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# Belief about HIV/AIDS Transmission and Prevention among Pregnant Women in Felege Hiwot Hospital, Northwest Ethiopia

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## Abstract

Human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS) are global health problems. Since AIDS is not only a vital medical problem, but also a socioeconomic complication, increasing people's knowledge and replacing their fatalistic belief by a non-fatalistic belief is important to decrease prevalence of the problems. The objective of the study is to examine beliefs about HIV/AIDS of pregnant women and to study the relationship between their belief and HIV/AIDS prevention behaviors. A cross-sectional structured and semi-structured interview with mixed method approach based survey was used. Convenience sampling technique was used to select study participants. Data was analyzed using SPSS V.15. Our result demonstrated that, out of 422 respondents 336 (79.6%) and 86 (20.4%) had a non-fatalistic and a fatalistic belief, respectively. Majority of the respondents 407 (96.4%) believe that HIV can be transmitted from mother to child and small proportion 15 (3.6%) don't believe the transmission of HIV from mother to child. The findings showed that 20% of the women were fatalistic and that their beliefs about AIDS may affect prevention behaviors. Fatalistic believe is one of the factors influencing HIV/AIDS prevention behaviors, but it is a vital factor for health professionals to consider when developing future HIV/AIDS prevention strategies among fatalistic people.

**Keywords**: Fatalism; HIV/AIDS; Belief; Pregnant women; Felege Hiwot hospital

## Introduction

Globally, an estimated 35.3 (32.2–38.8) million people were living with HIV in 2012. There were 2.3 (1.9–2.7) million new HIV infections globally, showing a 33% decline in the number of new infections from 3.4 (3.1–3.7) million in 2001. At the same time the number of AIDS deaths is also declining with 1.6 (1.4–1.9) million AIDS deaths in 2012, down from 2.3 (2.1–2.6) million in 2005 [1].

Ethiopia has utilized ANC-based HIV sentinel surveillance since 1989. ANC-based sentinel HIV surveillance sites have increased from one urban site in 1989 to 144 sites in 2009 with increasing rural representation and data quality. The national unadjusted HIV prevalence among pregnant women attending ANC clinics in 2009 was 3.0% (urban 5.3% and rural 1.9 %). In some towns of the country like Bahir Dar, this figure was as high as 13.1% [2].

Mother-to-child (MTC) transmission is a major route of HIV infection among children throughout the world, and these infected children are likely to die before their teens [3]. Mother-to-child HIV transmission is preventable. If infected expectant mothers could be identified and treated early, their chances of giving birth to an infected baby would be greatly reduced. Since 1994, studies have shown that antiretroviral therapy can reduce mother-to-child HIV transmission effectively [4]. If antiretroviral therapy is used, combined with Caesarean section delivery and avoidance of breastfeeding, the chances of passing on HIV infection to babies can be cut down to one-fourth of the expected transmission rate [5].

Antenatal screening is the most direct and effective way on identifying HIV-infected women and prevention of mother to child transmission of the infection. If women at risk of HIV infection are to be identified, policies on antenatal screening should be acceptable to them. Public health efforts to protect women and their offspring from HIV infection and to design appropriate health policy and screening services for this vulnerable population, requires an understanding of women's knowledge of HIV, their perceptions of risk, risk behaviour and management, as well as their beliefs towards HIV prevention [6].

Fatalism is the belief that everything in a person's life is subject to a superior power or being, or to external forces such as luck, fate, or God. This power or being predetermines the course of person's life, including conditions such as gender, length of life, and level of wealth. In Ethiopian cultures, many people think that a variety of forces cause diseases, including God's disfavor, the interplay of mediating spirits, or the breaking of cultural taboos and customs. Often, people do not believe that a disease might be primarily caused by a microorganism. If people see no connection between a behavior and its consequences, they might dismiss the idea of prevention. In the case of HIV, the outcome is catastrophic. A fatalistic attitude affects behaviors through a passive resignation to life's events, and this is a barrier to preventing AIDS [7].

