

Assessment of knowledge and attitude towards prevention of mother to child transmission of Human Immuno Deficiency Syndrome (HIV) among HIV positive pregnant women, Dessie referral hospital, Dessie, Ethiopia.

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Abstract

Background: HIV still remains a major challenge globally despite decades of advocacy, awareness raising and investing in programs to control the spread of HIV. The Global Plan towards the elimination of new HIV infections among children by 2015 and keeping their mothers alive was well underway, with ambitious goals of reducing the number of new HIV infections in children by 90% and HIV-related maternal deaths by 50%.

Methods: Institution based cross-sectional study was conducted in Dessie referral hospital from April to May 2016, South Wollo, Northeast Ethiopia. Simple random sampling technique was used to collect data from pregnant women. Structured questionnaire, which is adopted from joint United Nations program on HIV/AIDS (UNAIDS) was used to collect the data.

Result: In this study 270 pregnant women attending antenatal care were included. Of which the majority of the study participants 156 (57.8 %) were knowledgeable about PMTCT service. Majority of the study participants 220 (81.5%) think that low chance of HIV infection in their blood. Furthermore, most of the study participants 252 (93%) were not afraid about their risk perception.

Conclusion: Most of the study participants in this study knew that HIV could be transmitted from an infected mother to her baby. Majority of the study participants know what did the service PMTCT mean, its benefit and had positive attitude towards PMTCT service.

Background

Mother-to-child transmission (MTCT) of human immune deficiency virus (HIV) infection is the transmission of the virus from an HIV-infected mother to her child during pregnancy, labor, delivery or breastfeeding [1,2].

A global overview of the HIV/AIDS epidemic indicates that 42 million people are at present living with HIV/AIDS, of which 19.2 million are women and 3.2 million are children under 15 years of age. (3).

More than 90% of children were infected through MTCT of which nearly 90% occurred in sub-Saharan Africa. Approximately half of them die before their second birth day if there is no appropriate treatment (4).

To prevent the transmission of HIV from mother to baby, World Health Organization (WHO) promotes a comprehensive strategic approach that includes four components: the prevention of new infections in parents, avoiding unwanted pregnancies in HIV infected women, preventing transmission of HIV from an infected mother to her infant and care, treatment & support for mothers living with HIV, their children and families. It primarily includes the provision of antiretroviral prophylaxis to the mother to reduce the risk of MTCT through rigorous PMTCT program [8].

Statement of the problem

The global community has committed itself to accelerate progress for the PMTCT initiative to eliminate new pediatric HIV infections by 2015 and improve maternal, newborn and child survival in the context of HIV.

Vertical transmission from mother-to-child accounts for more than 90% of pediatric AIDS. Particularly in developing countries including Ethiopia, MTCT has become a critical child health problem and created enormous social and economic problems [9]. The reasons for an increasing MTCT of HIV might include lack of knowledge of mothers on the risk of MTCT, benefits of preventive interventions, such as prophylactic ARV drugs and infant feeding options [10].

PMTCT advocated by UNAIDS entail [1] keeping women of reproductive age and their partners HIV-negative through reproductive health and HIV prevention services, [2] avoiding unwanted pregnancies among HIV-infected women and women at risk of HIV, through family planning and HIV testing and counseling services and [3] ensuring HIV testing of pregnant women and timely access to effective antiretroviral therapy, both for the health of HIV-infected mothers and for PMTCT, during pregnancy, delivery and breastfeeding [11].

Adherence to these practices is highly variable with better results obtained in developed countries than in the developing countries. Not surprisingly, inadequate continuum of care, magnitude of PMTCT and associated services including HIV testing and counseling and ARV prophylaxis are still very low in developing countries [12,13].

According to EDHS 2011 only 34% of mothers had ANC follow up in Ethiopia [14] thus having a negative contribution on under-utilization of PMTCT services. Better knowledge of, good attitude towards and practicing PMTCT is highly effective intervention and has an enormous potential to improve both maternal and child health.

Thus the study provided baseline information about the knowledge, attitude of PMTCT services among pregnant mothers. It would also be a significant venture in promoting effective relationship between the healthcare team and the client thereby facilitating quality and efficient healthcare services to reduce mortality and morbidity of children as well as mothers.

