primary health care (PHC) settings in northern Nigeria.

Methods

Data was collected from 464 newly booked ANC clients using semi-structured interviewer-administered questionnaires and analyzed using Epi-info 3.3.02 computer statistical software.

Results

Our assessment revealed that only 54 (11.6%) of the clients had a positive attitude towards HCT. Clients' type of marriage, occupation, and educational status significantly influenced the antenatal clients' attitude towards HCT. After adjusting for confounders however, clients' education emerged as predictor of their attitude to HCT. Clients with formal education were 2 times more likely to have positive attitude to HCT.

Conclusions

We recommend that government at all levels should make girl child education compulsory up to at least the secondary school level, in line with the current policy on basic education in Nigeria.

Key words: *HIV Counselling and Testing, Attitude, Predictors*

Introduction

The devastating impact of the human immune-deficiency virus infection (HIV) pandemic has not spared youths, children and the unborn, especially in resource-constrained under-developed countries.[1,2] The Joint United Nations Programme on AIDS (UNAIDS) estimates that 1,000-1,600 children worldwide are infected with HIV each day, mostly by their mothers.[3,4] HIV transmission occurs during pregnancy, labour, delivery and breast-feeding.[5] HIV counselling and testing (HCT) has been acknowledged as the gateway for both HIV prevention and early access to treatment, care and support. In relation to the antenatal setting, HCT provides the opportunity for early access to a number of interventions to prevent mother to child transmission (MTCT) of HIV infection.

Antenatal clients represent a cross-section of the communities in Africa and have thus been used as proxy for HIV sero-prevalence surveys.[6] Demographic and health survey reports from Nigeria indicate that attitude and uptake of HCT among antenatal clients is low, and worst in the northwest.[7] Studies across the globe have documented significant association between some social and demographic factors with the decision for or against HCT.[8-14] This is corroborated by the fact that people are differentiated by certain characteristics contributing to their behaviour. These may be personal characteristics such as age, sex and marital status; economic characteristics such as occupation and income; and educational characteristics such as literacy and level of education. [15] The basis for this study was the observation that most studies on HCT in Nigeria were conducted in urban secondary and tertiary health facilities which are mostly patronized by people with behavioural characteristics different from the rural majority attending PHC facilities. By investigating social and demographic factors predicting ANC clients' attitude towards HCT in PHC settings in northern Nigeria, this study aimed to bridge the knowledge gap and provide policy makers, programme managers and researchers with pertinent data for planning and evaluation of the HCT programme in Nigeria.

Methodology

A cross-sectional descriptive design was used to study 464 newly booked antenatal clients selected at random from 2 PHC facilities in Kano State. The sample size for the survey was estimated using an appropriate statistical formula for calculating minimum sample size for descriptive studies i.e ($Z^2pq/d^{21`}$);[16] and a prevalence of 0.81 obtained from an approval rate for HCT reported from a past study in Kano.[8] A 2-staged sampling method involving the random selection of 2 PHC facilities in Kano State that render HCT services and the selection of subjects was used for the study. In the first stage, 2 facilities were selected using simple random sampling. This resulted in the selection of Unguwar Sarki PHC from Tudun Wada LGA and Gundutse PHC from Kura LGA. Systematic sampling was then used in the second stage to select study subjects. This was achieved by using a sampling interval of 2, obtained by dividing the monthly average of ANC attendance for the 2 facilities (360 and 320 per month respectively) by the required sample size, and recruiting 1 in every 2 antenatal clients that attended the study facilities for ANC until the required sample sizes were obtained for the study and control groups. This took over one month. Data collection was carried out during the routine ANC clinics from consenting clients using semi-structured interviewer administered questionnaires to elicit respondents' bio data as well as attitude towards HCT. Ethical clearance and permission for the study were obtained from the Ethical Committee of Jos University Teaching Hospital and the respective local government PHC departments in Kano.

Data analysis was done using Epi info 3.3.02 computer statistical software. [17] Categorical data were presented as percentages, and quantitative data were described appropriately using mean, median and standard deviation. Respondents' attitude towards HCT was assessed using selected indicators adapted from the National HIV/AIDS and Reproductive Health Survey [10], and a scoring system adapted from previous studies.[8,18] Responses to questions on attitude were given a score of 1 if answered correctly, and no point was given for any wrong or "don't know" answer. This totalled 7 points. Respondents who scored 4-7 points on attitudinal questions were adjudged as having positive attitude, while a score of 0-3 represented negative attitude.

