Original Research Article

Assessment of Knowledge, Attitude, and Practice of People Living with HIV receiving treatment at Teku ART Site, Kathmandu

Susmita Rai
Department of Public Health, CiST College, Pokhara University, Kathmandu, Nepal

ABSTRACT

Background: HIV/AIDS has become a significant public health concern in Nepal. We have collected necessary information for assessing the level of knowledge, attitude, and practice of healthy behavior of People living with HIV (PLHIV), who seek treatment from this study site.

Methods: Hospital based descriptive cross-sectional study was carried out on the assessment of knowledge, attitude, and practice which were critical in saving lives of PLHIV receiving treatment at Teku ART site, Kathmandu. Total 90 respondents were provided with semi-structured questionnaire. The data and information collected were entered by the researcher into Excel and then later analyzed using SPSS.

Results: The study showed that maximum respondents were male and between the ages of 38-47 years. The level of knowledge on HIV infection among the respondents was satisfactory and the level of knowledge on healthy behavior for saving their lives was found to be an average. The majority of the PLHIV were aware of one or the other healthy behavior, and only some had no knowledge of them. Maximum (65.6%) had no knowledge of opportunistic infections which can be a risk to PLHIV. Similarly, the attitude of all the respondents was positive towards that healthy behavior and a maximum of the respondents practice healthy behavior such as regular intake of medicine, safe sex practice, intake of nutritious food, personal hygiene in their daily lives. But still some behaviors such as regular exercise, prevention of opportunistic infections were not practiced by the respondents.

Conclusion: The study concluded that level of knowledge among PLHIV regarding healthy behavior was found satisfactory. But still emphasis must be given on improving knowledge and practice on some behaviors such as regular exercise, prevention of opportunistic infections.

Keywords: HIV/AIDS, Opportunistic infections, Behavior, Exercise

BACKGROUND

The human immunodeficiency virus (HIV), the virus that causes AIDS, was identified in the early 1980s. AIDS is a condition in human in which progressive failure of the immune system allows life-threatening opportunistic infections. Since its discovery, AIDS has caused an estimated 36 million deaths worldwide (as of 2012).
HIV/AIDS can transmit in 3 ways: sexual intercourse, exposure to infected blood and blood products, HIVinfected skin piercing instruments, and perinatal transmission. However, behind these three forms of transmission are many different factors that, in various combinations, affect the actual transmission of HIV from one person to another [1]. This complication rules out generalizations of pattern and nature of spreading of AIDS and calls for specific consideration within and among countries [2].

Nepal saw the first case of HIV in 1988 and within the period, it evolved from a merely dispersed disease to a concentrated epidemic amongst the population practicing high risk behaviors. HIV/AIDS has become a significant public health concern in Nepal. According to UNAIDS Nepal, HIV prevalence has remained within the range of

* Correspondence: Susmita Rai Department of Public Health, CiST College, Pokhara University, Baneshwor, Kathmandu, Nepal
E-mail: susmitaraee92@gmail.com Mobile: +977-9849156649; 9802015614

0.2-0.3% in Nepal [3]. It is estimated that currently there are around 39000 people surviving with HIV in 2014. The estimated number of new cases in 2014 is 1,493 as compared to 1,408 in 2013. The HIV epidemic remains concentrated among people who inject drugs (PWID), men who have sex with men (MSM), transgender people (TG), sex workers (male and female) and male labor migrants (MLM) including their sexual partners [4].

In 1988, Government of Nepal launched the first National AIDS Prevention and Control ProGram to Figureht against the growing epidemic of HIV/AIDS. In 1992, The Government of Nepal founded the National AIDS Coordination Committee to lead the multisectoral response to HIV/AIDS in Nepal [5]. HIV/AIDS have also been recognized by the government as a priority area in the new interim three-year development plan. These all efforts from the Government, as well as non-governmental sectors, have brought significant reduction in HIV epidemic, but still more effort must be applied from these sectors.

