Prevention of mother-to-child transmission of HIV: knowledge, attitudes and practice among pregnant women at Juba Teaching Hospital

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Introduction: Mother-to-child transmission (MTCT) of the human immunodeficiency virus (HIV) accounts for 90% of infancy and childhood HIV infections; hence prevention has a big impact in controlling the spread of HIV within this group.

Objectives: To assess knowledge, attitude and practice of prevention of MTCT of HIV among pregnant women attending antenatal care at Juba Teaching Hospital, South Sudan.

Method: A hospital-based cross-sectional study was conducted during November and December 2015. Data were collected using a structured questionnaire; frequency distribution and two-way tables were used to present and summarize the data. A p-value of <0.05 was considered as indicating statistical significance.

Results: Two hundred and fifty-one pregnant women consented to participate in the study and were enrolled and interviewed at the Maternal and Child Health Clinic (MCHC) in Juba Teaching Hospital. The mean age of the mothers was 25.67 years (range 15 – 41 years), with the standard deviation of ±5.52 years. The majority (88%) were married, 39.1% had no formal education, and 53.4% were unemployed. One-third (30.7%) of the participants had sufficient knowledge on when to start prophylaxis of MTCT (PMTCT). Half of the pregnant women (51%) showed positive attitudes toward PMTCT measures. Two hundred and thirty-one pregnant women (92%) had received counselling for HIV, with 78.4% of them reported being tested for HIV.

Conclusion: The pregnant women's knowledge on HIV/AIDS, specific knowledge on MTCT, MTCT risk factors during breastfeeding, and PMTCT were found to be moderate. Half of the participants showed positive attitude towards PMTCT services utilization.

Key words: HIV, PMTCT, South Sudan

INTRODUCTION

The human immunodeficiency virus (HIV) disease presents a major public health challenge worldwide. The global HIV/AIDS epidemic report of 2013 [1] showed that around 35.3 million people were living with HIV (PLWHIV), of whom about 25 million (almost 70%) were in sub-Saharan Africa and of which 58% were women. It was estimated in 2012, that 3.3 million children aged less than 15 years were living with HIV worldwide. [1]

Use of highly active antiretroviral therapy drugs (HAART) is more effective in preventing early MTCT of HIV than single drug therapy like nevirapine. With no intervention, the risk of MTCT is up to 45% among exposed children. However, with effective specific interventions, the risk can be reduced to less than 2% in children who are not breastfeeding and less than 5% in breastfeeding infants. [2]

Breastfeeding accounts for almost a half of HIV infection among children in Africa. Risk factors that increase vertical transmission include failure to disclose HIV status, mixed infant feeding, prolonged rupture of membranes, maternal high viral load and low CD4 count. [3]

The current WHO policy on reduction of MTCT of HIV, recommends pregnant mothers diagnosed HIV

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positive start on ART, irrespective of their CD4 count and continue for life (called Option B+). Infants born to HIV positive mothers should receive nevirapine or AZT prophylaxis daily until the age of 4-6 weeks irrespective of their feeding methods. [4]

METHOD

This was a hospital-based cross-sectional study of pregnant women attending the MCHC at Juba Teaching Hospital. A total of 251 mothers who met the criteria gave their consent and were interviewed during November and December 2015. Using a 6-part structured questionnaire which included assessment of the mothers' knowledge of HIV and attitude towards PMTCT of HIV, and the services they had received. Using Bloom's cut off points of knowledge [5] the scores were as follows:

- 20 – 26 points = good knowledge
- 15 – 19 points = moderate knowledge
- 0 – 14 points = poor knowledge

Attitude was assessed by showing the respondents eight statements (e.g. "It is important that every pregnant woman gets tested for HIV") and then asking them to indicate the extent to which they agreed with them. Their responses were scored using the Likert's scale [6] as follows:

- strongly agree = 5
- agree = 4
- no opinion = 3
- disagree = 2
- strongly disagree = 1

Data were analysed using software of Statistical Package for Social Sciences (SPSS) version 20. Univariate analysis was done for frequency computation and bivariate analysis used to compute associations between variables; a P value of<0.05 was considered to be statistically significant.

Ethical clearance approval was obtained from the Ethical Board, Ministry of Health, and Republic of South Sudan.

RESULTS

Table 1 shows the mothers' age ranges, marital status, education and occupation. The mean age was 25.7 years (SD±5.52) (range 15 – 41 years). The majority was married, a third had reached or completed secondary education and about half were employed.