Chi-square test was used to determine statistical association between qualitative variables. A p-value of ≤ 0.05 was considered statistically significant. Significant factors were further subjected to logistic regression to adjust for the effect of confounders.

Results

Socio-demographic characteristics

Respondents' ages ranged from 15 to 46 years. The mean age of the respondents was 27.9 ± 7.4 years. Out of 464 women studied, 370 (79.7%) were in their early reproductive age (15 to 34 years), while the remaining 94 (20.3%) were in their late reproductive age (35 to 49 years). Majority of the women interviewed (77.2%) were of the Hausa and Fulani tribes and had no formal education (51.5%). Other characteristics of the respondents were as outlined in Table I.

Respondents' attitude towards HCT

The parameters used for assessing the clients' attitude towards HCT are shown in Table II. The majority (65.7%) were of the belief that prevention of mother-to-child transmission of HIV is worthwhile and 33.8% acknowledged that HIV screening during pregnancy is important for preventing the spread of the virus. However, only 19 (3.9%) ever received counselling for HIV and Preventing Mother-to-Child Transmission (PMTCT) while 17 (3.7%) had been tested for HIV while pregnant (Table II). When the parameters for eliciting clients' attitude were scored and graded, only 54 (11.6%) were assessed to have positive attitude towards HCT (Table III).

Factors influencing antenatal clients' attitude towards HCT in PHC facilities

A univariate analysis of the social and demographic factors examined revealed that type of marriage ($\chi 2 = 24.47$, $p<0.05$); clients' education ($\chi 2 = 92.03$, $p<0.05$); educational status of spouses ($\chi 2 = 32.0$, $p<0.05$); ANC clients' occupation (Fisher's exact $p<0.05$); and respondents' parity ($\chi 2 = 20.78$, $p<0.05$) were significantly associated with attitude of the antenatal clients towards HIV counselling and testing. On multivariate analysis, only clients' education emerged as predictor of the clients' attitude towards HCT. Clients with

formal education were 2 times more likely to have positive attitude towards HCT (Z = 3.17, p = 0.002, O.R = 2.18, 95%C.I =1.35; 3.53) (Table IV).

Discussion

Social scientists have evolved many models to explain the process of change within individuals. [15] According to the widely accepted structural model, people appear to pass through a series of distinguishable stages before they adopt a new practice. These include the stage of awareness, in which the person comes to know about the new idea or practice, followed by the stage where he evaluates the usefulness of the idea to himself and his family. Thereafter, the stage in which he puts the idea into practice (trial), before he finally adopts the idea at the time when he decides that it is good. [15] This gradual process may perhaps contribute to the observed pattern of HCT among the study subjects. However, it has been asserted that the availability of a service does not ensure its utilization [19] as social and demographic factors appear to contribute to people's behaviour. Although our study found that clients' type of marriage, parity, educational status and occupation (and that of their spouses) statistically influenced clients' attitude on univariate analysis, the only significant predictor of the clients' attitude after adjusting for confounders was the type of education they possess.

The role of education in determining the knowledge, attitude and uptake of reproductive health intervention, vis-à-vis HCT cannot be over-emphasized. Similarly, behaviour change theories posit that knowledge is a key precursor to the adoption of prescribed behaviours. A national survey in Nigeria showed that respondents with higher education where more likely to know where to get an HIV test compared to their counterparts with no or low levels of education.[10] Also, respondents who had never attended school or who had only Qur'anic education expressed the least desire for HIV test, while those with at least secondary education had highest desire for an HIV test. [7] Furthermore, respondents who never attended school or had Qur'anic education only were much less likely to take HIV test than persons with higher level of western education.[10] These findings are in consonance with results from other studies[8,18]. Interestingly, this study found that age and ethnicity of respondents did not significantly influence their attitude

towards HCT. However, a study by Iliyasu *et al*, comparing the attitude of mothers towards HCT showed that younger mothers had positive attitude towards HCT compared to older ones.[8] The difference in findings between these two studies may perhaps be explained by the educational background of the two groups of study subjects. In the Iliyasu study, most of the subjects had western education, whereas majority of the subjects in this study had only Qur'anic education or none at all. As western education is commoner among young people, it is not surprising that age influenced their respondents' attitude to HCT. The Iliyasu study further corroborates our findings that parity independently influenced the clients' attitude to HCT. The results of this study suggest that clients who were primips or had 3 or less children were about 4 times more likely to have positive attitude towards HCT than those with 4 or more children. It is not surprising that those more desirous of children utilized health services more and were more compliant with health advice or interventions.

