

Infant feeding methods among HIV-positive mothers in Yei County, South Sudan

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INTRODUCTION: This study describes the infant feeding methods chosen by HIV-positive mothers in Yei County, South Sudan and the factors that influenced their choice.

METHODS: This cross-sectional study used quantitative and qualitative methods to collect data from a sample of HIV positive mothers from Yei Hospital Mother and Child Health (MCH) section, and St Bakhita Primary Health Care Centre.

RESULTS: The results showed that the mothers' levels of correct knowledge about HIV transmission to infants, and infant feeding guidelines to prevent transmission were high. Most mothers chose exclusive breastfeeding.

CONCLUSION: The factors which were significantly associated with the choice of infant feeding methods included: marital status, level of education, income, knowledge about prevention of mother-to-child transmission of HIV, cultural beliefs, social stigma and cost of infant feeding method.

Key words: HIV/AIDS, prevention-of-mother-to-child transmission, infant feeding, South Sudan

Introduction

The fourth Millennium Development Goal, that aimed to reduce mortality rates among young children by two thirds by 2015, depended on optimizing breastfeeding practices. However, there are some conditions which make breastfeeding impossible, difficult or contraindicated. For example, if the mother is HIV-positive (as the virus can be transmitted via breast milk), absent or severely ill. If a mother is HIV-positive, exclusive replacement feeding (e.g. with infant formula) is usually recommended provided it is affordable and safe. This is often not possible in resource limited settings, and then exclusive breastfeeding for 6 months with antiretroviral medication is recommended [1].

South Sudan's 2012 Antenatal Care (ANC) Clinics Sentinel Surveillance Report [2] showed that the national HIV prevalence rate dropped from 3.1% in 2007 and 3.0% in 2009 to 2.6% in 2012. The prevalence in Yei County, the site of this study, was 1.8% (CI 0.3-3.3). With a population of 8,058 pregnant women, the estimated number of mothers who are HIV-positive in Yei County may be as high as 167. This reflects the number of infants exposed to maternally-transmitted HIV [2, 3, 4]. Little is known about the level of these mothers' knowledge about the prevention of mother-to-child-transmission (PMTCT) of HIV.

Objectives

To identify the factors that influence HIV-positive

mothers' choice of infant feeding options including their knowledge of PMTCT, their attitudes towards, and preferences of, infant feeding options, and socio-economic factors.

Methodology

This was a cross-sectional study among HIV-infected women attending postnatal clinics in Yei County. Using the post-natal list from the Yei Hospital mother and child health (MCH) section, and St Bakhita Primary Health Care Centre clinics, 100 consenting mothers with babies aged 0 – 24 months were selected using simple random sampling and were interviewed using a questionnaire designed by the investigator. The sample size was based on the estimated number of HIV-positive mothers in the study areas per the results of the 2012 ANC sentinel surveillance.

Focus group discussions were held with 20 of the mothers, and two clinic health workers were interviewed. Statistical analysis was done by SPSS version 20 software, logistic regression model was used and odds ratio obtained for the factors that have significant association with choice of exclusive breast feeding, reference p-value of <0.05 was considered as level of significance. Qualitative information was obtained from the focus group discussions and interviews by thematic content analysis.

Results

Table 1 shows the distribution of 100 mothers according to their social-demographic characteristics. The

Table 1. Distribution of mothers by their social-demographic characteristics

Socio-demographic characteristic	Category	Percent (%)
Age years	25-18	35
	33-26	38
	40-34	21
	41 and above	6
Marital status	Married	69
	Not married	31
Level of education	Pre-School/Primary	84
	Secondary/Higher	16
Employment status	Employed	48
	Not employed	52
Type of employment	Private sector	12
	Government employee	6
	Farmer	30
	Housewife	52
Level of monthly income South Sudanese pounds	<1000	85
	≥1000	15
Age of child months	6-0	61
	11-7	21
	≥12	18
Place of residence	Urban	30
	Rural	70

majority were aged between 18 and 34 years, were married, lived in a rural area, had a monthly income of under 1000 South Sudanese pounds and had not reached secondary school; about half were 'unemployed' housewives.

Table 2 shows the distribution of the mothers' knowledge about HIV and AIDS, PMTCT and infant feeding guidelines.

