

Knowledge and Utilization of Family Planning Methods among People Living with HIV in Kathmandu Valley

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Abstract

Background: HIV is a major global health issue that targets the immune system and makes the body prone to diseases. People living with HIV (PLHIV) mostly face societal stigma and discrimination in accessing health facilities leading to multiple sex partners, increased sexual activity and less use of condoms. HIV positive women are at risk of transmitting HIV to their infants and their partners. Thus, the family planning services if provided to PLHIV can help to improve their and family's health. In addition, it reduces the risk of mother-to-child transmission. Family planning is seemed to be a cost effective strategy for preventing mother to child transmission of HIV (PMTCT). The purpose of this study is to explore the knowledge of family planning methods and identify factors affecting the current utilization of them among PLHIV attending anti retroviral therapy (ART) sites of Kathmandu Valley. The study is expected to understand the current utilization of family planning among PLHIV.

Methods: A cross sectional descriptive study was conducted with People Living with HIV (PLHIV) of reproductive age. The study followed population proportion to size method for the calculation of the respondents from four ART sites of Kathmandu Valley Nepal. Structured questionnaire used previously in similar research was adopted adding question related to dual contraceptive use. The data was descriptively analyzed.

Results: Out of 164 respondents, more than two third of the respondents (69.5%) were Hindu. 34.8% respondents were married before 20 years of age. More than half of the respondent's spouses (63.4%) were HIV positive. All the respondents (100%) respondents had disclosed their status to their partners. Neither the respondents nor their partner had desire of child. This study revealed that almost half of the respondents (48.8%) had the good knowledge on the use of contraception. 28% of neither respondents nor their partners had used the family planning methods before HIV diagnosis. 15.9% of the respondents positively responded to use of dual protection. 11% of them agreed of using emergency contraceptive pill. This percentage also includes pills use by their spouses. However, 17.7% respondents did not use any family planning.

Conclusion: The use of dual protection is much less than the half of the respondents. Therefore, counseling and health education towards motivating PLHIV on using dual FP methods to avoid the risk of HIV, STIs and unplanned pregnancy is encouraged.

Keywords: *Knowledge, utilization, family planning, HIV, Nepal*

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Tweetable Abstract: Counseling and health education is crucial for motivating PLHIV on using dual FP methods to avoid the risk of HIV/STIs.

Introduction

According to the World Health Organization (WHO), the human immunodeficiency virus targets the immune system and weakens people's defense systems against infections. As the virus destroys and impairs the function on immune cells, infected individuals gradually become immune deficient. The immunodeficiency results in increased susceptibility to a wide range of infections, cancers and other diseases that people with healthy immune systems can fight off, which leads to the most advanced stage of HIV infection, acquired immunodeficiency syndrome (AIDS) [1]. HIV and AIDS have spread to almost all countries in the world. However, in recent years there has been utmost progress in HIV prevention

and available of HIV Anti- Retroviral Therapy and deaths among people living with HIV [2].

Women living with HIV are at risk of transmitting HIV to their partners and infants. Thus, the family planning services can help to improve their health. It also reduces the risk of mother-to-child transmission (PMTCT). In addition, the World Health Organization (WHO) has recommended for the use of dual contraceptive methods by PLHIV [1]. According to WHO, the ability of a woman to space and limit her pregnancies directly impact on her health and the wellbeing of the outcome of each pregnancy [3].

The women who do not have desire of children, family planning is seemed to be a cost effective strategy for preventing mother to child transmission of HIV (PMTCT). They have the right to be informed about commonly available contraceptive methods. The research related to pregnancy and childbearing of PLHIV is not available [4].

In Nepal, study on the family planning has been done [5]. But, there is little research on the knowledge and use of family planning methods among the PLHIV[4]. Increased access to treatment for PLHIV, decrease in mortality among PLHIV took place with subsequent increase in functioning that includes sexual activity [6]. In Nepal HIV/AIDS has developed to a concentrated epidemic among the key populations such as sex workers and their clients, people who injects drugs (PWID), Inject able Drug Users (IDUs), men who have sex with men (MSM)/Transgender (TG), prison inmate migrants and their spouses [7]. Newly diagnosed PLHIV were found to experience stigma and discrimination. Health personnel were somehow involved in stigmatizing and discriminating PLHIV. PLHIV mostly face societal stigma and fear of disclosure resulting in discrimination of accessing health facilities [8]. The discrimination resulted to multiple sex partners, increased sexual activity and less use of condoms. The disclosure of HIV to partners increases the safe sex and use of condoms [9-12].

