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Knowledge on Mother to Child Transmission of HIV among Pregnant Women Attending Antenatal Clinic within the Buea Health District, Cameroon

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ABSTRACT: Despite advances made in treating HIV, the number of children infected with HIV has increased due to the increased number of HIV positive women. This study sought to investigate participants' awareness and knowledge on mother to child transmission (MTCT) of HIV and its prevention. A cross-sectional study was conducted. Seventy-four pregnant women attending antenatal clinics within the Buea Health District, Cameroon participated in the study. A heterogeneous purposive sampling technique was used to select health facilities within the health district, while the consecutive convenient sampling method was used to enrol eligible participants. A structured questionnaire was used to collect data. Data was entered into Epi Data Version 3.1 and was analysed using SPSS version 21.0.The results revealed that 98% of the respondents demonstrated a high level of awareness on HIV/AIDS, 98% knew that HIV/AIDS could coexist with pregnancy, 2.7% of respondents did not know that MTCT of HIV is possible. The main factor associated with MTCT of HIV was breast feeding (64.9%), while adherence to antiretroviral therapy (70.3%) was reported as the main means to prevent MTCT of HIV.

KEYWORDS: *HIV, Knowlegde, mother to child transmission*

I. INTRODUCTION

There hasn't been a breakthrough as regards the cure of HIV/AIDS however; there have been advances in treating HIV [1].The availability and rapid scale up of antiretroviral therapy (ART) has transformed what was inevitable a fatal disease to a chronic, manageable condition leading to notable declines in the worldwide rates of AIDS related deaths and new infections[2]. Hence, there is a continuous increase in the number of people living with HIV worldwide, and the number of pregnant women infected with HIV [3].

Youths and women are at the centre of the epidemic; in 2016, 2.1 million people aged between 10 and 19 years were living with HIV and 260,000 became newly infected with the virus [4].Among young women, HIV prevalence is more than twice that of men of the same age. It is estimated that one and a half million HIV positive women become pregnant each year, almost 600,000 children will be infected by mother to child transmission (MTCT) annually and over 1600 each day [5]. More than 90% of HIV infection in children aged less than 15 years is due to MTCT of HIV [6]. A 2010 report from the national AIDS control committee of Cameroon showed that about 7300 babies were born HIV positive due to MTCT [7]. Without intervention, about half of children infected with HIV will die before their second birthday [8]. The success of the anti-retroviral therapy (ART) in the prevention of mother to child transmission (PMTCT) of HIV has been at the forefront of the HIV prevention activities since 1998[9].However, the probability of infection from mothers who do not receive treatment is higher in Africa (25%-52%) than the United States (US) or Europe (12%-30%) [10]. The reason for the higher rate of MTCT of HIV might include mothers' lack of knowledge on the risk of MTCT among others [11]. Knowledge of MTCT of HIV and its prevention is vital because it has an enormous potential to also improve both maternal and child health. Transmission can occur in-utero, during labour and delivery or

postpartum through breast milk. Most of the transmission is thought to occur in late pregnancy and during labour [12].

A sero-surveillance survey showed an HIV prevalence of 7.6% among pregnant women and with an estimated 22.1% overall rate of MTCT in Cameroon, worsened by a very low ART coverage 27.4% [13]. Several studies have been conducted concerning HIV coexisting with pregnancy for example, in the domain of MTCT and the utilisation of services for the PMTCT, but this has not resulted in any appreciable change in behavioural modification, as there is still a high prevalence of maternal HIV infection [7]. One of the major obstacles in preventing MTCT of HIV is the poor awareness and knowledge of mothers about MTCT and PMTCT [14].Therefore, to reduce the burden of paediatric HIV, mothers need to know about MTCT of HIV. Hence, this study sought to investigate the knowledge of pregnant women attending antenatal clinics on HIV/AIDS transmission and prevention. Specifically, we assessed; the participants' awareness on HIV/AIDS, their knowledge on MTCT of HIV and preventive measures. This will serve as a means to optimize current strategies to curb the scaling up MTCT.

II. MATERIALS AND METHODS

A cross sectional study was conducted from the 28th of March to 30th of June, 2018 to investigate the awareness and knowledge of pregnant women on HIV/AIDS transmission and prevention. This survey used both qualitative and quantitative approaches to collect and process data. A questionnaire made up of both open and closed ended questions were used to collect data. The target population was made up of all pregnant women attending antenatal clinic within the Buea Health District, Cameroon. Those who consented to participate in the study were included. Eligible participants were recruited from Buea Regional Hospital, Mount Mary Hospital, and Sub-divisional Hospital Muea in Fako Division of the South West Region of Cameroon. We used a maximum variation purposive sampling technique. In this, we decided to choose hospitals of moderate cost permitting accessibility to most members of the community from the main health areas of the health district.

