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RESEARCH ARTICLE

Client Satisfaction with Prevention of Mother to Child Transmission of HIV Services in Public Hospitals of Hadiya Zone, Southern Ethiopia

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Abstract

Background: Prevention of mother-to-child transmission is a term used to describe a comprehensive package of services intended to reduce the risk of mother-to-child transmission of HIV. The vertical virus transmission from mother to child accounts for more than 90% of pediatric Acquired Immunodeficiency Syndrome. Published studies on the client satisfaction with PMTCT services' provision in Ethiopia are generally limited. Even fewer studies do examine client satisfaction with the PMTCT services. Therefore, this study is aimed to assess the client satisfaction with Prevention of Mother-to-Child Transmission of HIV services in public hospitals of Hadiya zone, southern Ethiopia 2017.

Methods: Institution based cross-sectional study design using quantitative data collection method was conducted in public hospitals from March 01 to April 10, 2017. A total of 423 pregnant women were consecutively interviewed until the required sample was obtained. The data was entered into Epi-data and analyzed using SPSS. Bivariate and multivariable logistic regression analyses were computed to see the predictors for satisfaction of clients on PMTCT service.

Result: About 89.8% clients were satisfied with PMTCT services provided at public hospitals. The client satisfaction with PMTCT services was associated with waiting time [AOR = 4.648, 95% CI = (2.183, 9.897)], counseling time [AOR = 3.748, 95% CI = (1.645, 8.537)] and counseling given by same counselor before and after HIV test [AOR = 0.193, 95%CI: (0.090, 0.412)].

Conclusion: Clients' satisfaction by PMTCT service is very high.

Keywords

HIV, Prevention, Women, PMTCT (Prevention of Mother to Child Transmission of HIV)

Introduction

Mother-to-child transmission (MTCT) of human immunodeficiency virus (HIV) entails transmission of HIV from an infected mother to her child. Also called "vertical" or "perinatal" transmission, MTCT can occur during pregnancy, labor, delivery, and breastfeeding [1].

Human immunodeficiency virus has devastated Africa. Over 25 million or 69% of global HIV cases are in Africa [1]. Of the 3.2 million children living with HIV in 2014, 91% live in Sub-Saharan Africa and 85% of HIV-positive pregnant women also live in the region [2].

From the time when the program introduced, tremendous achievements observed globally particularly in access to service. Accordingly, an estimated 966 000 women, or about two thirds (67%) of the pregnant women living with HIV in low- and middle-income countries, received at least some effective ARV drugs in 2013 [2].

Moreover, women in Sub Saharan Africa were disproportionately impacted by HIV epidemic, accounting for 58% of all people living with HIV in 2011. Similarly, in the year in 2011, 92% of pregnant women living with HIV and more than 90% of children who acquired HIV in 2011 live in this region [3].

Over 90% of pediatric AIDS cases are from MTCT [4]. PMTCT has four components: i) Primary prevention of HIV infection, ii) Prevention of unintended pregnancies

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among HIV-positive women, iii) Prevention of HIV transmission from women infected to their infants through treatment and care and iv) Support to women infected with HIV, their infants and their families [4].

Vertical virus transmission from mother-to-child accounts for more than 90% of pediatric AIDS. Due to poor quality PMTCT services, it is estimated that over 90% of childhood HIV infections result from the transmission of the virus from mothers to their children during and soon after birth [4].

Coverage of anti-retroviral (ARV) medicines among HIV-positive pregnant women in Africa is roughly 80%, which higher than many regions of the world, although in high-burden countries, such as Angola, Chad and Nigeria, less than half of pregnant or breastfeeding women living with HIV are receive ARV medicines [5].

In 2013 there were an estimated 793,700 people living with HIV including 200,300 children in Ethiopia. There were approximately 45,200 AIDS related deaths in 2013 and about 898,400 AIDS orphans in the same year. HIV adult prevalence is estimated at 1.5% in 2011. However, prevalence varies according to age, sex, gender and geographical location. The 2016 Ethiopian Demographic and Health Survey (EDHS) shows that 62% of pregnant women in the country had at least one ANC visit [6,7].

Few published studies are available on PMTCT services' provision in Ethiopia and even fewer examine client satisfaction with PMTCT services. Therefore, this study aims to contribute to science by assessing client satisfaction with PMTCT services provision at public hospitals of Hadiya Zone, southern Ethiopia.