HIV has been the world's most serious public health challenges. HIV infection is preventable but as it affects not only the health of individuals, but also has an impact on all the social sectors and development. In long run, it leads to other infectious disease, affects the food security and results to serious problems. It decreases the workforce, worse the poverty, put enormous pressure on health and economy of the people. Global commitments have been made to prevent new cases of HIV in addition to ensure the proper access and utilization of HIV treatment [13, 14].

In the case of family planning choices, when one partner is HIV positive consideration of potential risk of transmitting to the uninfected partner as well as the possibility of infection and other STIs should be taken. Whereas, when both partners are HIV infected, the consideration of risk of re- infection should be taken [15].

HIV infection may affect the sexuality of people living with HIV. The reasons might be the fear of infecting the sexual partner, feelings of guilt, societal discrimination and stigma and reduced sexual desire [16]. The discrimination resulted to multiple sex partners, increased sexual activity and less use of condoms. The disclosure of HIV status to partners increases the safe sex and use of condoms [9-12, 16]. However with the increment of antiretroviral treatment, improvement has been with respect to sexual health and the desire of family in PLHIV [15]. Family planning services is important for leading the healthy sexual life by preventing HIV/AIDS. In addition to, avoiding unintended pregnancies is an important component to prevent HIV among infants. Among the various family planning methods, the correct and consistent use of condom has been found to be the most effective contraceptive method in protecting against HIV and other STIs [17]. Recognizing the importance of government level action in HIV/AIDS, Nepal has prioritized the HIV and AIDS in the national policy and programs [2].

In the context of South East Asia Region (SEAR), the first case was identified in 1984. It's going to be four decades but HIV

continues to spread in this region remaining a serious public health problem [18]. In context of Nepal, the HIV prevalence among adult population is below 1%, whereas 31,020 people were estimated to be living with HIV by the 2017. Out of total estimated PLHIV 22,812 people are adults of age group (15-49 years). This makes 73.5% people of reproductive age are living with HIV [19]. About 30% of people living with HIV were enrolled in treatment [20]. Thus, the knowledge and utilization of family planning methods is of great importance to prevent the further transmission to other people.

In Anti-retroviral therapy, information of family planning methods and their importance to lead safe life is discussed. So, it is expected that the knowledge and utilization of the family planning methods of the PLHIV is quite good.

Nepal has prioritized the HIV and AIDS in the national policy and programs. As per national HIV /AIDS policy, a multi sectorial committee i.e. National AIDS Coordinating committee was established for the coordination, support and monitors the activities done for HIV/AIDS. The Government of Nepal has also implemented three rounds national HIV/AIDS strategic plan [21]. The Government of Nepal is fully committed to fight HIV and AIDS, and aid in the noble cause of human development [20]. NHSP-IP has addressed HIV/AIDS prevention by the provision of free services based on rights based approach. It also prioritized the implementation of collaborative action with HIV/AIDS programme with TB/HIV co-infection. Emphasize the awareness of HIV transmission through knowledge of at least on correct method prevention [21]. Testing booths were also set up in any places around Kathmandu Valley to encourage people to know their HIV status and receive required treatment [2, 21].

The research done in Asian countries is few compared to African nations related to the knowledge, needs and utilization of family planning methods in PLHIV [4]. This study focuses on the status of the use of family planning methods and explore factors affecting the utilization among people living with HIV and AIDS in Kathmandu valley of Nepal. The study is expected to contribute in enhancing the present understanding of PLHIV towards family planning.

Methods

A cross sectional descriptive study was among HIV infected men and women attending four ART sites of Kathmandu Valley. The site was selected as Kathmandu is the capital of Nepal and other ART sites provide services to majority of people living with HIV and AIDS. A sampling frame was made taking into consideration of total PLHIV's registered at those sites. Only married PLHIV of reproductive age (15-19 years) were included in the study so out of 2776 service users, 164 were eligible.

On the basis of previous research carried out, the prevalence was 0.72. Taking into 95% confidence interval the calculated sample size is 158. Since it's in finite population, the sample size increased to 164 including 10% non response rate. The numbers of participants were selected as per the population proportion to size.

Structured questionnaire used previously in similar research [4] has been adopted adding question related to dual contraceptive use. Informed consent was taken from the previous researcher to use the tool and questions related to dual protection was added

as per literature review and previous researcher's feedback. For the understanding of the knowledge of the respondents on the family planning methods, multiple responses question was used. It included the questions if the respondents had heard of any listed seven family planning methods and if yes, they were further asked the duration of those family planning methods.