In Ethiopia and other African countries, the erroneous beliefs about AIDS and gaps in AIDS knowledge among pregnant women that have been identified need to be better understood if programs to address them are to be developed. To effectively shut down the rapid spread of HIV/AIDS, it is vital that pregnant women need to correct their beliefs, know about the reality of the virus like mother-to-child transmission of HIV/AIDS and learn how to break the transmission bridge between mother and child. So, the study is designed to identify those aspects of fatalistic beliefs that are most prevalent and most likely to affect HIV prevention efforts.

## Methods and Materials

Institutional based descriptive cross sectional study was conducted in Bahir Dar Felege Hiwot hospital, Northwest Ethiopia, antenatal care clinic

from April 15 to May 30, 2010. The study population is all clients who were attend antenatal care clinic in the study hospital at the time of data collection and met the inclusion criteria such as non-psychiatric diagnosis and able to communicate well were included in the study population.

Sample size was determined by using single population proportion formula [8]. A total of 422 (with 10% contingency) subjects were enrolled and a convenience sampling technique was used to select the subjects. For the quantitative part, the data was collected by using a structured questionnaire, which was adopted by the principal investigator from different articles pertaining belief about HIV/AIDS. For the qualitative data, a semi-structured or open ended interview questionnaire was employed. The purpose of semi-structured interview was to obtain in-depth information on beliefs about HIV/AIDS transmission and prevention. The semi-structured interview was conducted until the information gets saturated.

All returned questionnaire were checked for completeness and consistency of responses manually. Then data were coded and entered in to Statistical Package for Social Science version 15 (SPSS v. 15) for analysis. Appropriate descriptive and analytical test were used to determine statistical significance association between the dependent and independent variables. For qualitative part thematic content analysis approach were used.

The dependent variable of the study was belief about HIV/AIDS transmission and prevention, whereas the independent variables are age, sex, marital status, religion, ethnicity, educational status, economic status, occupational status and prevention behaviors. Belief was categorized in to fatalistic and non-fatalistic. Women who answer by saying 'yes' for at least four (arbitrary cutoff points) of the questions assessing belief were considered to have fatalistic belief and those who answer by saying 'yes' for at most three of the questions assessing belief were considered to have non fatalistic belief.

The proposal of the research was reviewed by the school of Nursing and Faculty of Medicine institutional review board. Based on the objective of the study an official letter were send from Addis Ababa University Medical Faculty School of nursing to Felege Hiwot hospital. Permission to proceed the study was obtained from Felege-Hiwot hospital to antenatal care clinic prior to data collection. The survey questionnaire was anonymous that interview was conducted in private settings to maintain privacy of the respondents. Verbal consent was obtained by explaining the purpose of the study from each respondent and confidentiality was maintained by omitting their name. The instrument and procedures that was used in this study did not cause any harm to the study subjects, data collectors and supervisors who were involved in the survey.

## Results

### Socio- demographic characteristics

A total of 422 (100%) women which were pregnant and attending their follow up in Felege-Hiwot referral hospital were included in the study. One hundred eighty nine (44.8%) participants were in age group from 15 to 25 years, 217 (51.4%) were in age group from 26 to 35, and 16 (3.8%) were greater than 35 years of age. Regarding marital status 412 (97.6%) of the respondents were married and 10 (2.4%) were single. Educational status of the respondents showed that, 83 (19.7%) were illiterate, 100 (23.7%) were between grade 1-8 and 239(56.6%) of the respondents were grade 9 and above. There was a significant association between fatalistic belief of women and the explanatory variables: educational status (P=0.000), marital status (P=0.050), occupation (P=0.000) and income (P=0.001) (Table 1).

### Beliefs about HIV/AIDS

Out of 422 respondents 336 (79.6%) and 86 (20.4%) had a non-fatalistic and a fatalistic belief, respectively (Figure 1).