Methods

The study was an institution-based cross-sectional study conducted at three public hospitals in Hadiya Zone, approximately 200 kilometers southwest of Ethiopia's capital city, Addis Ababa. The study used quantitative data collection method from March 1 to April 10, 2017.

All public hospitals providing PMTCT services in Hadiya Zone, including Shone, Homecho, and Nigist Elleni Mohammed Memorial Teaching Hospitals, were included in our study. Sample size was determined using single population proportion formula at a 95% confidence level, 80% power of the test and 5% margin of error, where *p,* the proportion of clients satisfied with PMTCT services, was assumed to be 50%. Considering 10% of non-response rate, the final sample size was 423.

Sample was allocated proportionally to selected hospitals based on average ANC attendance in the three-months preceding the study period. All sampled pregnant women who met inclusion criteria at ANC clinics were interviewed by diploma-level nurses using a structured questionnaire adapted from UNAIDS and Family Health International (FHI) [8,9]. The questionnaire was prepared in English, translated to Hadiyisa, and back-translated to English separately by two individuals to ensure consistency. Nurse data collectors were supervised by two BSc supervisors. All data collectors were selected from outside of study area to minimize bias. Incomplete and unclear questionnaires were returned to interviewers to be completed.

Data was entered, cleaned and analyzed using SPSS 20 and was cleaned by running frequencies, cross-tabulation and sorting cases. Bivariate and multivariate logistic regression analyses were used to determine the association of independent variables with the dependent variable. Variables with $p < 0.25$ in bivariate analysis were entered into a multivariate logistic regression model. Odds ratio with 95% confidence were computed to identify the presence and strength of associations, and statistical significance was declared if $p < 0.05$ was found. Final model was checked using the Hosmer-Lemeshow goodness of fit test. Cofounders, interaction and multi-collinearity were checked to minimize bias.

Study protocol was approved by the Institutional Research Review Board of Jimma University's, Institute of Health Science and Community Services Ethical Review Committee. Permission was obtained from Hadiya Zone Health Department and participating hospitals. Informed verbal consent was obtained from participants prior to enrollment in the study. Participation in the study was voluntary and participants were informed of the right to withdraw from the study. Data collection was conducted confidentially, and data was de-identified, de-linked and stored in a secure location.

Table 1: Socio-demographic characteristics of respondents, client satisfaction with PMTCT services in public hospitals of Hadiya zone, South Ethiopia, 2017.

Variables	Characteristics	Frequency	Percent
Age	15-24	131	31
	25-34	236	55.8
	35-49	56	13.2
Marital status	Currently Married	413	97.6
	Not married	10	2.4
Level education	Unable to read and write	79	18.7
	Primary school	190	44.9
	Secondary school and above	154	36.4
Ethnicity	Hadiya	319	75.4
	Gurage	40	9.5
	Wolayita	10	2.4
	Amhara	43	10.2
	Others*	11	2.6

Religion	Protestant	290	68.6
	Orthodox	87	20.6
	Muslim	32	7.6
	Others**	14	3.2
Occupational status	Housewife	219	51.8
	Government Employee	67	15.8
	Student	43	10.2
	Merchant	79	18.7
	Others***	15	3.5
Place of residence	Urban	319	75.4
	Rural	104	24.6

Others*: silte, kembata, others**: catholic, Adventist seventh day, others ***: daily labourer, farmers.

Table 2: Waiting time, duration, information source and perceived benefit of counseling session; client satisfaction with PMTCT services in public hospitals of Hadiya zone south Ethiopia, 2017.