METHODOLOGY

Study Design

Hospital based descriptive cross-sectional study design was carried out to collect information regarding knowledge, attitude, and practice on the healthy behaviour of the respondents.

Study Setting

This study was conducted by the researcher in ART sites of Teku Hospital, which is the National site for HIV/AIDS where maximum PLHIV visit for ART treatment. The site was selected by the researcher based on:

- Availability of sample population
- Accessible setting

Study population:

PLHIV receiving ART Treatment in Teku Hospital was taken. The population consists of any gender, caste, ethnicity, occupation, etc. But the age of the respondents was taken above 18 years for the fulfilment of the research work

Sampling technique and sample size:

Purposive sampling technique was used i.e., any person who visits ART site for the treatment was administered the questionnaire according to the researcher's convenience and purpose.

The sample size was estimated to be 90 by the following formula:

$$n = \frac{Z^2PQ}{d^2}$$

Where, Z-value = 1.96 at 95% Confidence Interval

P = level of Knowledge and practice of healthy behavior which is critical for saving lives of PLHIV= 0.50 (since the level of knowledge and practice cannot be specified and no literature was found, therefore, the level assumed as 50% among the PLHIV)

Q = 1 – P = 1 – 0.50 = 0.50

d = Allowable error = 10%

P = 1438 (Total number of HIV patient who receive ART Treatment in Teku Hospital) We have,

n = (1.96)2 x (0.50) x (0.50) (0.1)2 = 96.04 (rounded off to 96)

$$\frac{1.96\times0.5\times0.5}{0.1^2}$$

= 96.06 (rounded off to 96)

Data collection, analysis, and interpretation

Tools and techniques of data collection

The interview was conducted with the respondents to collect necessary data. A semi-structured questionnaire was administered by the researcher to the respondents as the tool of research.

Validity and reliability of tools

To ensure the validity and reliability of the study, review of related literature and consultation with the supervisors and expert was done on a regular basis. The questionnaire was in the Nepali language to ensure generalizability of the findings. Furthermore, pretesting in 10% of the sample population was done

Data collection procedure

Data and information were collected by the researcher through administration of the semi-structured questionnaire to the respondent (PLHIV) who visits ART centers in Teku Hospital. Questions, which are included in the questionnaire, were asked to the patient and then the answers were filled by the researcher.

Data entry, analysis, and interpretation

First of all, after data collection, the data was checked for completeness and compiled. Then, manual editing and coding were done. The data after editing was entered into Excel to get more accuracy of the data entry and was transformed to SPSS for analysis. Descriptive analysis was applied as per the demand of the study.

Sample specification

Inclusion criteria:

PLHIV receiving ART Treatment in Teku hospital

Exclusion criteria:

- Patients unwilling to give informed consent.
- HIV Patient with other OIs.

RESULTS

Socio-demographic Information

Distribution of the respondents by age :

The socio-demographic characteristics of the respondents are presented in table-1. The participants (n=90) were interviewed to complete the semi-structured questionnaire. The maximum respondents were between 38-47 years of age.

Table-1: Distribution of the respondents by age

Age of the respondent (years)	Frequency	Percentage (%)
18-27	10	11.1
28-37	26	28.9
38-47	34	37.7
48-57	15	16.7
>57	5	5.6
Total	**90**	**100**

Distribution of the respondents by gender

The gender ratio of the respondent was somewhat equal but still maximum was male than female (Table-2).

Table-2: Distribution of the respondents by gender

Gender	Frequency	Percent
Female	40	44.4
Male	50	55.6
Total	**90**	**100**

Distribution of the respondents by Caste

Table-3 showed that maximum respondent belonged to the Janajati community (32.2%), followed by Brahmin (18.9%), Newar (16.7%), Chettri (13.3%), Dalit (11.1%) and others (7.8%).