### Prevention indicators

Husbands of 62 (14.7%) respondents have other partners and husbands of 299 (70.9%) respondents don't have other sex partners. Out of 422 woman 415 (98.3%) are faithful to spouses and 7 (1.7%) are not faithful. Three hundred and ninety seven (94.1%) woman had examined for HIV and 25 (5.9%) didn't examined. By descriptive statistics for chi-square test; examined for HIV (P=0.024) and husband has other partner (P=0.010) were found to be significantly associated with respondents fatalistic belief (Table 2).

| Variables | | Frequency | Percent | $\chi^2$ value and level of significance | P-value |
|---|---|---|---|---|---|
| **Age** | 15-25<br>26 - 35<br>>35 | 189<br>217<br>16 | 44.8<br>51.4<br>3.8 | 3.010 | 0.222 |
| **Ethnicity** | Amhara | 413 | 97.9 | 1.245 | 0.264 |
| | Others | 9 | 2.1 | | |
| **Religion** | Orthodox | 370 | 87.7 | 4.829 | 0.089 |
| | Muslim | 31 | 7.3 | | |
| | Others | 21 | 5.0 | | |
| **Educational status** | Illiterate | 83 | 19.7 | 28.226** | 0.000 |
| | Grade 1-8 | 100 | 23.7 | | |
| | Grade 9 and above | 239 | 56.6 | | |
| **Marital status** | Single | 10 | 2.4 | 3.827** | 0.050 |
| | Married | 412 | 97.6 | | |
| **occupation** | Working woman | 181 | 42.9 | 12.340** | 0.000 |
| | House wife | 241 | 57.1 | | |
| **Income per month birr** | No income | 238 | 56.4 | 13.639** | 0.001 |
| | < 1000 | 111 | 26.3 | | |
| | 1000 and above | 73 | 17.3 | | |

**Table 1:** Socio-demographic characteristic of pregnant women in Felege Hiwot hospital, Bahir Dar: 2010 (n=422)
**Note:** **significant at 0.05 level

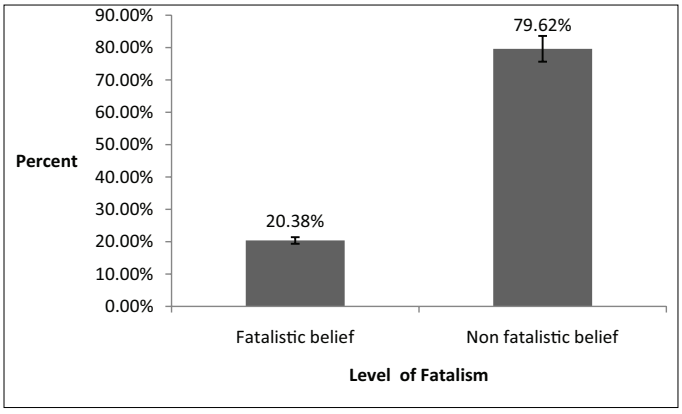


**Figure 1:** Occurrence of level of belief in pregnant woman in Felege Hiwot hospital, Bahir Dar: 2010 (n=422)

| Questions assessing prevention behaviors | Frequency count (%) | | | $\chi^2$-value and level of significance | P-value |
|---|---|---|---|---|---|
| | Yes | No | Not known | | |
| Attended HIV/AIDS education. | 235 (55.7) | 187 (44.3) | - | 1.141 | 0.258 |
| Examined for HIV | 397 (94.1) | 25 (5.9) | - | 5.085** | 0.024 |
| Would disclose HIV status if knew | 391 (92.7) | 31 (7.3) | - | 2.173 | 0.140 |
| Woman faithful to spouses | 415 (98.3) | 7 (1.7) | - | 0.000 | 1.000 |
| Husband has other partners | 62 (14.7) | 299 (70.9) | 61 (14.5) | 9.143** | 0.010 |
| Not married and uses condoms | 2 (0.5) | 420 (99.5) | - | 0.026 | 0.871 |
| Married and husband uses condom | 41 (9.7) | 381 (90.3) | - | 1.358 | 0.244 |

**Table 2:** Frequency of prevention indicators among pregnant woman in Felege Hiwot hospital, Bahir Dar: 2010 (n=422)
Note: **significance at 0.05 level

