

Male Partners Involvement and Associated Factors in Prevention of Mother to Child Transmission of HIV in East Badawacho District, Hadiya Zone, Southern Ethiopia

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Citation: Ejajo T, Menebo T, Dutamo Z, Betebo B, Tesfaye A (2021) Male Partners Involvement and Associated Factors in Prevention of Mother to Child Transmission of HIV in East Badawacho district, Hadiya Zone, Southern Ethiopia. Health Sci J Vol.15 No.3:1.

Received date: February 5, 2021; **Accepted date:** February 19, 2021; **Published date:** February 26, 2021

Abstract

Background: Transmission of HIV mother-to-child remains a significant problem in the developing world despite the development and growing availability of effective prevention methods appropriate for resource-limited settings. Male involvement has been recognized as a priority focus area to be strengthened in PMTCT but testing male partners for HIV in the context of preventing mother-to-child transmission remains a challenge in most low-and middle-income countries.

Objective: To assess male partners involvement in prevention of mother-to-child transmission of HIV and associated factors in East Badawacho woreda, Hadiya Zone, Southern Ethiopia, 2019.

Methods: A community based cross-sectional study was conducted from July 1-30, 2019 on a sample of 402 male partners whose wife attended ANC visit in the past six months. The calculated sample was proportionally allocated to all Kebeles, and a sample household with eligible male partner was selected from each kebele using simple random sampling technique. Structured questionnaire was administered to male partners. Data was entered using Epi-data version 3.1 and exported to SPSS Version 20 for analysis. Descriptive analysis was used to see the overall distribution of the study subject with the variables under study. Both bivariate and multivariate analysis (binary logistic regression) was used to identify factors associated with male partner's involvement in PMTCT. P value of <0.05 was considered as statistically significant with 95% confidence interval.

Result: The overall male involvement in PMTCT of HIV was 52.4% [95% CI (47.6-56.7)]. Good knowledge on PMTCT (AOR=3.27; CI=1.19-9.01), duration of relationship for 11 to 20 years (AOR=0.337; CI=0.14-0.82), attending primary and secondary education, bad attitude of health professionals

towards clients (AOR=0.449; CI=0.21-0.98) and good knowledge on ANC (AOR=6.338; CI=2.13-18.9) are factors significantly associated with male involvement in PMTCT of HIV.

Conclusion: Male involvement in the PMTCT program in East Badawacho district was low (52.4%). Good knowledge on PMTCT and ANC, duration of relationship for 11 to 20 years, attending primary and secondary education, and bad attitude of health professionals were significantly associated with male partner involvement. Community sensitization of men about the benefits of antenatal care and PMTCT and improving client-friendliness in the clinics needs to be prioritized in order to improve low male participation and mitigate the effect of socio-economic and cultural factors.

Keywords: Male partner; Male involvement; PMTCT; ANC

Introduction

Transmission of HIV mother-to-child remains a significant problem in the developing world regardless of the development and growing accessibility of effective prevention methods appropriate for resource scarce area. Mother-to-child transmission is the most common mode of human immunodeficiency virus (HIV) transmission in children which can be vertically transmitted from HIV positive pregnant women to their unborn babies during pregnancy, labor, and delivery or through breastfeeding after delivery [1].

The prevention of mother to child transmission of the immunodeficiency virus (HIV) (PMTCT) program offers an opportunity to capture pregnant women with their partners in order to prevent the transmission of HIV to the baby [2].

Male partners play a role not only in women's risk of acquiring HIV but also in terms of her utilization of the PMTCT program: for the mother to test for HIV, for the mother to return for the

result, for the couple to use condoms, for the mother to receive medication, and for her to follow the infant feeding advice given [3].

Thus, male involvement in the context of PMTCT has evolved from seeking male partner support for HIV-infected pregnant and breastfeeding women to the comprehensive engagement of men in interventions that prevent HIV-uninfected female partners from acquiring HIV, reduce unintended pregnancies, and improve care, treatment, and support for the HIV-infected male partner and the entire family [4].

According to UNAIDS, There were approximately 36.9 million people worldwide living with HIV/AIDS in 2017. Of this 1.8 million were children (<15 years old) with the majority (71%) located in sub-Saharan Africa (SSA). An estimated 1.8 million individuals worldwide become newly infected with HIV in 2017, about 5000 infections per day. This includes 180,000 children (<15 years). Most of these children live in sub Saharan Africa and were infected by their HIV-positive mothers during pregnancy, childbirth or breastfeeding [5].