A sample of 74 pregnant women who were selected by a consecutive convenient sampling technique participated in the study. Data was collected on participants' awareness about HIV/AIDS, their knowledge on routes of transmission and measures to prevent transmission from mother to child. Awareness was measured based on participants' responses on whether or not they have heard about HIV/AIDS and a total positive response of below 60% was considered low, 60-85% was considered moderate while 86-100% was considered high level of awareness. On the other hand, the participants' knowledge of the routes of transmission was evaluated using five questions each given a point, making a total of five points. A score of 0-2 on 5 was referred to as not knowledgeable while a score of 3-5 was referred to as knowledgeable. Before administering, the questionnaire was pre-tested by administering 5 copies to five persons who were not part of the study population. Their responses confirmed the clarity and validity of the questions. Copies of the questionnaire were then administered to the study participants who completed the various sections of the questionnaire. The investigator read the questions for those who could not read and their responses were written down.

This study was authorised by the Department of Nursing, Faculty of Health Sciences, University of Buea, Cameroon. Administrative authorisation was first obtained from the Regional Delegation of Public Health (No. 477/107) and then from the heads of the various health facilities. Before responding to the questionnaire each respondent gave her consent by signing the consent form.

Data collected was entered into Epi Data Version 3.1 and analysed using SPSS version 21.0. Data was analysed using the quantitative method. Using frequency tables and charts, the percentages of responses were determined.

III. RESULTS

All 74 respondents enrolled, participated in the study giving a response rate of 100%. The age range 21-25 years was the most represented. Sixty-one (82.4%) of the participants had attained secondary level of education, while 35(47.3%) of the participants were unemployed (TABLE 1).

Table 1: Demographic Characteristics of Participants

Characteristic		No (%)
Age	15-20	5(6.8)
	21-25	30(40.5)
	26-30	20(27.0)
	31-35	15(20.3)
	36-40	5(5.4)
Level of education	Primary	5(6.8)
	Secondary	61(82.4)

	Tertiary	8(10.8)
Occupation	Employed	19(25.7)
	Not Employed	35(47.3)
	Others	20(27.0)
Religion	Christianity	97.3(72)
	Muslim	2.7(2)

Seventy-three (98.6%) of pregnant women were aware of HIV/AIDS, they had been aware of HIV/AIDS for an average of 11 years. Concerning the source of information about HIV/AIDS, 49(66.2%) of the participants got information from health workers. Sixty-seven (90.5%) of the respondents identified sexual intercourse with infected person as a route of transmission of HIV, while 45(60.8%) said it was through mother to child transmission (TABLE 2).

Table 2: Sources of Knowledge on HIV/AIDS among Pregnant Women

Indicator	Categories	No (%)
Source of information about HIV/AIDS	Health workers	49(66.2)
	Friends	38(51.4)
	Television	36(48.6)
	Radio	29(39.2)
	Newspaper	13(17.6)
How is HIV transmitted from one person to another	Through sexual intercourse with infected person	67(90.5)
	Through transfusion with infected blood	60(81.1)
	Through sharing sharp objects with infected persons	50(67.6)
	Through mother to child transmission (MTCT)	45(60.8)
	Others	1(1.4)

Seventy-three (98%) respondents knew that HIV could coexist with pregnancy. Seventy-one (95.9%) knew that MTCT is possible. Forty-two(56.8%) said HIV positive mothers could infect their babies during pregnancies while 35(47.3) said it could be during vaginal birth. Fifty-two (70.3%) of the respondents identified adherence to antiretroviral therapy as a means to PMTCT while, 18(24.3%) cited childbirth by caesarean section as an alternative (TABLE 3).

Table 3: Knowledge on HIV Coexisting with Pregnancy and PMTCT

	Response	No (%)
Can an apparently health individual be infected with HIV	Yes	70(94.6)
	Don't Know	4(5.4)
Can pregnant women be infected with HIV	Yes	73(98)
	No	1(1.4)
Can an infected mother transmit the infection to her side	Yes	71(95.9)
	No	2(2.7)
How can infected mother transmit the virus to her child	Through breast feeding	48(64.9)
	During pregnancy	42(56.8)
	Through vaginal delivery	35(47.3)
	Through caesarean section	16(21.6)
	Don't know	4(5.4)
Ways of preventing mother to child transmission	Antiretroviral therapy during pregnancy	52(70.3)
	Delivery by caesarean section	18(24.3)
	Giving antiretroviral drugs to new-born	23(31.3)
	Avoiding breastfeeding	44(59.5)

Knowledge on MTCT and prevention of HIV were not significantly dependent on educational level ($p>0.05$) (TABLE 4).