### Transmission perception assessment

Majority of the respondents 407 (96.4%) believe that HIV can be transmitted from mother to child and small proportion 15 (3.6%) don't believe the transmission of HIV from mother to child. Four hundred and twenty respondents believe that having sex with a person who has HIV can transmit the virus and 2 (0.5%) don't believe the transmission of the virus by having sex with a person who has HIV. Transmission belief variables such as HIV can be transmitted from mother to child (P=0.025), kissing with exchange of saliva with a person who has HIV/AIDS can transmit HIV (P=0.050), mosquitoes or other insects bite can transmit HIV (P=0.000), sharing plates, forks or glasses with someone who has HIV/AIDS can transmit HIV (P=0.011), eating in a restaurant where the cook has HIV/AIDS can transmit HIV (P=0.045), coughing or sneezing on by someone who has HIV/AIDS can transmit HIV (P=0.004) and using public toilets can transmit HIV (P=0.001) were also found to be significantly associated with women's fatalistic belief (Table 3).

### Association between socio-demographic characteristics, prevention indicators, transmission belief and level of fatalistic belief: logistic regression analysis

The logistic regression analysis identified the most important explanatory variables of fatalistic belief in pregnant women. In this model, educational status, marital status, husband has other partners, receiving blood transfusion from a person who has HIV/AIDS can transmit HIV, shaking hands with or touching someone who has HIV/AIDS can transmit HIV, coughing or sneezing on by someone who has HIV/AIDS can transmit HIV and eating in a restaurant where the cook has HIV/AIDS can transmit HIV were found to be determinants of pregnant women fatalistic belief. Being married pregnant women were also preventive when compared with pregnant women who were single. Pregnant women who said that receiving blood transfusion from a person who has HIV/AIDS can't transmit HIV were 24 times more likely to be fatalist than women who said that receiving blood transfusion from a person who has HIV/AIDS can transmit HIV (Table 4).

### Qualitative part

Content analysis of the transcript revealed three main themes which are the result of in depth interview on the study topic by pregnant women. The three main themes were belief about HIV/AIDS, belief about transmission and belief about prevention indicators.

| Questions assessing transmission belief | Frequency count (%) | | $\chi^2$-value and level of significance | P-value |
|---|---|---|---|---|
| | Yes | No | | |
| HIV can be transmitted from mother to child | 407 (96.4) | 15 (3.6) | 5.050** | 0.025 |
| Having sex with a person who has HIV can transmit HIV | 420 (99.5) | 2 (0.5) | 0.000 | 1.000 |
| Sharing needles for drug use with someone who has HIV/AIDS can transmit HIV | 416 (98.6) | 6 (1.4) | 0.544 | 0.461 |
| Receiving blood transfusion from a person who has HIV/AIDS can transmit HIV | 413 (97.9) | 9 (2.1) | 1.942 | 0.163 |
| Shaking hands with or touching someone who has HIV/AIDS can transmit HIV | 8 (1.9) | 414 (98.1) | 0.000 | 1.000 |
| Kissing on the cheek a person who has HIV/AIDS can transmit HIV | 15 (3.6) | 407 (96.4) | 0.887 | 0.346 |
| Kissing with exchange of saliva with a person who has HIV/AIDS can transmit HIV | 208 (49.3) | 214 (50.7) | 3.844** | 0.050 |
| Mosquitoes or other insects bite can transmit HIV | 210 (49.8) | 212 (50.2) | 12.630** | 0.000 |
| Sharing plates, forks or glasses with someone who has HIV/AIDS can transmit HIV | 37 (8.8) | 385 (91.2) | 6.485** | 0.011 |
| Using public toilets can transmit HIV | 42 (10) | 380 (90.0) | 10.275** | 0.001 |
| Coughing or sneezing on by someone who has HIV/AIDS can transmit HIV | 38 (9) | 384 (91.0) | 8.135** | 0.004 |
| Eating in a restaurant where the cook has HIV/AIDS can transmit HIV | 38 (9) | 384 (91.0) | 4.031** | 0.045 |

**Table 3:** Frequency of variables assessing transmission belief among pregnant woman in Felege Hiwot hospital, Bahir Dar: 2010 (n=422)
Note: **significance at 0.05 level