In 2017, 80% of pregnant women living with HIV were receiving ART, a significant increase from 2010 levels when only 51 % had access. However 740000 women of reproductive age become HIV positive in 2016. Around 73% of these women live in just 23 countries, the vast majority of which are in sub-Saharan Africa, and are classified as high-priority for PMTCT by UNAIDS [6].

Programs continue to focus primarily on women, despite the fact that men can play a critical role in women's access, uptake and continuation of services. In many cultures, especially in sub-Saharan Africa, men are the primary household decision makers and studies have shown that reproductive health decisions are often influenced by male partners [7].

However, the lack of involvement of male partners in such PMTCT services has been found to discourage pregnant women from taking part in the services, and hence may result in even more new pediatric infections [8]. Consequently, there has been increasing need to develop approaches that can get male partners involved in PMTCT services since their involvement will be crucial in achieving a sustained reduction of mother-to-child transmission of HIV, which is an important step towards the attainment of the elimination of HIV transmission from mother-to-child by 2030 [9].

Research has highlighted a number of barriers to achieving comprehensive PMTCT coverage in Sub Saharan Africa. In many African countries offering PMTCT, men are the decision makers. The majority of women need the consent of their partners to accept HIV testing and PMTCT [9].

The 1994 Cairo Conference on Population and Development urged that efforts should be made to emphasize men's shared responsibility and promote their active involvement in responsible parenthood, sexual and reproductive behavior, including family planning and maternal and child health.

Among women and men age 15-49 in Ethiopia, 0.9% is living with HIV; HIV prevalence is higher among women than men (1.2% versus 0.6%).

Of the cohabitating couples interviewed in the 2016 EDHS, 1.1% of couples are HIV affected, which means that one or both members are HIV positive. In 0.3% of couples both partners are HIV positive; in 0.4% of couples, the man is HIV positive, and the woman is HIV negative; and in 0.4% of couples, the woman is HIV positive and the man is HIV negative.

Screening the mother only to prevent mother to child transmission of HIV doesn't safeguard the child from acquiring HIV. For this reason, for effective PMTCT interventions, male partners should be involved in their Wives' ANC/PMTCT care.

Even though various studies have been conducted on PMTCT program, the effect of male partner's involvement has not been examined undoubtedly. Also there is no study conducted on male involvement in PMTCT of HIV in East Badawacho Woreda. So that, the present study aims to explore the prevalence of male involvement in PMTCT of HIV and associated factors among male whose wife are attending ANC service.

Methods and Materials

Study area and period

Community based cross sectional study design was employed in East Badawacho which is one of ten administrative Woreda found in Hadiya Zone of the Southern Nations Nationalities and Peoples region (SNNPR). The capital of the Woreda, Shone, is located at a distance of 329 km in the south-west from Addis Ababa and 123 km from Hawassa, the capital of the region, and 97km from Hosanna. Based on population projection 2007 in to 2018/19 the population of East Badawacho Woreda is estimated to be 132,920 from which male accounts 65,662 while female are 67,258, there are 4599 pregnant mothers and expected deliveries annually and 3097 women are in reproductive age group as well. The majority of the population economy depends on traditional agriculture, the main crop produced in the area is maize. The study was conducted from July 1-30, 2019.

Sample size determination and sampling procedures

Sample size determination: To determine the male partners to be included in the study different proportions were identified in order to get a larger sample size.

Based on the study done in Arbaminch town 53% male partners were involved in PMTCT. And the study conducted in 2017 in Lemo woreda, SNNPR showed that 31% of male involvement also another similar study which is conducted in Mekele revealed 20.4% male involvement.

The sample size was determined by using a single population proportion formula considering the following assumptions: proportion of male involvement in PMTCT 53% ($p=0.53$), level of significance to be 5% ($\alpha=0.05$), $Z_{\alpha/2}=1.96$ margin of error to be 5% ($d=0.05$). By adding 5% non-response rate, the final sample size was 402.

Since, when we compare calculated sample size for both the first objective and second objectives, the sample size for the first objective is larger than the second objectives.

So, the sample size the first objective 402 was taken as a sample size of the population.