Table 2 shows that the age, level of education and occupation were significantly associated with knowledge level. Women older than 20 years, those with primary education and above and employed women had a good knowledge on PMTCT of HIV.

Table 1. Socio-demographic characteristics of the mothers (n=251)

Characteristic	n (%)
Age group (years)	
Less than 20	53 (21.1)
21 to 25	71 (28.3)
26 to 30	88 (35.1)
31 and above	39 (15.5)
Marital status	
Married	221 (88.0)
*Not married	30 (12.0)
Education level	
Non-formal	99 (39.4)
Primary school	68 (27.1)
Secondary and above	84 (33.5)
Occupation	
Housewife	134 (53.4)
Employed	117 (46.6)

** Not married includes single and divorced women, and widows.*

Table 3 below shows that education has a significant association with pregnant women's attitudes towards PMTCT. Participants with college/ university education had a significantly more positive attitude (P<0.003) compared to those with less education.

Table 4 demonstrates that almost all the participants received counselling, and one third were not tested for HIV or CD4. Of the 12 participants who tested HIV-positive all received ARV/ART and were tested for CD4. Only 8 husbands were informed, of these seven tested positive.

DISCUSSION

It appeared that two thirds of the mothers had 'moderate' to 'good' knowledge of HIV/AIDS. Other similar studies conducted in Ethiopia, in Hawasa, Tikur and Zewudita Memorial hospitals, found that all participants had sufficient knowledge of HIV/AIDS, and more than 90% of pregnant mothers had heard of HIV/AIDS. The difference in knowledge level in our study could be due to the fact that HIV awareness and PMTCT programme coverage in Ethiopia is more widespread and organized than in South Sudan. [7]

Table 2. Association between PMTCT knowledge level and socio-demographic characteristics of the mothers

Variable	PMTCT knowledge level			Total	P-value
	Poor n (%)	Moderate n (%)	Good n (%)		
Total	31 (12.4)	68 (27.1)	152 (60.6)		
Age group (years)					
Less than 20	10 (18.9)	28 (52.8)	15 (28.3)	53	<0.001
21 to 25	5 (7)	18 (25.4)	48 (67.6)	71	
26 to 30	11 (12.5)	14 (15.9)	63 (71.6)	88	
31 and above	5 (12.8)	8 (20.5)	26 (66.7)	39	
Marital status					
Married	31 (14)	61 (27.6)	129 (58.4)	221	0.054
Not married	0 (0)	7 (23.3)	23 (76.7)	30	
Education level					
Non-formal	30 (30.3)	52 (52.5)	17 (17.2)	99	<0.001
Primary school	1 (1.5)	13 (19.1)	54 (79.4)	68	
Secondary and above	0 (0)	3 (3.6)	81 (96.4)	84	
Occupation					
Housewife	24 (17.9)	48 (35.8)	62 (46.3)	134	<0.001
Employed	7 (6)	20 (17.1)	90 (76.9)	117	

Table 3. Association between attitudes of pregnant women towards PMTCT services and their socio-demographic characteristics

Variable	Attitudes		Total	P-value
	Negative n (%)	Positive n (%)		
Total	123 (49)	128 (51)	251	
Age group (years)				
Less than 20	29 (54.7)	24 (45.3)	53	
21 to 25	36 (50.7)	35 (49.3)	71	0.719
26 to 30	40 (45.5)	48 (54.5)	88	
31 and above	18 (46.2)	21 (53.8)	39	
Marital status				
Married	110 (49.8)	111 (50.2)	221	0.508
Not married	13 (43.3)	17 (56.7)	30	
Education level				
Non-formal	61 (61.6)	38 (38.4)	99	<0.001
Primary school	33 (48.5)	35 (51.5)	68	
Secondary and above	29 (34.5)	55 (65.5)	84	
Occupation				
Housewife	71 (53)	63 (47)	134	0.177
Employed	52 (44.4)	65 (55.6)	117	

Our study showed that the level of education influenced pregnant women's knowledge on PMTCT. The majority of mothers with college/university and secondary education had moderate to good levels compared to those with primary and no education. Similar findings have been reported from Ethiopia and Tanzania. This is due to the fact that many programmes which work on promotion of PMTCT of HIV awareness provide community health education through mass media campaigns, workshops, booklets, magazines, radio and TV to which more educated women have most access. [8, 9]