### Belief about HIV/AIDS

Most of the women were aware that AIDS is a serious health problem and kills people when they acquire the disease. Among these one of the woman expressed as "I fear HIV/AIDS because I saw a lot of individuals died by the disease". They also mentioned that AIDS was a deadly and/or incurable disease by mentioning "AIDS is a dangerous disease which does not have a cure. Some respondents believe that AIDS should be considered like other disease so one can live with the disease by taking antiviral drugs. Fifteen persons explicitly discussed that AIDS is God's punishment. As one woman said, "AIDS is transmitted through virus and individuals acquire the disease because they don't bring behavioral change in their life time and due to lack of care. Eight women expressed a sense of despair or hopelessness about AIDS and they believe that sinners are those who are highly affected by the disease. Few women said that "men have more than one sexual partner because they believe that AIDS doesn't exist. Two women believe that the disease occurs when there is lack of strength in spiritual aspects and due to emotions.

### AIDS transmission indicators

Large proportion of women believes in the contagiousness of AIDS

| Variables | | Frequency | Respondents with fatalistic belief (count & %) | Crude OR (95% CI) | Adjusted OR (95% CI) |
|---|---|---|---|---|---|
| **Educational status** | Illiterate (ref.) | 83 | 28 (33.7) | 1 | 1 |
| | Grade 1-8 | 100 | 31 (31.0) | 0.883 (0.474, 1.643) | 0.895 (0.409, 1.958) |
| | Grade 9 & above | 239 | 27 (11.3) | 0.250 (0.136, 0.459)** | 0.311 (0.128, 0.755)** |
| **Marital status** | Single (ref.) | 10 | 5 (50.0) | 1 | 1 |
| | Married | 412 | 81 (19.7) | 0.245 (0.069, 0.865)** | 0.010 (0.000, 0.256)** |
| **Occupation** | Working woman (ref) | 181 | 22 (12.2) | 1 | 1 |
| | House wife | 241 | 64 (26.6) | 0.383 (0.225, 0.650)** | 1.787 (0.242, 13.220) |
| **Income** | No income (ref) | 238 | 63 (26.5) | 1 | 1 |
| | <1000 birr | 111 | 11 (9.9) | 0.306 (0.154, 0.607)** | 0.799 (0.103, 6.168) |
| | 1000 and above | 73 | 12 (16.4) | 0.546 (0.276, 1.081) | 1.839 (0.226, 14.979) |
| **Examined for HIV.** | Yes (ref) | 397 | 76 (19.1) | 1 | 1 |
| | No | 25 | 10 (40) | 2.816 (1.218, 6.511)** | 0.539 (0.026, 10.950) |
| **Husband has other partners.** | Yes (ref) | 62 | 20 (32.3) | 1 | 1 |
| | No | 299 | 50 (16.7) | 0.422 (0.228, 0.778)** | 0.288 (0.129, 0.645)** |
| **HIV can be transmitted from mother to child.** | Yes (ref) | 407 | 79 (19.4) | 1 | 1 |
| | No | 15 | 7 (46.7) | 3.633 (1.279, 10.316)** | 2.931 (0.449, 19.119) |
| **Receiving blood transfusion from a person who has HIV/ AIDS can transmit HIV.** | Yes (ref) | 413 | 82 (19.9) | 1 | 1 |
| | No | 9 | 4 (44.4) | 0.3.229 (0.848, 12.294) | 24.978 (1.508,413.623)** |
| **shaking hands with or touching someone who has HIV/AIDS can transmit HIV** | Yes (ref) | 8 | 2 (25) | 1 | 1 |
| | No | 414 | 84 (20.3) | 0.764 (0.151, 3.852) | 144.778 (3.299, 6352)** |
| **Kissing with exchange of saliva with a person who has HIV/ AIDS can transmit HIV.** | Yes (ref) | 208 | 51 (24.5) | 1 | 1 |
| | No | 214 | 35 (16.4) | 0.602 (0.372, 0.973)** | 0.704 (0.388,1.277) |
| **Mosquitoes or other insects bite can transmit HIV.** | Yes (ref) | 210 | 58 (27.6) | 1 | 1 |
| | No | 212 | 28 (13.2) | 0.399 (0.242, 0.657)** | 0.626 (0.316, 1.238) |
| **Sharing plates, forks or glasses with someone who has HIV/ AIDS can transmit HIV.** | Yes (ref) | 37 | 14 (37.8) | 1 | 1 |
| | No | 385 | 72 (18.7) | 0.378 (0.185, 0.770)** | 1.554 (0.502, 4.815) |
| **Using public toilets can transmit HIV.** | Yes (ref) | 42 | 17 (40.5) | 1 | 1 |
| | No | 380 | 69 (18.2) | 0.326 (0.167, 0.637)** | 0.446 (0.176, 1.130) |
| **Coughing or sneezing on by someone who has HIV/AIDS can transmit HIV.** | Yes (ref) | 38 | 15 (39.5) | 1 | 1 |
| | No | 384 | 71 (18.5) | 0.348 (0.173, 0.700)** | 0.431 (0.153, 1.216) |
| **Eating in a restaurant where the cook has HIV/AIDS can transmit HIV.** | Yes (ref) | 38 | 13 (34.2) | 1 | 1 |
| | No | 384 | 73 (19) | 0.451 (0.220, 0.925)** | 1.271 (0.412, 3.918) |