Sampling procedure

There are 27 kebeles with in 6 catchment in East Badawacho district and based on the woreda HMIS report, there is a total of 2,248 males whose partners attended ANC clinic in previous six months (from January up to June 2019). First, a list of males whose wives attended ANC in health post in the last six months was taken by using health post family folders which were documented by the Health Extension Workers with the respect of their household. Second, for mothers who took ANC service in health centers, their list was also taken from ANC registers of Health centers and linked to respective kebele Health post family folder? Finally, sampling frame was developed for all catchments.

The calculated sample 402 was allocated to each catchment proportionally based on the number of eligible male partners in catchment. Then simple random sampling technique was used to select sample male partners from the sample frames of each catchment.

Data collection techniques and instrument

Data were collected from selected males having partners who attended ANC service in previous six months through face to face interview using a pre- tested and structured questionnaire. The questionnaires have a six parts.

Part 1: Socio-demographic characteristics.

Part 2: Questions assessing male partners' involvement

Part 3: Question that assess socio cultural factors.

Part 4 and 5: Knowledge and awareness assessing questions

Part 6: Service related factors.

Ten data collectors with diploma in clinical nursing and 3 supervisors with degree in clinical nursing who are able to communicate in Amharic and hadiyisa had been involved in other similar field surveys was recruited.

Data processing and analysis

After the completion of the data collection, the data were checked for its completeness and edited cleaned and entered in to Epi-data version 3.1 and exported into SPSS version 20 statistical software for analysis. Descriptive analysis like mean, frequency, standard deviation and percentage was used to see the overall distribution of the study subject with the variables under the study. Bivariate analysis (binary logistic regression) was carried out to determine the existence of crude association between independent and dependent variables and to select candidate variables for multivariable model. Those variables with p-value ≤ 0.25 in the bivariate analysis was candidates for

multivariable logistic regression analysis. Multivariable logistic regression analysis was carried out to identify independently affecting factors and controlling the effects of confounding variables, and then p- value of 0.05 with the corresponding confidence interval was taken as cutoff point to label statistically significance of the variables. The strength of the association was measured by 95% confidence interval.

Data quality management

To assure the quality of data, the questionnaire was developed in English and are interviewer administered and was translated to the local languages (Amharic and hadiyisa) then their consistency was checked by another person who speaks both languages. The questionnaire was back translated to English to check for its conceptual equivalence. And variables incorporated in the questionnaire was adapted from different literatures that was used for the assessment of similar studies [10].

For effective and quality data collection, a two day intensive training was given to the selected data collectors by the principal investigator. The training was covered study objectives, a thorough review of the questionnaire, interview techniques, directions how to administer the structured questionnaire, and ethics during field work in line with predesigned training module.

Prior to the actual data collection, the questionnaire was pre-tested using 5% of the sample from a similar population (West Badawacho Woreda) which was not included in the main study. The questionnaire was modified based on the pretest result accordingly.

Supervisors and investigator kept track of the field procedures and checked the completed questionnaires every day to ensure accuracy of the data collected. Error was returned to the data collectors so as to revisit the households.

Ethical consideration

Letter of ethical clearance was obtained from ethical review committee of Wachemo University College of Medicine and Health sciences. Permission from East Badawacho Woreda administrative officials, Woreda health office as well as from kebele administrators was obtained through formal letters which was taken from Wachemo University.

Informed consent was obtained from study participant. All the interviews were made with strict privacy after getting informed consent from the respondents by assuring the confidentiality of the responses. Thus, name and address of the interviewees was not been recorded in the questionnaire. They were also informed that, they have full right to discontinue or refuse to participate in the study. For this purpose, a one-page consent letter was attached to the cover-page of each questionnaire stating about the general purpose of the study and issues of confidentiality which was discussed by data collectors before proceeding with the interview.

Results

Demographic and socio-economic characteristics of parents

A total of 402 male partners were included in the survey from 27 kebeles of East Badawacho Woreda, Hadiya zone, South Ethiopia. Data for 9 partners were incomplete; thus final analysis was based on 393 male partners with response rate of 97.8%.