Table 4: Association between Level of School attainment with Knowledge of MTCT and PMTCT of HIV

Level of School attainment	Knowledge of MTCT		
	Low	High	Somers' d:
	No (%)	No (%)	
Primary	3(60.0)	2(40.0)	d=-0.044; P=0.459
Secondary and above	51(73.9)	18(26.1)	
Total	54(73.0)	20(27.0)	
Level of School attainment	Knowledge of PMTCT		Somers' d:
	Low	High	
	No (%)	No (%)	
Primary	2(40.0)	3(60.0)	d=-0.020; P=0.733
Secondary and above	33(47.8)	36(52.2)	
Total	35(47.3)	39(52.7)	

IV. DISCUSSION

This study aimed at investigating the awareness and knowledge of pregnant women attending antenatal clinic on HIV/AIDS transmission and prevention. This was in order to improve on measures to prevent MTCT.

Results of this study revealed that almost all the participants of this study were aware of the HIV/AIDS. This implies high level of awareness among the participants. This high level of awareness maybe attributed to the fact that the respondents were antenatal (ANC) attendees and so must have been told about HIV infection. Also, a greater proportion of the participants had at least secondary level of education. Such high levels of awareness have been documented in other studies [6], [15]. Even though a few of the ANC attendees had primary education, they were all aware of HIV/AIDS like their counterparts who had attained secondary or higher levels of education. This may be due to government's efforts to raise awareness through media campaigns. Also, these participants were ANC attendees and might have been educated on HIV/AIDS during their ANC visits, hence, the high level of awareness demonstrated; most of the participants were aware of HIV for an average of 11 years.

It was found that almost all of the respondents knew that HIV infection could coexist with pregnancy and were of the opinion that MTCT of HIV was a reality. This could be due to the fact that the participants were ANC attendees who must have been educated about the disease. Similarly, this finding has been reported by other studies [6],[16]. Majority of the respondents were knowledgeable on routes of MTCT of HIV. This is in line with the findings of the studies carried out in Nigeria[17] and Cameroon[7]. Health workers, friends, television, radio, newspapers were the sources of information on HIV/AIDS among the respondents. Health personnel were the main source of information reported by the participants followed by friends, mass media. This is in contrast to the findings of in Nigeria [17] where a greater number of the respondents identified mass media as the main source of information. This could be due to the fact that heath personnel, usually nurses and midwives always give health education to pregnant women during their ANC visits.

This study also showed that most of the respondents were knowledgeable with respect to the ways of transmission of HIV. Majority of them were able to identify breast feeding as the most prominent route for MTCT. Others mentioned that HIV could be transmitted during vaginal delivery and pregnancy (vertical transmission). They went further to state that transmission of HIV is most likely if the positive mother does not adhere to treatment regimen. This level of knowledge demonstrated by the respondents on MTCT could be due to the fact that the majority of ANC attendees were students. They have been taught in school and informed from other sources. This finding is similar to that in Nigeria [17], but does not tie with a similar study carried out in Cameroon which reported that a small proportion of the women mentioned that MTCT could be possible through caesarean section [16].

Also, the study revealed that the majority of the respondents identified adherence to antiretroviral therapy as a means to prevent babies from being infected with HIV. Other methods of prevention of MTCT identified were; avoiding breast feeding, giving antiretroviral drugs to the new-born and caesarean section. However, while women maybe or may become knowledgeable about the risk of transmitting HIV through breast milk, avoiding breast feeding in a region like ours may sometimes not be practicable because a substitute may not be acceptable, feasible, affordable and safe for several reasons which may be due to cultural, social and economic [17]. Therefore, there is a need for the government and nongovernmental policies to ensure a sustainable and effective substitute for breast milk supply and utilisation by infants of HIV positive women, just as the provision of antiretroviral drugs are being made available for these women. The goal is to make these women and their babies independent by providing options that are acceptable, feasible, affordable and sustainable. Though transmission by breast feeding is possible, exclusive breast feeding reduces transmission risk.

It was interesting to note that knowledge on MTCT and PMTCT was not significantly ($p>0.05$) dependent on level of school attainment as those with primary education also knew some of the ways or routes of MTCT and PMTCT of HIV. This could be due to the fact that the participants were all ANC attendees who must have been educated about the disease by the health workers.

V. CONCLUSION

This study showed that almost all of the participants were aware of HIV infection. The majority of the participants were also knowledgeable on MTCT and PMTCT of HIV. Health personnel were the main source of respondents' information. Though the participants were knowledgeable on MTCT and PMTCT of HIV, improvement on existing strategies and newer strategies need to be employed in order to improve this knowledge. Consequently, constant assessment of the awareness and level of knowledge of pregnant women is required for re-evaluation of the counselling programme. Furthermore, more robust studies on MTCT and PMTCT, and rate of MTCT should be carried out to increase the validity of our study.

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