Moreover, the results of this study would help healthcare institutions to recognize mother's knowledge, attitude and utilization of PMTCT services and hence benefit them by providing accurate information on risk of MTCT, availability of prevention options, effect of HIV on pregnancy outcomes and involvement and screening of partner to improve quality care and utility of the services.

One of the major modes of HIV transmission is vertical and a better understanding of PMTCT service and women's who understand their HIV status will be beneficial due to ARV medication becoming available and lifelong.

Significance of the study

This study will be used for evidence based decision making to reduce MTCT of HIV in the study area and national wide. In addition, it will provide information about the PMTCT simplified regimen and service delivery and harmonization with ART programmes for the community by improving women knowledge and attitude. Furthermore, it will enhance protection against mother-to-child transmission in future pregnancies by increasing women awareness towards PMTCT and prevention benefit against sexual transmission to sero-discordant partners.

Finally, this study finding will provide base line information for conducting further research on this area.

Methods

Study design and period

A facility based cross sectional study was conducted from April to June 2016.

Study area

The study area was in Dessie, situated eastern part of Amhara regional state in south Wollozone, 401 km north of Addis Ababa the capital of Ethiopia. It has ten sub-cities and six rural Kebeles. Based on the EDHS 2011 [39] report a total population of 151,174, of whom 72,932 were men and 78,242 women; 120,095 or 79.44% were urban inhabitants living in the town of Dessie, the rest of the population were living at rural kebeles around. There are two governmental and three private hospitals, eight health centers and thirty six private clinics, two NGO clinics, forty seven drug sales outlets and five private laboratories. Counting a total number of 273 HIV positive ANC followers were booking from April to June, 2016, with 1st, 2nd and 3rd visit.

Source population

The source population for the study was all HIV positive pregnant women

Study population

HIV positive pregnant women having ANC follow up at selected government health institution

Eligibility criteria

All HIV positive pregnant women attending antenatal care at Dessie referral hospital were included. Inability to communicate due to language barrier and with psychiatric problem were exempted from the study.

Sample size calculation and sampling technique

The actual sample size for the study was determined by using the formula for single population proportion by assuming 5% marginal error and 95% confidence interval ($\alpha=0.05$) and the prevalence of knowledge on PMTCT is 20% and adding 10% for non response a total size becomes 270. Simple random sampling technique was used to select as study subjects until the desired sample size obtained from the study site.

Variables

Dependant variables

- ✓ Knowledge on PMTCT service
- ✓ Attitude on PMTCT service

Independent Variables

Socio-demographic variables (age, ethnicity, religion, education, occupation, family size, monthly household income, marital status)

- ✓ number of pregnancies
- ✓ number of births
- ✓ gestational age
- ✓ number of antenatal care visits
- ✓ Risk perception

Operational definitions

Knowledge: individuals who score above the mean for knowledge questions were considered as having good knowledge whereas who score below mean was considered as having poor knowledge on PMTCT.

Attitude- individuals who score above the mean for attitude questions were considered as having good attitude whereas those who score below the mean were considered as having poor attitude on PMTCT.

Data collection procedure

A structured questionnaire was used to collect the data. The English version of the questionnaire was translated to Amharic then back to English to check for consistency. All HIV positive pregnant women having ANC follow up were considered. Data was collected by three final year PHO students. Half day training was given for data collectors. Each day the filled questionnaire were checked for consistency and completeness and corrected. Each completed questionnaire was checked for completeness before data entry manually.

Data processing and analysis

The collected data was coded and tallied. Descriptive statistics was also employed. Tables, proportions and frequency were used for summarization. Data analysis was done manually by using scientific calculator.

Result

Socio-demographic characteristics of HIV positive pregnant women

In this study 270 pregnant women attending antenatal care were included.

Majority of the study respondents, 255 (94.4%) belongs to the Amhara ethnic group and few of them were Tigrians 15 (5.6%). Regarding to the educational status, 96(35.6%) were 9-12th grade, 67(24.8%) were 5-8th grade and 62(17.3%) were diploma and above. In addition, the majority of the study respondents 165(61.1 %) were housewives. (See table 1).