The mean age of the respondents was 39 years ($\pm$ SD of 6.4) and the majority 188(47.8%) of the male partners were in the age group of 30-39. Majority of respondents accounting for 292 (74.3%) were Hadiya ethnic group and 254 (64.6%) were protestants, 42(10.7%) were orthodox and 64(16.3%) were Muslim. The mean family size was 6 with SD of 2. Out of the respondents 244 (62.1%) had less than four children. Wealth index was done to categorize family wealth in to three categories and 36.6% of families were categorized as poor, 41.2% are categorized as normal and the rest 22.1 were rich.

Level of male involvement in PMTCT

In order to investigate male partners involvement in PMTCT a series of six questions were used which identifies their involvement in mothers ANC visit. Partners who performed more than four from the listed questions were considered as they are involved in PMTCT.

From the total(393) respondents 226(57.5%) of them knew their wife's ANC appointment date, 154(39.2%) of them discuss with their wife about counseling and testing for HIV, 272(69.2%) were gone together with your wife to an ANC/PMTCT clinic, 191(48.6%) were counseled and tested for HIV together with their wife, 347(88.3%) of them supported their wife's antenatal visits financially and 31% of male partners were willing to use condoms during the time of their wife's pregnancy.

From the total male partners who were included in the survey 206 (52.4%) [95% CI (47.6-56.7)] were involved in PMTCT of HIV

Male individual factors

We can see that 151(38.4%) male partners had fears of disclosure of their HIV status to their wife, and almost half of the respondents wants to know what goes on ANC services, also 196(49.4%) of them was also went to ANC with their wife and 154(39.2%) of respondents does not know their HIV zero status.

Socio cultural factors

In order to assess socio cultural factors a series of questions with a response in likert scale was forwarded to respondents the questions were separated in three sections: Cultural beliefs related items to PMTCT services, Males' Opinion related items to PMTCT services and Communication and gender role related items to PMTCT services. Then the mean score of the responses was used to label the sociocultural barriers as "high barrier" and "low barrier".

It was found that more than 60% of respondents agree that a pregnant woman with HIV positive result was considered unfaithful and majority of respondents agrees that they or other relative or family members should not follow their wife to ANC clinic.

Regarding male opinion in relation to PMTCT, majority of respondents agree that the HIV status of their partner does not represent their HIV zero-status. Nearly 70% of respondents agree in the opinion that, it is better to live with unknown HIV status than live depressed with positive HIV status known.

Regarding Gender role in PMTCT service, more than 75% of respondents do not agree on sharing their health problem to their wife. Similarly, 90% of partner's decisions on the health of the family are not decided through discussion.

The overall of socio-cultural barriers, based on the ten questions that measure the male cultural beliefs, opinion and gender role in PMTCT of HIV service were constructed using a likert scale of five categories. The sum scores of socio-cultural barriers ranges from 17 to 48 with a total mean score of 32.2 ($\pm$ SD 4.8).

Respondents who scored less than the total mean score are categorized as with "high sociocultural barrier" and vice versa. Accordingly, 203(51.7%) of male partners were categorized as they had high socio-cultural barriers.

Knowledge factors

A series question comprising basic ideas of PMTCT and ANC services was administered to assess the knowledge of the respondents.

Ten questions were used to assess the knowledge of participants on PMTCT. More than, sixty percent of respondents have ever heard about PMTCT program. Fifty percent of study participants knew that PMTCT services offered in all public

health facilities. Similarly, fifty percent of male partners knew that HIV counseling and testing is provided to both spouses. In terms of HIV transmission 186 (47.3%) of study participants knew that HIV could be transmitted during labor and delivery, forty two percent of them knew that HIV could be transmitted during breast feeding and 160 (40.7%) during pregnancy. Regarding ANC knowledge more than ninety percent of males have ever heard about ANC service. Nearly three fourth of study participants knew the appropriate time to start the first ANC visit. More than seventy five percent of respondents knew the danger signs of pregnancy. Similarly, nearly eighty percent of respondents thought ANC follow up is useful for birth preparedness. The overall PMTCT knowledge of male partners was measured by the total number of the correct answer to 10 items on knowledge with a minimum score of 1 and a maximum of 10. Nearly seventy percent of male partners had good knowledge and scored 60% and above for PMTCT related questions. The overall ANC knowledge of male partners was calculated by summing up seven ANC assessment tools and calculating the mean value. The calculated mean score was 4.42. Then, those respondents scored above the mean value were leveled as having good knowledge about ANC. Almost three-fourth, 291(74%) of the male partners had good knowledge.