**Table 4:** Association between selected socio-demographic characteristics, prevention indicators, and transmission belief with fatalistic belief among pregnant woman in Felege Hiwot hospital, Bahir Dar: 2010 (n=422)

Note: **significant at 0.05 level, (Ref.) indicate the reference category of the variable; confidence intervals of the odds ratio are indicated in brackets.

and had extensive knowledge about HIV transmission, correctly citing sexual transmission and at least one other mode of transmission and not mentioning any incorrect ones. The disease also transmitted by blood transfusion. As one educated woman replied, "HIV/AIDS can be transmitted through blood transfusions". The transmission of the disease through sharing of sharp substances like blade and knife, through unsafe sex/without using condoms and due to lack of awareness on the mode of transmission are mention by significant amount of women. As one woman with only primary school education said, "People contract AIDS through sexual intercourse. I do not know any other ways a person can contract AIDS". One woman strictly address the transmission of HIV/ AIDS through not adhering the three methods of preventing the disease so called using condom, abstinence and adhering to one sexual partner. Twenty women expressed some of our traditional cultures like tooth extraction in children and circumcision are the other ways by which AIDS is transmitted. Majority of the women know the transmission of HIV/AIDS through mother to child as one of the woman said "I had learned the transmission of HIV from mother to child during a session organized in our town". Very few women have incorrect beliefs about AIDS transmission. Some of the beliefs reflected by these women include: AIDS is transmitted through swimming together, through dancing in bar with individuals with the virus and through eating together.

## Knowledge of preventive measures

Using condom, abstinence and adhering to a single sexual partner are well known preventive measures by majority of the respondents. Seven specifically mentioned abstinence. As one woman put it, "They are advised to abstain; condoms will not help." And some women pointed out that condoms can prevent AIDS only if they are used effectively. The women had a high level of awareness of preventing mother to child transmission of HIV. Majority of them believe that taking drugs, proper education and care during pregnancy can prevent the disease as two of them replied "taking antiviral drugs during delivery prevents the transmission of the disease from mother to child". Thirty respondents said "one has to deliver in health institutions because health professionals will take care on the transmission of the virus". They believe also avoiding breast milk can prevent the transmission of the virus from mother to child.

## Discussion

The government's efforts to change behavior through information, education, and communication have focused mainly on involving non-governmental agencies in training, support, outreach, and on preparing materials for the mass media. These efforts appear to be having an impact. Out of 422 (100%) respondents, 20.4% respondents had fatalistic belief about HIV/AIDS and 79.6% respondents believed non-fatalistically women who are grade 9 and above had a non-fatalistic belief than illiterate people. When educational status increases belief about HIV/AIDS becomes non fatalistic [9]. Exposing for education was preventive for believing fatalistically. Formal education may make people feel more in control of their lives because of the knowledge they have gained or from exposure to different ways of thinking and behaving. This finding is in agreement with the study conducted in Mali on fatalism and HIV/AIDS beliefs in Rural Mali [10].