Table-3: Distribution of the respondents by Caste

Caste	Frequency	Percent
Brahmin	17	18.9
Chettri	12	13.3
Newar	15	16.7
Dalit	10	11.1
Anya Janajati	29	32.2
Others	7	7.8
Total	**90**	**100**

Marital status of the respondents

About three fourth (82.2%) of the respondents were married, 10% were unmarried, 6.7% were widowed, and only 1.1% were divorced. (Table-4)

Table-4: Marital status of the respondents

Marital Status	Frequency	Percent
Married	74	82.2
Unmarried	9	10.0
Divorced	1	1.1
Widowed	6	6.7
Total	**90**	**100**

Educational status of the respondents

The majority (30.0%) of the PLHIV had either completed the secondary level or were just literate and only 1.1% of the PLHIV had completed their University level (Table-5).

Table-5: Educational status of the respondents

Educational Status	Frequency	Percent
Illiterate	13	14.4
Literate	27	30.0
Primary	18	20.0
Secondary	27	30.0
Higher Secondary	5	5.5
Bachelor Plus	1	1.1
Total	**90**	**100**

Occupation of the respondents About 33.3% of the respondents were involved in Labor work as their profession followed by others (Housewife, Unemployed, etc.), Agriculture (18.9%), Business (11.1%). Only 5.6% were involved in Service work, and 1.1% were students (Table-6).

Table-6: Occupation of the respondents

Occupation	Frequency	Percent
Agriculture	17	18.9
Service	5	5.6
Business	10	11.1
Labor	30	33.3
Student	1	1.1
Others	27	30.0
Total	**90**	**100**

Economic status of the respondents Maximum (57.8%) respondent belonged to the low economic status i.e., their monthly family income being below 15,000, followed by medium status (34.4%) and only 1.1% were from the high-status background (Table- 7).

Table-7: Economic status of the respondents

Monthly Income of Family (Economic status)	Frequenc y	Percent
<15000 (Low status)	52	57.8
15000-30000 (Medium status)	31	34.4
30000-40000 (High medium status)	6	6.7
>40000 (High status)	1	1.1
Total	**90**	**100**

Knowledge of transmission of HIV from one person to another

More than half (66.7%) responded that Unsafe sex is the leading factor for transmission of HIV from one person to another followed by HIV-infected blood (26.7%) and others. Very few (7.8%) had knowledge that HIV can transmit from HIV-infected mother to her child (table-8).

Table 8: Knowledge of transmission of HIV infection from one person to another (N=90, Multiple responses)

Modes of transmission of HIV infection	Frequency	Percent
Unsafe sex	60	66.7%
HIV-infected Blood	24	26.7%
HIV-infected Syringe	34	37.8%
From HIV-infected mother to child	7	7.8%
Others	24	26.7%

Knowledge of symptoms of HIV

More than half (61.4%) of the respondent answered fever as the symptoms of HIV followed by Diarrhea and vomiting (35.2%). On the contrary, only 2.3% responded joint pain and skin rashes (3.4%) as the symptoms of HIV infection (table-9).

Table-9: Knowledge of symptoms of HIV infection (N=90, Multiple responses)

Symptoms of HIV	Frequency	Percent
Fever	54	61.4%
Joint Pain	2	2.3%
Diarrhea/Vomiting	31	35.2%
Skin Rashes	3	3.4%
Weight Loss	10	11.4%
Others	38	43.2%

Knowledge of Prevention/Treatment of HIV

Maximum respondent (87.8%) responded medication as the best way for treatment of HIV whereas 35.6% of them responded safe sex as the prevention of HIV followed by others which mainly included healthy diet, the healthy personal habits, etc. as the way of prevention and treatment of HIV infection (table-10).