The information that the mothers were given during counselling, and the feeding option they chose are shown in Table 3.

The socio-economic factors in Table 4 are the ones that have statistical significance in association with the choice of the appropriate infant feeding method. Age, place of residence, employment and type of employment are the factors with no statistical significance.

Discussion

The results show that almost all the mothers were well informed regarding PMTCT and the recommended guidelines for feeding their babies. This may be attributed to the fact that health workers in Yei County had counselled the mothers using the PMTCT and Infant Feeding guidelines at their health facilities, and that mothers were willing to receive this information for the

Table 2. Distribution of mothers according to their knowledge of HIV and PMTCT

Variable	Response	Percent (%)
Mother knows meaning/transmission of HIV and AIDS	Yes	97
	No	3
Mother has received counselling/information about PMTCT	Yes	97
	No	3
Mother thinks counselling sufficient and appropriate	Yes	96
	No	4
Mother believes period/s when HIV can be transmitted to infants is:	During pregnancy only	16
	During delivery only	28
	During pregnancy, delivery and breast feeding	55
	Do not know	1
Mothers knows the guidelines on infant feeding	Yes	89
	No	11

sake of their babies' health. Secondly, given the HIV status of the mothers, health workers would have given them special care and counselling whenever they visited the health facility for antenatal, delivery and post natal care. Similar results were obtained in a study in Kinshasa [5] where HIV-positive mothers knew about, and adhered to, recommended infant feeding methods. Most of these mothers attended antenatal and post natal care visits where health workers gave HIV/AIDS and PMTCT counselling and other support services as required.

Table 3 shows that 78% mothers exclusively breastfed, 18% used exclusive replacement feeding and 4% used mixed feeding. The finding that most mothers were using exclusive breastfeeding, which provides optimal nutrition and protection against infections, is in agreement with the World Health Organization and South Sudan guidelines [1, 6].

The results agree with the findings of a study in Kenya and Zambia where most mothers preferred exclusive breastfeeding and continued to exclusively breastfeed their infants even after the recommended six months [7]. However they are contrary to those from a study in Nigeria where the 94% of HIV-positive mothers choose formula (replacement) feeding and 4% admitted to mixed feeding.

Table 3. HIV-positive mothers' answers to questions related to infant feeding methods

Questions and mothers' answers	Percent (%)
Were you counselled on recommended infant feeding options?	
Yes	94
No	6
Which infant feeding options were you advised to use?	
Exclusive breastfeeding	89
Exclusive replacement feeding	11
Which infant feeding option did you choose?*	
Exclusive breastfeeding	78
Exclusive replacement feeding	18
Mixed feeding	4
What was the main reason for your choice of infant feeding method?	
The only one I know"	13
"All women do the same"	29
"This is the accepted way in my family"	4
"This is the accepted way in my culture"	13
"It reduces infant sickness"	10
"It increases bonding"	11
"It provided infant with all nutrients"	19
Who influenced how you fed your infant?	
Only myself	49
Husband	42
Other family member	9
Did your family influence how you fed your infant?	
Yes	54
No	46
Did your community influence how you fed your infant?	
Yes	55
No	45

* 'Exclusive breastfeeding' means giving only colostrum or breast milk (and modern medicines and micronutrients if prescribed) but no other foods, water or other drinks. 'Replacement feeding' (or 'Artificial feeding') means giving animal milks or other foods instead of breast milk. 'Mixed feeding' means giving both breast milk and other milks or foods.

The major factor influencing the choice of infant feeding by 85% of these Nigerian mothers was the desire to reduce the risk of HIV transmission [8]. For a third of these mothers the greatest support in maintaining their chosen infant feeding option was the spouse. Differences in these studies may be due to socio-cultural variation between South Sudan communities and those communities.

In our study mothers expressed different attitudes, preferences and practices regarding the different infant feeding methods; these were based on social and economic factors as well as on the health implications involved after choosing a certain method.

Our Yei study also found out that specific socio-economic factors have a statistical significance of association with the choice of infant feeding method (Table 4). These factors include marital status, level of education, level of income, family and community members, cultural beliefs, social stigma and perceived cost of the feeding method. Of these factors the ones that could be important when designing local interventions for PMTCT may include mothers' knowledge and education, family and community members, cultural beliefs, social stigma and perceived cost of feeding method.