This study observed that the type of marriage, type of education and occupation of clients, as well as the type of education of their spouses significantly influenced clients' attitude towards HIV counselling and testing. On multivariate analysis however, clients' education emerged as the only predictor of the clients' attitude towards HCT. Clients with formal education were 2 times more likely to have positive attitude towards HCT.

Conclusion

In view of the findings of this study we recommend that government at all levels should make education of the girl-child compulsory up to the secondary school level in line with the current policy on basic education in Nigeria. This will improve their general understanding of reproductive health issues. In the same vein, the government and non-governmental organizations (NGOs) should intensify health campaigns to the general public on HIV/AIDS and on People Living with HIV/AIDS (PLWHA) through a combination of electronic and print media, in schools and public gatherings alike. This will "normalize" HIV/AIDS in our communities and thus reduce discrimination and stigmatization towards people living with HIV/AIDS, and perhaps improve people's attitude towards HIV/AIDS intervention.

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Table I: Socio-demographic characteristics of respondents

Characteristic	*Frequency (%) (n = 464)*		*Characteristic*	*Frequency (%) (n = 464)*
Age group			***Type of Occupation***	
15 – 24	150 (32.4)		Formally employed	40 (8.6)
25 – 34	220 (47.4)		Not formally employed	424 (91.4)
35 – 44	87 (18.8)		***Occupation (spouse)***	
45 – 54	7 (1.5)		Formally employed	110 (23.7)
Ethnicity			Not formally employed	354 (76.3)
Hausa and Fulani	358 (77.2)		***Marital status***	
Yoruba	50 (10.8)		Currently married	431 (92.9)
Igbo	28 (6.0)		Not currently married	33 (7.1)
Others	28 (6.0)		***Marriage setting***	
Religion			Polygamous	178 (38.4)
Islam	414 (88.2)		Monogamous	286 (61.6)
Christianity	50 (10.8)		***Parity***	
Type of Education			None (Nulliparous)	47 (10.1)
Formal	225 (48.5)		1 – 3 (Multiparous)	116 (25.0)
No formal	239 (51.5)		4 – 6 Grandmultiparous)	301 (64.9)
Education of spouse				
Formal	236 (50.9)			
No formal	228 (49.1)			

Table II: Parameters used for assessing respondents' attitude towards HCT

Parameters examined	***Positive response Frequency (%) (n = 464)***
Attitude	
*Believe PMTC is worthwhile	305 (65.7)
*Consider HIV screening during pregnancy important for preventing MTCT	157 (33.8)
*Ever received counselling for HIV and PMTCT	19 (3.9)
*Ever tested for HIV during pregnancies	17 (3.7)
*Never accepted HIV testing but willing to receive more counseling sessions	71 (15.3)
*Advised husbands to come for VCT	9 (1.9)
*Would have notified partner about outcome of HCT if they had taken test	40 (8.6)

Multiple responses

Table III: Grading of scores for mothers' attitude towards HCT

Attitude	***Frequency (%)***
Positive	54 (11.6)
Negative	410 (88.4)
Total	***464 (100.0)***

Table IV: Social and demographic factors influencing ANC client's attitude towards HCT

	Attitude				
Factor	***Positive (n = 54) Freq (%)***	***Negative (n = 410) Freq (%)***	***Test statistic***	***p-value***	***O.R (95%C.I)***
Type of marriage					
Polygamy	4(7.4)	173(42.2)	$\chi2 = 24.47$	0.001	0.11
Monogamy	50(92.6)	237(57.8)			(0.03;0.32)
Parity					
Primiparous/Multiparous	34(63.0)	129(31.5)	$\chi2 = 20.78$	0.001	3.70
Grand-multiparous	20(37.0)	281(68.5)			(1.98;6.97)
Clients' education					
Formal education	41(75.9)	184(44.9)	$\chi2 = 92.03$	0.001	3.87
No formal education	13(24.1)	226(55.1)			(1.94; 7.86)
Husbands' education					
Formal education	47(87.0)	189(46.1)	$\chi2 = 32.0$	0.001	7.85
No formal education	7(13.0)	221(53.9)			(3.31;19.50)
Clients' occupation					
Formally employed	16(29.6)	24(5.9)	Fisher's	0.001	6.77
Not formally employed	38(70.4)	386(94.1)	exact		(3.12;14.66)