Table -10: Knowledge of prevention and treatment of HIV infection (N=90, multiple responses)

Prevention and Treatment of HIV	Frequency	Percent of Cases
Medication	79	87.8%
Safe sex	32	35.6%
Others	9	10.0%

Knowledge of healthy behavior for saving lives of the respondent

The following table shows the level of knowledge about healthy behavior for saving lives of PLHIV. The level of knowledge was studied by the researcher regarding two conditions, i.e. before and after visiting this ART center. Multiple response answers were given by the respondent. Table -11 shows the level of knowledge of the respondent on healthy behavior before and after visiting Teku ART center. This table clearly shows that maximum responded (72.2%) regular intake of medicine to be the best behavior for saving their lives followed by intake of nutritious food (38.9%). Only 2.2 % have the knowledge on prevention of opportunistic infection to save their lives. But still about 20.0% have no knowledge of healthy behavior to save their lives.

Similarly, the same table shows the level of knowledge of the respondent on healthy behavior after visiting Teku ART center. Maximum respondent has knowledge on regular intake of medicine (82.2%) as the best behavior to be adopted for saving their lives. The comparison of overall behavior shows the increase in the level of knowledge among the respondent after visiting this ART center. But still 14.4% lack the knowledge on healthy behavior to save the respondent's life.

Table- 11: Knowledge of healthy behavior before and after visiting this ART center

Knowledge on healthy behavior before visiting this ART center	Frequency		Percent of Cases		Increased or Decreased
	Before	After	Before	After	
Intake of Nutritious food	35	54	38.9%	60.0%	+
Regular medicine intake	65	74	72.2%	82.2%	+
Safe sex	34	47	37.8%	52.2%	+
Quit smoking	16	28	17.8%	31.1%	+
Quit alcohol	17	28	18.9%	31.1%	+
Personal hygiene	5	11	5.6%	12.2%	+
Regular exercise	5	6	5.6%	6.7%	+
Enough sleep	5	9	5.6%	10.0%	+
Eat on time	12	25	13.3%	27.8%	+
Free from mental stress	6	19	6.7%	21.1%	+
Prevention of opportunistic infection	2	3	2.2%	3.3%	+
Don't know	18	13	20.0%	14.4%	_
Total	220	317	244.4%	352.2%	+

Knowledge of opportunistic infections

Only 34% of the respondents have the knowledge on opportunistic infections that hinders the health conditions of the PLHIV (Table- 12).

Table- 12: Knowledge of opportunistic infections

Knowledge on OIs	Frequency	Percent
No	59	65.6
Yes	31	34.4
Total	**90**	**100.0**

Among the 34.4% of the respondents who were aware of the opportunistic infections, they were further asked on preventive measures of OIs. Maximum (90.3%) told that regular medication can prevent OIs, followed by cleanliness (25.8%), take care of diet (9.7%) and then others (6.5%) (Table-13).

Table-13: Knowledge of prevention of opportunistic infections (n=31, Multiple responses)

Knowledge of prevention of opportunistic infection	Frequency	Percent
Regular medication	28	90.3
Cleanliness	8	25.8
Take care of diet	3	9.7
Others	2	6.5

Attitude of the respondent towards healthy behavior

Overall attitude of the respondents towards healthy behavior were found to be positive. The table -14 and 15 shows the level of the attitude of the respondent, among which the ratio of fully agreed and agreed respondent towards the following statement were almost in the similar ratio. There was no respondent who disagreed the following statement on healthy behavior.

Table -14: Attitude of the respondent towards healthy physical behavior for saving their lives (n=90)

Statement	Fully Agree (%)	Agree (%)	Disagree (%)	Fully Disagree (%)
HIV-infected person should take regular medicine	51.1	48.9	0	0
HIV-infected person should eat nutritious food	52.2	47.8	0	0
HIV-infected person should practice safe sex	52.2	47.8	0	0
HIV-infected person should take care ofpersonal hygiene	47.8	52.2	0	0
HIV-infected person should not smoke	45.6	54.4	0	0
HIV-infected person should not drink alcohol	45.6	54.4	0	0
HIV-infected person should do regular exercise	41.1	58.9	0	0
HIV-infected person should prevent any opportunistic infection	45.6	54.4	0	0

