



Original Article

Awareness and Knowledge of Human Immunodeficiency Virus Transmission and Prevention from Mother to Child: A Cross-Sectional Study among Female Sex Workers

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ARTICLE INFO

Key Words:

HIV/ AIDS, Female Sex workers (FSW), Mother to child Transmission (MTC), Awareness, Prevention, Knowledge

How to Cite:

John, A. ., & Faridi, T. A. . (2022). Awareness and Knowledge of Human Immunodeficiency Virus Transmission and Prevention from Mother to Child: A Cross-Sectional Study among Female Sex Workers: HIV Transmission and Prevention from Mother to Child. *Pakistan BioMedical Journal*, 5(5). <https://doi.org/10.54393/pbmj.v5i5.422>

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Received Date: 29th April, 2022
Acceptance Date: 24th May, 2022
Published Date: 31st May, 2022

ABSTRACT

Human Immunodeficiency Virus (HIV) can be transferred during pregnancy from the infected mother to the fetus through the placenta or to her infant during delivery or breastfeeding. **Objective:** To evaluate awareness and understanding of HIV transmission and prevention from mother to child among female sex workers having and expecting pregnancy. **Methods:** It is a cross-sectional survey conducted in three cities: Lahore, Faisalabad and Islamabad, Pakistan. A sample size of 150 was considered as per convenience and collected using the snowball sampling technique. The data was collected using a specially designed questionnaire which was pilot tested by 10 health experts. The female sex workers of fertile age group 15-49 years who were pregnant or expecting pregnancy in the future were included. The female sex worker who was infertile or was on birth control was excluded from the study. Data were analysed with the help of the SPSS version 22. **Results:** The minimum and maximum age of female sex workers was 15 and 49 years respectively, with a mean age of 31.7±7.76 years. The female sex workers responded that 63(42%) know the mother-to-child transmission while the majority 87(58%) do not know that HIV infected mothers can transmit HIV to their children. The responses regarding mother-to-child transmission show that 61(21.3%) know about the trans-placental route, 100(35%) vaginal delivery, 58(20.3%) cesarean section, and 25(8.7%) breastfeeding. The response regarding the prevention of HIV from mother to a child shows that only 59(25.8%) prefer cesarean section, 29(12.7%) prefer no breastfeeding and very few 21(9.2%) prefer the use of antiretroviral therapies among infected women and children. **Conclusions:** In conclusion, the female sex workers were unaware of the prevention of HIV from breastfeeding and vaginal delivery. Moreover, they were unaware of precautions such as cesarean section and the usage of anti-retroviral therapies for infected mothers before delivery.

INTRODUCTION

The human immunodeficiency virus (HIV) causes acquired immunodeficiency syndrome (AIDS). AIDS is a life-threatening disease caused by a deterioration of the immune system [1]. Infected patients present with sweats, recurring fever, chronic diarrhea, weakness, persistent white spots on the tongue, and unusual lesions in the mouth [2]. The transmission of HIV is facilitated by sexually transmitted diseases (STDs) and the probability increased by 8-10 times [3,4]. In STDs, ulcers are produced in the perineal or vaginal area of an uninfected partner and this increases the spread quickly [5,6]. Injection drug users

(IDUs), commercial sex workers, young heterosexuals, homosexuals (transgender) (sexual minorities), bisexual males(gay), and infected mothers are spreading AIDS [7,8]. In 2010, over 34 million people worldwide were infected with HIV, as per the Joint United Nations Program on HIV/AIDS (UNAIDS) [9]. Among them 16.8 million were mothers and 3.4 million were kids [10]. Around 25 million individuals die just because of AIDS [11]. The estimated number is 5 million persons who become infected with HIV every year [12]. The annual incidence of HIV could reach more than a million new cases as the disease spread across