Service related factors

Health service related factors among the variables which are studied in the current study. Distance to health facility, health seeking behavior, attitude of health professionals which is perceived by the clients, availability of services which involves men and service waiting time perceived by the respondents are some of the variables which are studied.

More than 181(46%) of respondents walks more than 1 hour to get to the nearby health facility and nearly all 387(98.5%) respondents have got some service from the nearby facility. And 222(56.4%) of respondents had perceived well on the attitude of health professionals towards the clients, and 50(12.7%) of respondents felt normal on and 121(30.8%) of respondents felt badly on the attitude of health professionals.

Factors affecting male partner's involvement in PMTCT

Multivariable analysis was performed to see the association of variables with Male involvement in PMTCT of HIV, and some of these variables were found to be associated with male involving in PMTCT. The variables which were entered in multivariable analysis are the variables which were candidates and showed less than 0.25 p values in binary logistic regression.

From the variables which were entered to multivariate analysis knowledge on PMTC, duration of relationship, educational status of male partners, attitude of health professionals and knowledge on ANC were significantly associated with male involvement in PMTCT.

Discussion

The main aim of the study was to investigate the prevalence of male partners' involvement in PMTCT of HIV and associated factors, in East Badawacho Woreda, Hadiya Zone, and SNNPR. The prevalence of male involvement was 52.4% [95% CI (47.6-56.7)]. Good knowledge on PMTCT and ANC, duration of relationship for 11 to 20 years, attending primary and secondary education, and bad attitude of health professionals were factors significantly associated with male involvement in PMTCT of HIV.

Level of male involvement was assessed based on a series of questions which are related with partners' involvement on their wife ANC visit. Based on this questions it was found that 52.4% of partners were involved in PMTCT service. This result is consistent with the results of the study which is conducted in Arbaminch Zuria woreda with 53% male involvement (26). This similarity could be due to that both studies used the same type and number of questions to identify the level of male involvement and both studies are also conducted in rural setting. In contrary, from the study which was conducted in Addis Ababa (25) it has been found that only 28% of males had a high involvement in PMTCT service, which is inconsistent and lower than the current study and this inconsistency may be attributed to that the study is conducted in urban setting while the current study is conducted in rural setting.

From the study it was found that partners who completed primary education are 2.8 times more likely to involve in PMTCT service than those partners with no formal education. Similarly, the odds of involving in PMTCT program were 6 times higher in male partners who completed secondary education than those partners with no formal education. This is in-line with the fact that people that are more knowledgeable could take care of HIV infection, as they easily understood both the transmission and prevention methods. This result is consistent with the study conducted in Arbaminch. Similar studies in Uganda and Lemo district have found that education level is an important determinant of participation in PMTCT services. It is also obvious that formal education creates exposure to different communication Medias like newspapers, radio and television where information about PMTCT could be found. This result also indicated that formal education has impact on male partner involvement in PMTCT services; therefore, more effort should be made to increase awareness to low educated individuals about PMTCT services to increase PMTCT uptake in the study area.

Conclusion and Recommendation

The prevalence of male partner's involvement in PMTCT of HIV was low in East Badawacho, Hadiya zone, SNNPR and this low male attendance at ANC with partners represents missed opportunities for the uptake and support of PMTCT interventions towards virtual elimination of new HIV infections among children. Though, the result found from the current study is higher compared with other similar studies in different areas, the finding of this study indicates that male involvement is still an important major problem in prevention of HIV in the study area.

Good knowledge on PMTCT and ANC, duration of relationship for 11 to 20 years, attending primary and secondary education, and bad attitude of health professionals were found to be associated with male involvement in PMTCT of HIV service.

Socio-demographic determinants underlined the need for targeted interventions to support increased male participation among men particularly with lower educational level and who are with poor knowledge on ANC and PMTCT programs; interventions on HWs behavior and attitude should also be strengthened.

Acknowledgement

I am most grateful to my advisors, Dr. Hussen Mekonnen and Mr. Zeleke Dutamo for their unreserved assistance, timely comments and pertinent guidance from the very beginning of the proposal development to final accomplishment of the research .Without their support this research would not have been accomplished.

I would also like to extend my thanks to Wachemo University College of Health science and medicine, School of Public Health for providing me this opportunity.

Furthermore, I would like to forward my great thank to all data collection facilitators, supervisors, HEWs and study participants who were involved in this study.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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