On the other hand the age of study respondents ranged from 16 - 45 years and the mean age was 25. The average household monthly income of study subjects was 2,200.67 Eth. Birr (See table 1).

2. Knowledge of HIV positive pregnant women towards PMTCT

The majority of the study participants 156(57.8 %) were knowledgeable about PMTCT service.

Moreover, majority of the study participants 266(98.5%) had the knowledge of HIV/AIDS transmission ways, and also 119(44.1%) were knows all of the methods of HIV/AIDS transmission prevention methods.

Furthermore, most of the study participants 218(80.7%) did know that infected pregnant woman could transmit the virus to her baby and 200(74.1%) of them said that, time of HIV

Transmission was during delivery. In addition majority of the study participants 156(57.8%) had knowledge on PMTCT service.

3. Attitude of HIV positive pregnant women towards PMTCT

Majority of the study participants 220(81.5%) thinks that low chance of HIV infection in their blood. Furthermore, most of the study participants 252(93%) were not afraid about their risk perception. In addition, 26(9.6%) and 34(12.6%) respectively were having response to neglect by family and marital breakage if their test result were reactive. On the other hand 172(63.7%)

And 38(14.1%) respectively were having response on the support of the religious leaders and community financial funding, if they had positive result. 246(91.1%) of the study participant having a response on female sex preference for counseling. On the other hand majority of the study participants 254 (94.1) were having a response on the government health service for tested.

Moreover, most of the study participants 245(90.7%) were having a positive responses for adherence on the service to decrease the virus transmission and 250(92.6%) of respondents agreed that if positive attitude increased on the service of PMTCT, then lost to follow up could be decrease

Discussion

This chapter discusses the findings of the study. The discussion compares the findings of this study with similar previous studies and also attempts to highlight similarities and differences.

A woman's knowledge on her HIV status is the first essential requirement for the application of PMTCT services. This study assessed the knowledge of pregnant mothers on MTCT and PMTCT service and majority of the study participants 218(80.7%) having the knowledge on MTCT of HIV and this finding were higher than study findings from Tanzania (65.6%) and Eritrea 75.5%. Furthermore majority of the study participants 156(57.8%) knows what did the service PMTCT mean which is higher than study findings from Eritrea (26%) but lower than study findings from Botswana (69%), 62(23%) were not have clear understanding what did PMTCT mean.

On the other hand 66(24.4%) study participants where knew all of the methods PMTCT of HIV and 74(27.4%) knew ART drug given for PMTCT which is lower than study findings from Hawassa (48.3%) this might be due difficulty topography and IEC coverage low in Dessie compared to Hawassa.

A pregnant women attitude toward the PMTCT utilization were a cornerstone for the enhancement of adherence and decrement of women lost follow up after initiating ART. About 250(92.6%) of the study participant had positive attitude on PMTCT service and this was higher than a study done in Jimma (62.4 %). Furthermore, it was also higher than a study done in Tanzania 318 (90.6%) of the study participant had positive attitude. But lower than study findings from Ambo 221(93.6%) had positive attitude on PMTCT service. Majority of study participants 246(91.1%) were not worried about the sex of their counselor.

Conclusion

- Most of the study participants in this study knew that HIV could be transmitted from an infected mother to her baby.
- Majority of the study participants knows what did the service PMTCT mean and its benefit.
- Most of the study participant had positive attitude on PMTCT service.
- Some of the study participants confused about the PMTCT service.
- Most of the study participant's site choice for testing is governmental institutions

Recommendation

- Empowerment of women to make informed choices about PMTCT service by the health sector is essential. This could ensure easy access for prevention, treatment, care and support.
- Intensify coordinated and targeted IEC program by health extension worker and professionals to convince pregnant women in order to utilize PMTCT service.
- Developing gender sensitive IEC campaign to the community is necessary.
- Strengthen post test counseling and care and support services for pregnant women.
- Develop strategy for community mobilization and support of the program by DRH is crucial.

Abbreviations

HIV: human immunodeficiency virus; PMTCT: prevention of mother to child transmission

Declarations

Availability of data and materials

The data that support the findings of this study are available from the corresponding author.