Asia's population [13]. According to World Health Organization (WHO), predicted 0.7% (37.7million) of individuals aged 15-49 years are suffering from AIDS globally [14]. In 2013, number of infected patients increased from 4500 to 24,331 according to registered persons with National AIDS Control Program (NACP) [15]. HIV is present in all body fluids including blood, tears, saliva, perspiration, vaginal fluid, and breast milk [16]. HIV is present in higher concentrations in blood, semen, and pre-ejaculate fluids and these fluids spread infection very quickly [17]. HIV can be primarily transferred by contaminated blood transfusions, mother to child, hypodermic needles, and unprotected sexual contact (anally, vaginally, or orally) [17,18]. HIV can be passed from an infected woman to her fetus through the placenta or to her neonate during delivery or breastfeeding [19]. The rate of infection transfer is 15-30% if no breastfeeding is done and 45%, if breastfeeding is prolonged [20]. Transmission of infection-causing virus accounts for 1/3rd to 2/3rd during the per-partum period of the total number of infected population and this per-partum period is specially focused on preventive efforts [21]. Pregnant women who are newly infected with HIV or who have recently suffered from AIDS are at a higher risk of infection [22-24]. Females who are infected or who are at high risk of contracting AIDS must avoid conceiving as they can pass the infection to the fetus or newborn child [19-25]. For successful control in HIV spread rate, pregnant females must understand the transmission factors of HIV from mother to child and must learn how to control this mother to child Transmission Bridge [26]. Physicians, policymakers, and public health experts must guide pregnant females infected with HIV about correct preventive measures to stop transmission from mother to child [27]. HIV-infected pregnant females are facing harsh attitudes toward society [28]. The public should be educated about AIDS and preventive guidelines through all forms of media and educational materials [29]. The elective caesarian section before commencement of labor, avoiding breastfeeding, and antiretroviral medication prophylaxis can almost ensure complete prevention of the transmission of HIV from mother to child [30,31]. The current study enables the physicians and public health care workers to develop an accurate strategy or policy for the management and prevention of the transfer of HIV from mother to child. This current study contributes to the expansion of knowledge about HIV transmission and provides helpful information to aid in the prevention of transmitting HIV from mother to baby.

METHODS

It is a cross-sectional survey conducted in three cities

(Lahore, Faisalabad and Islamabad) of Punjab, Pakistan. A sample size of 150 was considered as per convenience. The data was collected using a specially designed questionnaire which was pilot tested by 10 health experts. The female sex workers of fertile age group 15-49 years who were pregnant and expecting pregnancy in the future were included. The female sex worker who was infertile and was on birth control was excluded from the study. The data was collected using the Snowball Sampling technique for 11 months i.e. January 2021 to November 2021. The data was gathered through questionnaire distribution among female sex workers in red light areas while the majority of the female sex workers were contacted through social networking and over the telephone, the questionnaire was filled online considering their privacy and satisfaction. Data was analysed with the help of the SPSS version 22. Descriptive statistics about age were calculated and Frequencies and Percentages were mentioned as the response to the question.

RESULTS

The data from 150 female sex workers were recorded on a designed collection sheet and analysed in the form of frequency tables and bar charts. The female sex workers of fertile age group 15-49 years who were pregnant and expecting pregnancy in the future were included. The results includes the awareness and understanding of the prevention of HIV from mother to child among female sex workers. The age of female sex workers as a minimum of 15 years and a maximum of 49 years with a mean age of 31.7 ± 7.76 . Table 1 show the response of female sex workers as the majority 139(92.7%) were aware that HIV is an incurable disease while only a few 11(7.3%) does not know about HIV/AIDS. Only 63(42%) know about the mother-to-child transmission (perinatal) while the majority 87(58%) do not know that HIV infected mothers can transmit HIV to their children. The risk of getting HIV infection through unsafe sexual contact in female sex workers was asked among which 109(72.7%) agreed that female sex workers can get easily infected whereas the 41(27.3%) disagreed about its awareness and disagreed about spread from sex through females. Table 2 show the response of female sex workers regarding the route of HIV transmission in which 128(26.7%) know the unsafe sexual route, injecting drugs 101(21%), contaminated blood transfusions 91(19%), use of contaminated syringes 98(20%) and from mother to child (perinatal) as 62(12.9%). The responses were recorded on which routes from which HIV can be transferred from mother to child. 61(21.3%) know about the trans-placental route, 100(35%) vaginal delivery, 58(20.3%) cesarean section, 25(8.7%) breastfeeding, and 42(14.7%) don't know

about the routes of mother to child transmission Table 3 shows the response of female sex workers regarding the prevention of transmitting HIV from mother to child. Only 59(25.8%) prefer cesarean section, 106(46.3%) vaginal delivery, 29(12.7%) prefer no breastfeeding, very few 21(9.2%) prefer the use of antiretroviral therapies. Whereas 14(6.1%) don't know how to prevent transmission from mother to child.

Are you aware that HIV/AIDS is an incurable disease	
Valid	Frequency (%)
Yes	139 (92.7)
No	11 (7.3)
Total	150 (100)
Do you know that HIV infected mother can transmit HIV to her Children	
Yes	63 (42.0)
No	87 (58.0)
Total	150 (100)
Do you agree that female sex workers are at risk of getting and transmitting HIV	
Agree	109 (72.7)
Disagree	41 (27.3)
Total	150 (100.0)

Table 1: Questions asked from respondents

Which are route of transmission of HIV	
Valid	Frequency (%)
Unsafe sexual contact	128 (26.7)
Injecting drugs	101 (21.0)
Contaminated blood transfusions	91 (19.0)
Use of contaminated similar syringes	98 (20.4)
Mother to child	62 (12.9)
Total	480 (100.0)
Vaginal Delivery	100 (35.0)
Cesarean section	58 (20.3)
Breast feeding	25 (8.7)
Don't know	42 (14.7)
Total	286 (100.0)

Table 2: Which are the routes of transmission of HIV?