Data was analyzed using SPSS V.21. The results are presented in tables. Mean, median and standard deviation were calculated for the continuous variables. Frequency distribution and percentage were also calculated for the nominal and categorical variables.

By univariate analysis, the frequency distribution of dependent and independent variables were calculated. Similarly, the association between dependent and independent variables were calculated by using multivariate analysis.

Results

All the participants answered the questionnaire.

Descriptive Analysis

Socioeconomic and demographic characteristics of the respondents

Among 164 respondents, about two third (64.6%) of them were male. Majority were of age group (45-49). The mean age group of the respondents was (39.16 ± 6.969) years. More than two third respondents (69.5%) were Hindu. 34.8% respondents were married at the less than 20 years of age. Almost three- fourth of the PLHIV (74.4%) were literate whereas, more than three fourth (79.3%) their spouses were literate. About half of the respondents (43.9%) were employed.

Table 1: Frequency and percentage distribution of the demographic characteristics of the respondents (n=164)

Characteristics	Number	Percentage
Sex		
Male	106	64.6
Female	58	35.4
Age group (in years)		
25-29	20	12.2
30-34	25	15.2
35-39	23	14
40-44	47	28.7
45-49	49	29.9
Religion		
Hindu	114	69.5
Buddhist	28	17.1
Christian	18	11
Muslim	4	2.4
Age at marriage		
<20	57	34.8
20-24	45	27.4
25-29	37	22.6
30 and 30+	25	15.2

Characteristics	Number	Percentage
Respondents' educational status		
Literate	122	74.4
Illiterate	42	25.6
Spouses' educational status		
Literate	130	79.3
Illiterate	34	20.7
Occupation of the respondent		
Skilled	159	97
Unskilled	5	3

HIV infection related information of the respondents

Majority of the respondents (72.6%) were diagnosed before 24 months and, 69.5% of them were under ART for more than 24 months. More than half of the respondent's spouses (63.4%) were HIV positive. All the respondents (100%) respondents had disclosed their status to their partners.

Reproductive history and fertility desire

More than half of the respondents (62.2%) had two children whereas about 1.2% of the respondents had 5 children. Majority (72%) of them were using at least one FP methods before they were diagnosed with HIV. None of the respondent have fertility desire. More than half (60.4%) of the respondents were sexually active in the last 6 months.

Table 2: Reproductive history, fertility desire and intention to initiate pregnancy (n=164)

Characteristics	Number	Percentage
Number of children		
0	15	9.1
1	27	16.5
2	102	62.2
3	11	6.7
4	7	4.3
5	2	1.2
Use of any FP before HIV diagnosis		
Yes	118	72
No	46	28
Fertility Desire		
No	164	100
Sexual intercourse in last 6 months		
Yes	99	60.4
No	65	39.6

Knowledge on family planning methods

The mentioned family planning methods were: condom, depo-provera, emergency contraceptive pills, Intra- Uterine Contraceptive Device (IUCD), withdrawal method, vasectomy and mini-lap. It

included the question if the respondents had heard of any above FP methods. The knowledge score is calculated by comparing with the mean score. If the knowledge score was equal to more than the average score, it reflected the respondent had good knowledge. But, if the score was below average, the knowledge was poor. The knowledge level of majority of the respondents (51.2%) was below average i.e. poor.

Utilization of family planning methods

The use of any family planning method includes the use either by the respondents or their partner. The male respondents could answer the family planning methods used by their partner and vice versa. 82.3% of either respondents or their partner uses the family planning method.

In addition to, the respondents were asked if they or their partner used any family planning methods before the diagnosis of their HIV status. The utilization of family planning methods increased

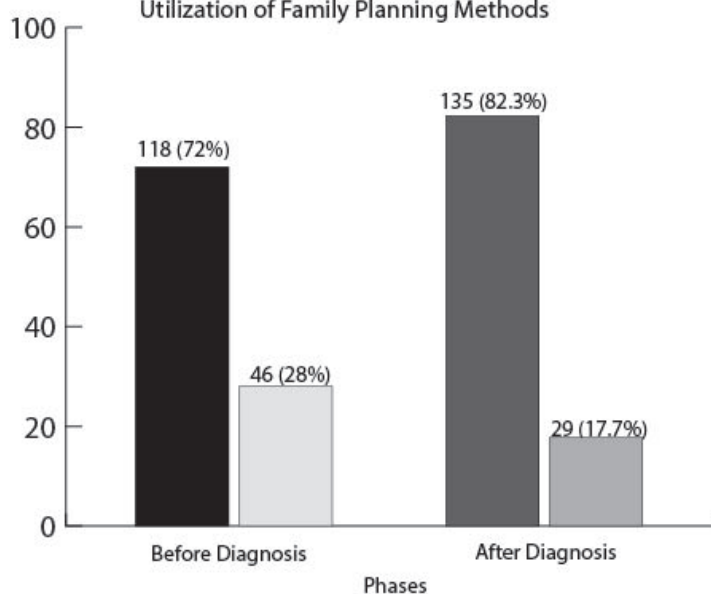


Figure 1: Bar graph representing the utilization of family planning before and after diagnosis