Variables	Characteristics	Frequency	Percent
Awareness about the presence of PMTCT before she came	Yes	337	79.7
	No	86	20.3
Source of information of PMTCT	Health workers	234	69.4
	Mass media	19	5.6
	Friends	5	1.5
	Health extension workers	65	19.3
	Others	14	4.2
Pretest and posttest counseling were given by the same counselor	Yes	338	79.9
	No	85	42.3
There was no language barrier	Yes	372	87.9
	No	51	12.1
The counseling session was beneficial	Yes	413	97.6
	No	10	2.4
Providers Sex preference	Yes	113	26.7
	No	310	73.3
Waiting time to see a service provider	< 30 minutes	319	75.4
	>= 30 minutes	104	24.6
Counseling time	<= 15 minutes	221	52.2
	> 15 minutes	202	47.8
Reason for coming to the ANC center	For antenatal care only	244	57.7
	For antenatal care and to test for HIV	179	42.3
Would recommend the service to others	Yes	397	93.9
	No	26	6.1
Are the opening hours of this clinic convenient for you?	Yes	376	88.9
	No	47	11.1
How long did it take for you to arrive at this clinic	< 30 minutes	264	62.4
	30 min-1 hours	124	29.3
	> 1 hour	35	8.3

Results

A total of 423 women were interviewed, giving a response rate of 100%. Age of respondents ranged from 16 to 43 with a mean age of 27.24 (± 5.67) years. Only seventy-nine (18.7%) women were unable to read and write. Three hundred nineteen (75.4%) lived in urban areas and 219 (51.8%) were housewives, followed by government employee 67 (15.8%). Three-fourths (75.4%) belonged to the Hadiya ethnic group and 413 (97.6%) were married (Table 1).

Most (79.7%) women knew about the availability of PMTCT services before coming to ANC and most (234, 69.4%) derived this information from health workers or health extension workers (65, 19.3%). Three hundred nineteen (75.4%), women waited less than 30 minutes to see a provider. Mean duration of counseling session was 17.37 minutes. The same counselor provided pre- and post-test counseling for 337(79.9%) women. Fif-

Table 3: Client satisfaction with the comfort and privacy of counseling room, and adequacy of counseling session; client satisfaction with PMTCT services in public hospitals of Hadiya zone, south Ethiopia 2017.

Item: How do you rate your satisfaction with:	Very dissatisfied		Dissatisfied		Neutral		Satisfied		Very satisfied	
	Number	%	Number	%	Number	%	Number	%	Number	%
Provider's greeting was good and friendly?	1	0.2	55	13	24	5.7	243	57.4	100	23.6
Comfort of the waiting room	2	0.5	39	9.2	32	7.6	259	61.2	91	21.5
Waiting time	5	1.2	52	12.3	26	6.1	265	62.6	76	18
Comfort of the counseling room	4	0.9	44	10.4	28	6.6	258	61	84	19.9
Adequacy of duration of the counseling session	4	0.9	44	10.4	30	7.1	254	60	91	21.5
Privacy of the counseling room	4	0.9	44	10.4	28	6.6	255	60.3	92	21.7
The cleanliness and sanitation of procedure	7	1.7	53	12.5	27	6.4	251	59.3	85	20.1

Table 4: Client satisfaction by counselor's characteristics and availability of services, client satisfaction with PMTCT services in public hospitals of Hadiya zone south Ethiopia, 2017.

Item: How do you rate your satisfaction with:	Very dissatisfied		Dissatisfied		neutral		Satisfied		Very satisfied	
	Number	%	Number	%	Number	%	Number	%	Number	%
Respectfulness of the counselor	2	0.5	55	13	30	7.1	237	56	99	23.4
Trustworthiness of the counselor	5	1.2	57	13.5	24	5.7	237	56	100	23.6
Clarity of the counselor's explanation	3	0.7	45	10.6	33	7.8	246	57	101	23.9
The counselor's competency	4	0.9	55	13	21	5	239	56.5	104	24.6
laboratory service available when always needed	5	1.2	56	13.2	22	5.2	245	57.9	95	22.5
availability of information to MTCT and PMTCT	5	1.2	52	12.3	16	3.8	249	58.9	101	23.9
Clear explanation about Appointment date	3	0.7	51	12.1	21	5	245	57.9	95	22.5
The overall services	5	1.2	37	8.7	10	2.4	271	64.1	100	23.6

Table 5: Multivariable logistic regression analysis of variables predicting satisfaction of PMTCT clients in public hospitals of Hadiya zone, south Ethiopia 2017.