Table- 15: Attitude of the respondent towards healthy mental, social and environmental behavior (n=90)

STATEMENT	Fully Agree (%)	Agree (%t)	Disagree (%)	Fully Disagree (%)
HIV-infected person should be free from mental stress	37.8	62.2	0	0
HIV-infected person should interact with others in society	35.6	64.4	0	0
HIV-infected person should involve themselves in social activity	34.4	65.6	0	0
HIV-infected person should live in clean environment	43.3	56.7	0	0

Practice of the healthy behavior among the respondent

The level of practice on healthy behavior adopted by the respondent is presented below. The respondents (n=90) were administered semi- structured questionnaire and following findings were obtained.

Practice of regular medication and safe sex

Among the total respondent, the maximum respondent (85.6%) always practice regular medicine intake but still 1.1% never take medicine regularly. Similarly, 81.1% practice safe sex, 17.8% have no sexual relation with others and still 1.1% does not have safe sexual practice. (Table 16)

Table -16: Practice of regular medication and safe sex

Practice		Frequency	Percent
Regular intake of medicine	Never	1	1.1
	Always	77	85.6
	sometimes not	12	13.3
	Total	**90**	**100**
Practice of safe sex	No	1	1.1
	Yes	73	81.1
	No sexual relation	16	17.8
	Total	**90**	**100**

Practice of nutritious food intake

Table-17 shows the level of practice on healthy behavior among the respondent. Multiple answers were obtained and categorized into various groups. Maximum 95.6% responded intake of Cereals/Pulses on their daily diet followed by Rice/Bread (93.3%) and Vegetables/Fruits (80.0%), whereas, Dairy product (40.0%) and meat product (50.0%) were consumed less than the other food products.

Table -17: Practice of nutritious food intake (n=90)

Types of food intake	Frequency	Percent
Rice/ Bread	84	93.3%
Cereals/ Pulses	86	95.6%
Dairy product	36	40.0%
Meat product	45	50.0%
Vegetables/ Fruits	72	80.0%

Practice of good personal hygiene

The following table shows the types of personal hygiene practice adopted by the respondents. Multiple answers were given among which Bathing is responded maximum (98.9%) times by the respondents. Apart from bathing, Brushing teeth (57.8%), Washing clothes (40.0%) and Cutting nails (11.1%) were also responded as a way of maintaining personal hygiene by the respondents (Table-18).

Table -18: Practice of Personal Hygiene (n=90)

Personal Hygiene Practice	Frequency	Percent
Cutting nails	10	11.1%
Brushing teeth	52	57.8%
Bathing	89	98.9%
Washing clothes	36	40.0%

Practice of Personal Habits

Table-19 shows the practice of personal habits of the respondents. Maximum (75.6%) respondents do not smoke but still 24.4% practice smoking as personal habits in their daily life. Similarly, 85.6% respondent do not drink alcohol and 14.4% still intake alcohol sometimes or as a part of their daily routine. Likewise, 93.3% respondents do not practice regular exercise and only 6.7% exercise regularly

Table -19: Practice of personal habits (n=90)

Practice		Frequency	Percent
Smoking	No	68	75.6
	Yes	22	24.4
Alcohol intake	No	77	85.6
	Yes	13	14.4
Exercise	No	84	93.3
	Yes	6	6.7

Practice of purifying water

The table–20 shows practice of water purification by the respondents which also is included in the healthy behavior for saving lives of them. About 83.3% of the respondents purify water and the rest (16.7%) still do not purify. Among the respondents who purify water, 78.7% purify water using filter followed by boiling (17.3%) and others (4.0%) which include water from Jar, etc.