In Table 3, the comparison of the family planning methods used either by the respondents or their partner. It shows that, the use of condom, male sterilization, oral contraceptive and implant has been increased. Before the diagnosis, none of the used female sterilization. However, after the diagnosis its use increased to 15.4%. Similarly, 4.9% of the male used withdrawal method which reduced to zero after the diagnosis. In addition to, the use of co-per-T decreased to 0 after the diagnosis.

Table 3: Comparative use of specific family planning methods before and after the diagnosis

Utilization of FP methods**	Before diagnosis	After diagnosis
Condom	76 (46.4)	108 (129.2)
Male sterilization	4 (3.6)	20 (16.7)
Oral Contraceptive	12 (7.3)	6 (8.5)
Depo provera	33 (20.1)	11 (8.4)
Implant	2 (1.2)	4 (2.8)

** Multiple responses

11% of either respondents or their partner had used the emergency contraceptive pill. The respondents were also asked about the use of dual method of contraception or dual protection. 15.9% of the respondents positively responded to its use.

Perceived reasons for not using family planning methods

17.7% of neither the respondents nor their partner used any family planning methods. Among them, the most common reason was both being infected (9.1%). As mentioned above, one of the main reasons is being lack of fertility desire. Other reasons were: lack of sexual desire (6.1%) and husband’s disapproval (2.4%).

Association between socio-economic and demographic variables with the current utilization of family planning methods

In the bivariate analysis association of the socio economic and demographic variables were assessed with the utilization of family planning methods. Sex of the respondents was found to be significantly associated with the utilization of family planning methods.

Table 4: Association between sex of the respondents and the current utilization of family planning

Characteristics	Current utilization of FP methods		χ2 value	p-value
	Yes	No		
Male	92	14	4.124	0.042*
Female	43	15		
Ethnicity			0.265	0.606
Hindu	95	19		
Non Hindu	40	10		
Age of the respondents			0.921	0.337
25-36	39	11		
37-49	96	18		
Age at marriage			1.728	0.189
Less than 20	61	17		
20 and above	74	12		
Respondent’s education			0.040	0.841
Literate	100	22		
Illiterate	35	7		

Characteristics	Current utilization of FP methods		χ^2 value	p-value
	Yes	No		
Spouse's education				
Literate	106	24	0.261	0.609
Illiterate	29	5		
Occupation				
Professional	61	11	0.524	0.769
Agriculture	40	10		
Others**	34	8		

** Clerical, skilled manual and skilled manual

Ethnicity, age of the respondents, age at marriage, respondents' education, spouses' education and occupation of the respondents were not found to be significantly associated with the current utilization of family planning methods.

Association between HIV related information with the current utilization of family planning methods

Time since HIV diagnosis was found not to be significantly associated with the current utilization of FP methods. However, spouse's HIV status was found to be significantly associated.

Table 5: Association between HIV related information and utilization of family planning methods

Characteristics	Current utilization of FP methods		χ^2 value	p-value
	Yes	No		
Time since HIV diagnosis				
≤24 months	24	39	0.806	0.369
≥24 months	96	23		
Spouse's HIV status				
Positive	79	25	7.888	0.005*
Negative				
Knowledge level				
Below average	67	12	0.772	0.379
Above average	68	12		

*means p- value <0.05 (i.e. statistically significance)

Association between knowledge level and the current utilization of family planning methods

The knowledge level of the respondents on family planning was not statistically significant with the current utilization of family planning methods.

Association between use of emergency contraceptive pill and the current utilization of family planning methods

There was no any statistical significance between the use of emergency contraceptive pill and the usage of family planning methods.

Discussion

Sex of the respondents was statistically significant with the utilization of family planning whereas, other socio economic variables such as ethnicity, age of the respondents, age at marriage, respondents' education, spouses' education and occupation were not associated. In a similar study done in Kathmandu district, the respondents' sex was significant with the use of family planning. In contrast, the study conducted in the Kathmandu district, Northern Uganda, Southern Uganda, Swaziland and Northern Ethiopia respondents' education was significantly associated with the use of contraception [4, 22-25].