Results from the focus group discussions and key informants' interviews, while confirming that the majority of the mothers preferred and practiced exclusive breastfeeding, highlighted additional challenges faced by those mothers using replacement feeding. These include social stigma, high costs of infant formula, and the influence of family and community members on the mother's choice of infant feeding methods. The in-depth study in Nigeria also found that a major challenge faced by formula-feeding mothers was stigmatization [8].

Our questionnaire was not validated, but the rigor of the study was ensured by using both quantitative and qualitative approaches which captured the factors influencing mothers' infant feeding choices.

Conclusion

HIV/AIDS and PMTCT knowledge among HIV-positive mothers was high due to the counselling and supportive services given by health workers. Exclusive breastfeeding is the most preferred and practiced method followed by exclusive replacement feeding, while mixed feeding was the least preferred and practiced method in Yei County. Socio-economic factors such as marital status, education, social stigma, cultural beliefs, cost of infant feeding method and income were associated with the choice of the infant feeding methods among these mothers.

References

1. World Health Organization. 2010. Guidelines on HIV and infant feeding 2010. Principles and recommendations for infant feeding in the context of HIV and a summary of evidence. WHO, Geneva http://whqlibdoc.who.int/publications/2010/9789241599535_eng.pdf?ua=1 http://apps.who.int/iris/bitstream/10665/44345/1/9789241599535_eng.pdf
2. Southern Sudan Antenatal Care Clinics Sentinel

Table 4. Factors influencing choice of exclusive breastfeeding among HIV+ mothers

Socioeconomic factors	Categories	Number of mothers in category	Number of mothers exclusively breastfeeding	Odds ratio (OR)	P-value	95% confidence interval (CI)	
						Lower limit	Upper limit
Marital status	Married	69	68	1.881	0.028	1.681	4.058
	Not married	31	10	Ref			
Level of Education	Pre-school/primary	84	65	5.436	0.060	1.329	6.247
	Secondary/higher	16	13	Ref			
Level of Income SSP/month	< 1000	85	66	5.635	0.050	3.632	6.243
	≥ 1000	15	12	Ref			
Knowledge of PMTCT	Yes	87	67	9.842	0.058	4.366	10.367
	No	13	11	Ref			
Cultural beliefs influence	Yes	88	68	2.764	0.010	1.314	2.909
	No	12	10	Ref			
Social stigma	Stigmatized	88	67	1.735	0.003	1.635	3.782
	Not stigmatized	12	11	Ref			
Perceived cost of infant feeding method	Cheap	89	68	2.332	0.020	1.841	5.331
	Expensive	11	10	Ref			

Surveillance Report. Sep - Dec 2009 and South Sudan Antenatal Care Clinics Sentinel Surveillance Report. Sep - Dec 2012.

- Sudan Household Health Survey, 2006 (SHHS1), Final report Aug 2007 and South Sudan Household Health Survey, 2010 (SSHHS2), Final report Aug 2013.
- Ojukwu, IJ - 2010: Utilization of prevention of mother-to-child transmission of HIV(PMTCT) at Juba Teaching Hospital (South Sudan) repository. uonbi.ac.ke/handle/11295/13777.
- Maman S, Cathcart R, Burkhardt G, Omba S, Thompson D et al. 2012: The infant feeding choices and experiences of women living with HIV in Kinshasa, Democratic Republic of Congo. *AIDS care: psychological and Socio-medical Aspects of AIDS/ HIV*, 24 (2) 259-265.
- South Sudan Prevention of Mother to Child Transmission of HIV (PMTCT) Guidelines, 2012.
- Rutenberg N. et al. 2003: Evaluation of United Nations-Supported Pilot Projects for prevention of mother to child transmission of HIV. New York: UNICEF and Population Council. http://www.unicef.org/evaldatabase/files/Global_2003_UN_Supported_PMTCT_Projects.pdf
- Oladokun RE, Brown BJ, Osinusi K. 2010: Infants Feeding Patterns of HIV Positive women in a PMTCT Programme. *AIDS Care: Psychological and socio-medical Aspects of AIDS*. 22 (9) 1108-1114. <http://www.ncbi.nlm.nih.gov/pubmed/20229369>