Table- 20: Practice of purifying water (n=90)

Practice		Frequency	Percent
Purification of water	No	15	16.7
	Yes	75	83.3
	Total	**90**	**100.0**
If yes, what method of purification is used		**Frequency**	**Percent**
Boiling		13	17.3%
Use of filter		59	78.7%
Others		3	4.0%
Total		**75**	**100.0%**

Practice of psychological behavior/ Stress

Respondents were asked if they take any mental stress or not. The result is shown as below, where 87.8% of the respondents do not have any mental stress but still 12.2 % have mental stress such as tension, anger, etc. (Table-21)

Table- 21: Have mental stress

Practice		Frequency	Percent
Practice of mental stress	No	79	87.8
	Yes	11	12.2
	Total	**90**	**100.0**

Practice of involvement in social activities

Table-22 shows the percentage of the respondents who are involved in social activities or not. Nearly more than half (58.9%) are not involved in social activities but still 41.1% of the respondents are involved in social activities such as marriage, social organization etc.

Table -22: Practice of involvement in social activities

Practice		Frequency	Percent
Involved in any social activities	No	53	58.9
	Yes	37	41.1
	Total	**90**	**100.0**

DISCUSSION

HIV/AIDS has become a significant public health concern in Nepal. The prevalence of HIV is still in increasing trend, which gradually increases mortality rate due to AIDS. Thus, HIV morbidity and mortality must be reduced to improve the overall health conditions of people in Nepal. Knowledge and healthy behaviour are always important to improve the health of people. So, a cross-sectional

study was conducted to assess the level of knowledge, attitude, and practice of healthy behaviour in their daily lives among PLHIV in the study area.

The present study revealed the Socio-demographic characteristics of the respondents, where most of the respondents were male and between the age of 38-47 years. Among the respondents, most were from other Janajati community living in the family with low economic status. The majority were just literate or completed Secondary level and were mainly involved in labor work.

Furthermore, regarding the knowledge level of the respondent on HIV infection, it's causes, transmission, symptoms and preventive measures, the study shows the knowledge level was average i.e. the respondent were aware of the fundamental knowledge of HIV infection.

The present study also revealed on the knowledge level of the respondent on healthy behaviour which contributes to saving their lives. The overall knowledge of healthy behaviour such as regular intake of medicine, nutritious food intake, safe sex, exercise, etc. was found to be good. The study also revealed the level of knowledge of the respondents increased after visiting this ART center. But still the knowledge of the respondents on opportunistic infections that can be risk to their health is poor (34.4%). Similarly, the attitudes of the respondents were all positive towards the healthy behaviour. Every respondent fully agreed or agreed on the statement made. In the present study, the practice of healthy behaviour adopted by the respondents was satisfactory. Maximum respondents take regular medicine (85.6%), practice safe sex (81.1%), intake nutritious food regularly and take care of personal hygiene. Likewise, most of the respondents do not smoke (75.6%), do not drink alcohol (85.6%), purify water (83.3%) and are free from any mental stress (87.8%). But still, 93.3% do not exercise regularly, and more than half of the respondents (58.9%) are not involved in any kind of social activities.

Thus, the overall level of knowledge, attitude and practice on healthy behaviour among the respondents were found to be above average.

CONCLUSION

On the basis of the information collected from the 90 respondents and taking into consideration on all the methodological pitfalls of descriptive cross-sectional study design, the study has come up with the following conclusions; while the respondents had only basic knowledge of HIV infection, however, the knowledge on healthy behavior (such as regular medicine intake, safe sex, intake of nutritious food, enough sleep, etc.) for saving their lives was found to be good and have increased after visiting Teku ART center. But the knowledge of opportunistic infections is below average among the respondents.

Similarly, the attitude of the respondents towards the healthy behavior was found to be positive. Maximum respondents practice healthy behavior as a part of their daily lives. But still emphasis must be given to improving knowledge and practice on some behaviors such as regular exercise, prevention of opportunistic infections, etc.

COMPETING INTERESTS

The authors declare that I have no competing interest.

ETHICAL CONSIDERATION

The following activities were ensured to maintain the ethical consideration;

- Verbal as well as written informed consent was taken before taking the interview.
- The objectives and the purpose of the study were explained to the respondents.
- The participation of the respondent was voluntary.

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