Methods of preventing transmission of HIV from mother to child	
Valid	Frequency (%)
Cesarean section	59 (25.8)
Vaginal Delivery	106 (46.3)
No Breastfeeding	29 (12.7)
Antiretroviral therapies	21 (9.2)
Don't know	14 (6.1)
Total	229 (100.0)

Table 3: Methods of preventing transmission of HIV from mother to child

DISCUSSION

The current study was conducted among 150 female sex workers. The female sex workers of fertile age group 15-49 years who were pregnant and expecting pregnancy in the

future were included. The female sex worker who was infertile and was on birth control was excluded from the study. Among some of the findings are female sex professionals' awareness and understanding of HIV prevention from mother to child. The current study shows the response of female sex workers regarding the route of HIV transmission in which 128(26.7%) know the unsafe sexual route, injecting drugs 101(21%), contaminated blood transfusions 91(19%), use contaminated syringes 98(20%) and from mother to child (perinatal) as 62(12.9%). According to a study conducted by Yang Luo in 2008, 91% of those women were conscious that HIV/AIDS can coexist with pregnancy, which was also observed in the current study. Only 64% of the respondents had heard of mother-to-child transmission, according to the current findings of 12.9%. The current study also explained the assessment of routes of other transmissions in which the responses were related to the Yang Lou in which Trans -the placental route was 85%, vaginal delivery 60%, and breastfeeding 20% were identified as routes of transmission from mother to child 20% [6]. Another study shows the percentage of pregnant women who had a thorough understanding of how to avoid HIV transmission from mother to child was 52% [28]. Similarly, in the current study, the respondent's responses regarding the route of transmission were recorded in which routes from which HIV can be transferred from mother to child. 61(21.3%) know about the trans-placental route, 100(35%) vaginal delivery, 58(20.3%) cesarean section, 25(8.7%) breastfeeding, and 42(14.7%) don't know about the routes of mother to child transmission. About 42% know about the mother-to-child transmission (perinatal) while the majority 58% do not know that HIV-infected mothers can transmit HIV to their children. Regarding the response of prevention, only 59(25.8%) prefer cesarean section, 106(46.3%) vaginal delivery, 29(12.7%) prefer no breastfeeding, very few 21(9.2%) prefer the use of antiretroviral therapies. Whereas 14(6.1%) don't know how to prevent transmission from mother to child. Similarly, a previous study by Yang Luo in 2008 shows that 55% of respondents felt a cesarean section was a channel of transmission while no one recognized that cesarean section is a technique of preventing mother-to-child transmission. The current study also explains the risk of getting HIV infection through unsafe sexual contact in female sex workers. The response was recorded from female sex workers in which 109(72.7%) agreed that female sex workers can get easily infected [6]. According to a study conducted in 2013, more than 94% of trafficked women and 78% of drug addicts were aware of the HIV/AIDS transmission route. They could claim that HIV/AIDS is spread through contaminated needles, shaving

with a razor blade and unprotected sex with HIV infected partners and that it is most common among female sex workers. Both the findings from recent and previous found that they are aware of its consequences but due to customer satisfaction and financial crisis they put their and others' lives at risk. The female sex workers and HIV-positive mother should know that during pregnancy, delivery, breast feeding, an HIV-positive woman might transfer the virus to her infant and the profession of sex work increase the risk of getting and transmitting HIV. If a sex worker wants to get pregnant, she should be tested and if pregnancy and HIV accompany the medication a combination of HIV drugs (often known as antiretroviral therapy or ART) can prevent HIV transmission to your baby while protecting women's health [31]. The current study recommends that HIV testing should be done among sex workers before and during pregnancy. HIV awareness regarding antenatal services such as safe childbirth, appropriate infant feeding, and antiretroviral therapies should be addressed among sex workers through information & awareness campaigns.

CONCLUSION

The current study concluded that the female sex workers agreed that their profession can get them easily infected by HIV. The respondents were aware of HIV transmission through unsafe sexual routes, injecting drugs, contaminated blood transfusions, and use of contaminated syringes but very few of them were aware of mother-to-child transmission. The majority of them responded with no knowledge and awareness regarding mother-to-child transmission and prevention. They were unaware to prevent HIV from breastfeeding and vaginal delivery. Moreover, they were unaware of preventive methods such as cesarean section and the usage of anti-retroviral therapies for infected mothers and children.

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