The belief that curses can be the cause of incurable diseases is common in traditional African culture. The finding was that 12% attributed AIDS to a curse, comparable to 11% of Blacks in a township in Cape Town, South Africa [11]. Those who believed AIDS was a curse had a higher fatalistic belief proportion. Their beliefs might be similar to the bad-luck belief of farmers in Zimbabwe, East Africa [12]. Over half of the participants did believe moral people should talk about AIDS, confirming the strength of the education given to resolve mistaken beliefs on discussion of sexual topics. This finding is in contrary with the study done in rural Mali in which over half of the participants did not believe moral people should talk about AIDS, confirming the strength of the taboo on discussion of sexual topics and this taboo has serious implications for AIDS prevention [10].

The result concerning belief about transmission and prevention showed that few prevention and transmission indicators were significantly related to the fatalistic belief. With respect to HIV transmission, respondents were almost unanimous in stating that a person is somewhat or very likely to contract the virus from mother to child, having sex, sharing needles during drug use or blood transfusion with a person having AIDS. Despite these realistic views, however, a substantial number of respondents indicated that they believed it somewhat that a person would contract HIV from French kissing or from mosquitoes and insects which was in line with previous studies done on pregnant women in Iraq [13] and Kazakhstan [14]. Majority of participants didn't believe transmission by casual contact as eating in a restaurant where that cook has AIDS, being coughed or sneezed on or sharing eating and drinking utensils with someone having AIDS, using public toilets and kissing on the cheek or shaking hands.

The results from qualitative study raveled that majority of the women had non fatalistic belief and some had fatalistic belief. The reported high non-fatalistic belief in regard to HIV/AIDS appears to be due to the availability of well-publicized information on the transmission and prevention of the disease. The fact that people have started to talk more openly about these diseases in recent years, even though in euphemistic terms, follows a general trend from silence to greater disclosure. Such increased openness provides greater opportunities for implementing programs aimed at reducing stigma and discrimination.

Those participants with fatalistic belief believed AIDS was a punishment from God, they putting it in the context of a consequence of breaking God's law. This opinion might be linked with their fatalistic belief if AIDS was seen as a type of retribution [15].

The finding that pregnant women in general are aware of the routes of transmission of the disease like sexual intercourse without a condom, sharing needles while injecting drugs and mother to child transmission is in agreement with previous study done in Kazakhstan [14] and in Ghana [16], and might not be so surprising since media focus on these main routes in their information to the public.

There were more difficulties in excluding incorrect routes of transmission. The misconception about mosquitoes as a transmission route has also been seen in other similar studies conducted in rural southern India [17] and might not be very surprising, since HIV is a blood-borne disease. Very few pregnant women in our study, like the women in a study conducted in the province Yunnan, China [18] believe daily domestic contacts such as eating from the same plates and cups, shaking hands with someone who has HIV/AIDS as possible routes of transmission. Nicoll A, *et al.* [19] argued that many incorrect beliefs about AIDS meet psychological needs, including providing a rationale for not changing behaviors that cannot be easily altered.

The women also interviewed for the modes of preventing HIV/AIDS and high proportion of the women was adequate knowledge on the prevention of mother to child transmission. This result is in contrary with the study done in Semey, Kazakhstan and Pune, India in which the women had limited knowledge on prevention of mother to child transmission [14,20] but our result is in agreement with the study done on Hong Kong women [7]. The reason for high knowledge on the prevention of mother to child transmission of HIV/AIDS could be due to great concern about AIDS and a high level of trust in mass media messages, especially government-sponsored radio broadcasts about AIDS.

In summary, the findings showed that 20% of the women were fatalistic and that their beliefs about AIDS may affect prevention behaviors. Fatalistic believe is one of the factors influencing HIV/AIDS prevention behaviors, but it is a vital factor for health professionals to consider when developing future HIV/AIDS prevention strategies among fatalistic people. It is critical that programs targeted to women at risk for physical or mental abuse address issues of HIV/AIDS risk reduction and effective behavior change. Besides health educators should tailor education programs for women at risk, particularly those at lower education levels, to enhance their knowledge about HIV transmission from mother to child, and to promote their awareness of safe sex to overcome fatalistic beliefs.

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