The study identified that occupation and advance in age of pregnant women have significant associations with the level of knowledge on MTCT risks and PMTCT of HIV. Pregnant women, who were employed and aged 20 years and older, appeared to have sufficient knowledge. Similar findings have been reported from Sudan and Kenya. [10, 11]

More than half of the mothers in this study had a positive attitude towards PMTCT. The finding concurred with the results found in studies from Mombasa, Kenya and a rural area of western Uganda where half of the participants had a positive attitude towards PMTCT of HIV. [12] However different results were obtained in a study from Western Nigeria where less than one third of the participants had a positive attitude. [13]

CONCLUSION

The study concludes that the overall knowledge on HIV/AIDS among pregnant women was 'moderate'. Although the majority of the mothers reported having received counseling for HIV, about one third did not accept the test for HIV. About 75% of the HIV positive women did not receive HAART and more than two thirds reported low use of condoms for family planning and protective purposes.

Recommendations

Improvement of counseling sessions for pregnant women attending ANC at JTH is needed to increase their acceptance and use of services. Doubling effort to achieve the goals of PMTCT among pregnant women is needed. Also there is a need for a similar study at national level, as this study was conducted in JTH and did not represent other settings across the country.

Table 4. PMTCT of HIV services received by mothers

Variable	n (%)
Received HIV counselling	
Yes	231 (92.0)
No	20 (8.0)
Tested for HIV	
Yes	181 (72.1)
No	70 (27.9)
If tested, HIV results	
Positive	12 (6.6)
Negative	169 (93.4)
If positive, received ARV/ART	
Yes	12 (100.0)
CD 4Tested	
Yes	4 (33.3)
No	8 (66.7)
ARV/ART Regimen	
AZT + 3TC +NVP	9 (75.0)
AZT3+TC+EFV	3 (25.0)
If positive, husband was told	
Yes	8 (66.7)
No	4 (33.3)
Husband was tested	
Yes	7 (87.5)
No	1 (12.5)
Husband's results	
Positive	7 (100.0)
Positive husband, kept on ARV/ART	
Yes	7 (100.0)
Positive husband, preventive method used	
Condom/barrier	2 (28.6)
Other methods	5 (71.4)

References

1. UNAIDS 2014. GLOBAL REPORT: UNAIDS report on the global AIDS epidemic 2013, www.unaids.org
2. WHO 2010. PMTCT Strategic Vision 2010-2015.
3. Selvaraj S, Paintsil E. Virologic and host risk factors for mother-to-child transmission of HIV. Curr HIV Res. 2013 Mar;11(2):93–101.
4. UNAIDS 2015. Regional Statistics. 2015;1–6. https://riatt-esa.squarespace.com
5. Bloom's Taxonomy. https://en.wikipedia.org/wiki/Bloom%27s_taxonomy

6. Joshi A, Pal DK. Likert Scale : Explored and Explained. Current Journal of Applied Science and Technology 2015; 7(4):396-403.

7. Abajobir AA, Zeleke AB. Knowledge, attitude, practice and factors associated with prevention of mother-to-child transmission of HIV/AIDS among pregnant mothers attending antenatal clinic in Hawassa referral hospital, South Ethiopia. J AIDS Clin Res. 2013;4(6). https://www.omicsonline.org

8. Wakgari Deressa AS. Utilization of PMTCT services and associated factors among pregnant women attending antenatal clinics in Addis Ababa, Ethiopia. BMC Pregnancy Childbirth. 2014;14:328..

9. Mujumali N. Knowledge and attitude on prevention of mother-to-child transmission of HIV among pregnant women attending reproductive and child health clinic at Temeke District Hospital in Dar Es Salaam. Thesis 2011.

10. Idris AKM. Factors influencing access and utilization of prevention of mother to child transmission(PMTCT) of HIV services in Sudan. Thesis 2012.

11. Kei RM et al. Knowledge and attitude on prevention of mother to child transmission of HIV among pregnant women attending antenatal clinic at Kisii Level Five Hospital in Kisii County, Kenya. Int.J Trop Dis Hlth 2015; 6(2): 44-51

12. Katushabe J. Knowledge and attitude pregnant, woment have on use of PMTCT services at Mbale regional hospital Uganda. Dissertation Makerere University 2006

13. Moses AE, Chama C, Udo SM, Omotora BA. Knowledge, attitude and practice of ante-natal attendees toward prevention of mother to child transmission (PMTCT) of HIV infection in a tertiary health facility, Northeast-Nigeria. East Afr J Public Health 2009 Aug;6(2):128–35.