Variable		Satisfied	Dissatisfied	p-value	AOR	95% CI of AOR
Name	Category	Number (%)	Number (%)			
counseling given by the same counselor in pretest information and posttest counseling	Yes	317 (93.8)	21 (6.2)	1		
	No	63 (71.4)	22 (28.6)	0.000	0.19	(0.09, 0.41)
Waiting time	< 30 minutes	299 (93.7)	20 (6.3)	0.000	4.65	(2.18, 9.89)
	>= 30 minutes	81 (77.9)	23 (22.1)	1		
Counseling time (pre and posttest)	<= 15 minutes	188 (85.1)	33 (14.9)	1		
	< 15 minutes	192 (95)	10 (5)	0.002	3.75	(1.65, 8.54)

Note: *Hosmer and Lemeshow Test = 0.885 therefore the model adequately fits the data, AOR = Adjusted odds ratio.*

ty-one (12.1%) women expressed that a language barrier was present (Table 2).

The majority of women were satisfied with PMTCT services. Most (82.7%) women were "satisfied" or "very satisfied" with the comfort of the waiting room. Women were similarly satisfied with the counseling room and privacy during counseling, wait time and duration of the counseling session (Table 3).

Most women were also satisfied with the counselors themselves, believing them to be respectful, trustworthy, and competent. Three hundred seventy-one (87.7%) women were "satisfied" or "very satisfied" with the service (Table 4).

Women who waited less than 30 minutes to see a provider had odds 4.6 times higher [AOR = 4.65, 95% CI = (2.18, 9.89) of being satisfied as compared to those that waited >= 30minutes [AOR = 4.65, 95% CI = (2.18, 9.89), p-value < 0.00]. Women counseled for more than 15 minutes had odds 3.7 times more likely to be satisfied than women counseled for < 15 minutes (AOR = 3.7, 95% CI; 1.65, 8.54). Women who were not counseled by the same ANC counselor before and after HIV test were considerably less likely to be satisfied as compared to women whose counseling given by same counselor (AOR = 0.19, 95% CI; 0.09, 0.41) (Table 5).

Discussion

Overall satisfaction with PMTCT service was 89.8%, which is similar to Kafa Zone [6] and Dessie City Administration and higher than studies in Adama [Ethiopia], Nigeria and Tanzania (range 40% - 75%) [7,10,11]. Almost 80% of women were satisfied with the privacy of counseling rooms, which is similar to a study in Addis Ababa [12] and slightly higher than a study in Tanzania [11].

Not being counseled by the same ANC counselor pre- and post-test was a significant predictor of client satisfaction, which is consistent with the study in Adama [7]. It is recommended that the same person offer pre- and post-test counseling [7]. These findings might be related to clients' concerns regarding issues of confidentiality. [Extended counseling sessions were also tied to patient satisfaction in our study. The odds of a woman being satisfied were 3.7 times higher among women whose counseling sessions lasted more than 15 minutes, a finding supported by

the study in Addis Ababa [12-14]. Discussing for extended periods may decrease women's fears about a positive test result. Lastly, women who waited less than 30 minutes to see counselor had higher odds of being to be satisfied, which is consistent with a study in Zimbabwe [15-17]. Decreasing wait time might encourage service utilization.

Our study has several strengths, including employing a validated and standardized questionnaire that was tested and revised. Our study also used newly implemented Federal Ministry of Health (FMOH) guidelines on PMTCT to avoid measurement bias. Since respondents were interviewed in the hospital setting, they may have given responses biased in favor of the providers/healthcare facility; however, interviews were conducted in a separate room by non-staff members to minimize bias.

Conclusions and Recommendations

The level of satisfaction with the PMTCT service provision was very high compared to other studies. Predictors of the clients' satisfaction level on PMTCT services provision were counseling given by same counselor before and after HIV test, waiting time to see counselor, counseling time.

In general, in all public hospitals of Hadiya zone health care provider should improve provider-client communication and devising ways of increasing clients' satisfaction with PMTCT services particularly in respecting the clients and developing Trustworthiness. Since current waiting time of clients to see the counselor is encouraging, providers should maintain such working culture in this regard. All hospitals must give attention to transmit information about PMTCT services through mass media.

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Authors' Contributions

Bahailu Balcha: Had made substantial contributions to conception and design, acquisition of data, analysis and interpretation of data, and Desta Erkalo: Had revised the paper critically for important intellectual content starting from proposal development to manuscript preparation. Tilahun Beyene: Involved in interpretation and manuscript preparation. All authors read and approved the final manuscript.

Competing Interests

The authors declare that they have no competing interests.

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