Family planning methods were likely to be used if both partners are HIV positive. Similar finding was found in the study done in Kathmandu district (4). Only 50% of the respondents had disclosed their HIV status with their sexual partner.

In the similar study in Kathmandu district 20% of the respondents had desire to have children whereas here, fertility desire was nil. In context of Nepal, the child bearing is the ultimate goal of marriage but the HIV status have negative impact on it [4].

During the interview the majority of the respondents responded that they did not want their child to suffer because of them. A study done in India found that the respondents being HIV positive was statistically significant in association with the limiting fertility desire [27].

Almost half of the respondents (48.8%) had the good knowledge on the use of contraception. In Cameroon, the knowledge of the women was taken into account which was 98%. In Northern Uganda (96%) and Cameroon, there was high level of knowledge (10, 22). However, in Nigeria only 7% had the good knowledge of family planning methods [28].

The increase in the use of contraception might be the tremendous use of condom. A mixed method study done in Northern Uganda reported that 96 percent people living with HIV had knowledge about family planning methods. But only, 38 percent were currently using any method (22). Similar kind of study was done among HIV positive women of age (15-49) years of Cameroon region (2013) which resulted 98% knew at least one method of contraception (28). Interestingly in South West Nigeria, people living with HIV had poor knowledge (7 percent) and very low current use of contraception (29.9 percent) [28].

The trend of the use of contraceptive before and after HIV diagnosis suggests tremendous increase in the use of condom compared to non-condom contraceptives. This finding is supported by the research done in the Kathmandu district of Nepal, Iran, Swaziland, India and Uganda [4, 23, 24, 29, 30]. According to the mixed method study done on Iran the people living with HIV were not willing to use other than condom because of the recommendation made by the health care providers as the main method of contraception [29].

This research resulted that the HIV status of spouses is statistically significant with the utilization of family planning methods. This has been emphasized by a national guideline of

Ethiopia [32]. Only 11 % of either the respondents or their partner had used the emergency contraceptive pill whereas, in Thailand as per the cohort study 29.6% had used the dual protection [31]. In the similar study done in Kaski district of Nepal, 0.83% had used it [5].

The prevalence of condom use was increased from 13% to 92% compared to before and after HIV diagnosis respectively in Kathmandu district [4]. Similarly, the use of condoms increased from 35% to 81% after being diagnosed with HIV in three cities of India [27]. The most common perceived reason for not using any methods of family planning was both the partners being infected with HIV. Other stated reasons were: lack of sexual desire and husband's disapproval indicating the need of sufficient counselling and awareness to the PLHIV. The study done in Kaski resulted the significant association between counselling sessions on family planning and the use of them [5]. However according to the studies done in Ghana and Uganda misinformation, fear of side effects, negative perceptions, health concerns, reduction in pleasure were identified as the reason for non-utilization of the family planning [3, 34].

Limitation

Recall bias was the limitation. Since the questionnaire included the family planning methods, the respondents were hesitate to specify the family planning methods they have heard / used.

Conclusion

This study was conducted focusing on the status of the use of family planning methods and explore factors affecting the utilization among people living with HIV/ AIDS in Kathmandu valley of Nepal. Considerable high proportion of adults of reproductive age falls under PLHIV. Sex of the respondents and spouses' HIV status were significantly associated with the utilization of family planning. The disclosure of the HIV status to the partner increased the safe sex and use of condom. The study recommends the brief counseling to the PLHIV about the Family planning in every visit.

Ethics approval and consent to participate

Ethical approval was taken from Institutional Review Committee of Institute of Medicine (IoM). Written permission was taken from the ART sites where study was conducted.

Respondents were informed of their rights to deny participation in the study or to withdraw from the study at any stage of data collection. Consent of the respondents was obtained prior to data collection, a detailed explanation on the aim, and objectives of the study was given and confidentiality was ensured by only taking the signature of them. Researcher recorded no personal identifiers to ensure confidentiality of participants. Additionally, participants were not given any compensation for participating in this research.

Availability of data and materials

The datasets used and/or analysed during the current study is available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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No funding was obtained in order to conduct the study.

Authors' contributions

AB designed the concept, performed data collection, did data analysis and prepared the manuscript for submission. RP assisted in data collection and its analysis. NK approved the concept, provided overall supervision on the appropriateness of methods, assisted with the data analysis, and reviewed the manuscript for critical issues.

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