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This study was not funded

Consent for publication

Not applicable (the manuscript does not contain any individual person's data in any form).

Consent for publication

Not applicable (the manuscript does not contain any individual person's data in any form).

Ethics approval and consent to participate

Ethical approval and clearances was obtained from Institutional Review Board (IRB), college of medicine and health sciences, Wollo University. Written and oral consent was obtained from participants.

Competing interests

The authors declare that they have no competing interests

Authors' contributions

YK designed and conducted the study. KA and OS Advised the study, drafted the manuscript, revises it critically and submitted it. All authors have read and approved the final version manuscript.

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Table 1: Socio demographic and economic information of HIV positive pregnant women at Dessie referral hospital, Amhara region, northeast Ethiopia, June 2016.

s.n	Variable	Frequency	%
1	Age		
	16-21	48	17.7
	22-27	94	34.8
	28-33	91	33.7
	34-39	32	11.9
	40-45	5	1.9
2	Ethnicity		
	Amhara	255	94.4
	Tigray	15	5.6
	Oromo		
	Afar	0	0
	Othors	0	0
	Religen		
	Orthodox	104	38.5
	Muslim	166	61.5
	Protestant		
	Catholic		
	Other		
4	Level of education		
	1_4 th grade	45	16.7
	5_8 th grade	67	24.8
	9_12 th grade	96	35.6
	Diploma and above	62	23
	Illiterate		
5	Occupation		
	Merchant	22	8.1
	Housewife	165	61.1
	Home servant	2	0.7
	Student	49	18.1
	Others	32	11.9
6	Income		
	<1000	45	16.7
	1000_2000	114	42.2
	2100_3000	49	18.1
	>3100	62	23

Table 2: Knowledge towards HIV, MTCT and PMTCT serviceat Dessie referral hospital, Amhara region, northeast Ethiopia, June 2016.

s.no	Variables	Frequency	%
1	Knowledge on transmission of HIV		
	No	4	1.5
	Yes	266	98.5
2	Knowledge on method of transmission		
	Unsafe sexual intercourse	70	25.9
	Infected blood	11	4.0
	Contaminated needle	4	1.5
	Mother to child	13	4.8
	Multiple answer	168	62.2
3	Knowledge on HIV/AIDS prevention		
	Abstinence	3	1.1
	One to one	123	45.6
	Prevent from sharp damage	25	9.3
	By using bed net	0	
	Not eat with other	119	44.1
	Multiple answer	0	
Not live with other			
Other	0		
	Knowledge on MTCT		
	Yes	218	80.7
	no	20	7.4
	I don't know	32	11.9
5	Transmission of HIV during labour		
	I do not know	30	11.1
	No	8	3
	Yes	200	74.1
6	Knowledge on prevention mechanism of Transmission of HIV during labour		
	Yes	110	40.7
	No	90	33.3
7	Knowledge on intervention to reduce MTCT		
	Yes	156	57.8
	No	62	23
8	Knowledge on the interventions	74	27.4
	Use ART drug	24	8.9
	breast feed	66	24.4
	both		

Table 3: Attitude of pregnant women towards PMTCTat Dessie referral hospital, Amhara region, northeast Ethiopia, June 2016.

s.no	Variables	Frequency	%
1	afraid about the presence of HIV in their blood		
	yes	18	6.7
	no	252	93.3
2	chance of HIV Infection in their blood		
	Low	220	81.5
	Moderate	18	6.7
	High	3	1.1
	I don't know	29	10.7
	As a positive attitude of pregnant women increase the rate of lost to follow up will be decrease		
	yes	250	92.6
	no	20	7.4
4	Women's adherence on PMTCT is necessary to decrease transmission rate of the virus.		
	Yes	245	90.7
	No	25	9.3
5	Best site for convenient tested:		
	a) Government health institution	254	94.1
	b) NGO clinic	9	3.3
	c) Private health institution	7	2.6
6	Females counselors are more accepted than male:		
	yes	24	8.9
	no	246	91.1
7	If test result is positive what is the response?		
	a) Neglect by family	26	9.6
	b) Marital breakage	34	12.6
	c) Spiritual support from religious leader	172	63.7
	d) Financial support from community	38	14.1