A STUDY OF HIV/AIDS CO-INFECTIONS AND COPING STRATEGIES OF KEY POPULATION OF NEPAL

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ABSTRACT

Introduction: Nepal is considered as a concentrated HIV epidemic among key population like Migrant Labour Worker (MLW), Sex Worker (SW), Injecting Drug User (IDU) and Spouse of Migrant Labour Worker (SMLW). Hence, the HIV infection has significantly contributed to be HIV/TB co-infected among key population. Intervention of Anti Retroviral Therapy (ART) and Direct Observed Short Course (DOTS) have significantly reduced HIV associated morbidity and mortality in Nepal. The objective of this study was to analyze coping strategies to access the HIV/TB services in relation to socio-economic status of key study population.

Methods: The study was conducted in five districts Jhapa, Morang, Sunsari, Kavre and Parsa of Nepal. The HIV/TB respondents were selected from previous background of key population: MLW, SW, IDU, and SMLW. 343 respondents were selected through snowballing and convenient sampling technique. The data were collected through face to face interview using pretested questionnaire. Descriptive statistics, Chi-square, and ANOVA test were applied to analyze the collected data.

Results: Among 343 HIV/TB co-infected respondents, more than two fifth (44.3%) were belonged to MLW, followed by one third (34.1%) of respondents were SMLW. Therefore, the HIV/TB co-infection was significant association (p=0.001) with employment status and key study population. In addition to this, the study showed that there was significant difference between facing stigma/discrimination and study districts (F=11.03, p=0.001) of respondents. Similarly, there was significant difference between used of previous saving and occupation of family (F=10.461, p=0.001) as coping strategies to access HIV/TB services.

Conclusion: Despite the existing stigma and discrimination, the key study population had used various coping strategies to access the health care services in relation to their socio-economic status.

Key words: Key study population, HIV/TB co-infection, stigma /discrimination.

INTRODUCTION

HIV and TB both are leading causes of death worldwide, particularly in developing countries[1]. Since the emergence of HIV, the TB is the most opportunistic infection among People Living with HIV (PLHIV) and it is responsible to kill one third (33%) of PLHIV[2]. Moreover, the HIV infection impairs human immune system and cause rapid progression of active TB disease. It is estimated that, around 40% of AIDS related death occurs due to HIV/TB co-infection in Asia[3]. The HIV/TB co-infection is common who have below (<200/mm^3) Cluster of Differentiation 4 (CD4) and WHO clinical stage II[4]. To control the global challenges of HIV/TB co-epidemic, WHO launched HIV/TB collaborative activities in 2004. However, Direct Observed Treatment Short course (DOTS) is less effective due to HIV/TB co-infection in Asia[5].

In 2009, UNAIDS stated that around 72% of low and middle income countries have low-level or concentrated HIV/AIDS epidemic[6]. In fact, the concentrated epidemic nurtures HIV infection rapidly among key population[7]. As other developing

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countries, Nepal has also experienced concentrated epidemic among key population: Injecting Drugs User (IDUs), Men Who Have Sex with Male (MSM), Sex Worker (SW) and their clients, Transgender (TG) and Migrant Labour Workers (MLM) and their spouse[8].The most of HIV new infections are largely driven by sexually transmitted. The male labour migrants are predominantly to transmit new HIV infection accounting for 19% in total[9].

As of July 2015, in Nepal, out of 39,249 PLHIV, estimated 2,576 people died due to AIDS. [10]. However, the number of estimated death is decreasing after the intervention of ART service and its use[11]. Government of Nepal has also introduced ART service through different hospitals network and the ART coverage reached at 26.5% by the end of 2014. As a result, the HIV/TB mortality has been decreasing as increasing use of ART coverage in Nepal[10]. However, widespread existing stigma and discrimination against HIV and TB, PLHIV may hide their status and delay on accessing in counseling and treatment service. Hence, HIV/TB co-infection is becoming one of the major public health problems[12]. Considering the fact, this study was conducted to find out distribution of HIV/TB and coping pattern to access the services among the key population.

METHODS

A cross-sectional and descriptive study was conducted in five districts such as Jhapa, Morang, Sunsari, Parsa and Kavre of Nepal. This study is carried out duration of one year from May 2015 to April 2016. The objective of the study was to identify the coping strategies of key population to access the HIV/TB services with their socio-economic status variables.

343 sample size was obtained by using estimation of proportions of less than 10,000:

nf=n/1+n/N,
where
nf means the desired sample size.

N is total number of population for the study (3,230 reported HIV cases which were obtained from District AIDS Coordination Committee 2016); n is obtained through using following formula,

$n=Z^2pq/d^2$

After the confirmation of sample size, researcher has prepared 500 cumulative lists of HIV/TB co-infected individuals with help of NGOs and Community Care Centers (CCCs). The research team set guideline to select the respondents. The eligible respondents were enrolled who were age of 18 or older and who had diagnosis report of HIV/TB. The respondents were also ensured that they had rights to reject or discontinue from the study at any time.

Ethical approval was obtained from Nepal Health Research Council (NHRC) before data collection. Written informed consent was also taken from each respondent before conducting the study. To maintain confidentiality of respondents a separate code was given for each respondent. The content validity, face validity, internal and external validity of tools was maintained with help of expert and panel discussion. Translation back translation and piloting of study were done to maintain high reliability of data before the study.

The study adopted snowballing and convenient sampling techniques to approach the respondents. The face to face interviewed were taken in separate room of NGOs and CCCs using pretested questionnaire. Researcher also made home visit to collect data until to meet required sample size with the help of peer educators and CHBC workers. The collected data were cleaned, coded, edited, checked, and reviewed before entry in the computer. The entered data were analyzed by SPSS version 20.0. Cross tab, Pearson Chi-square and ANOVA test were applied for statistical analysis. Statistical significance level was set at p=0.05 with 95% confidence interval.

RESULTS

Table 1. HIV/TB co-infection among in key study population

Variables	Gender %		
	Female	Male	Total
Injecting drug user	0.6	8.5	9.0
Sex worker	10.2	2.3	12.5
Spouse of migrant labour worker	14.0	20.1	34.1
Total	48.1	51.9	100.0

Source: Filed survey 2016

Table 2. Employment status among key study population					
Variables	Employment status%				Chi-square test
	Employed				
	Migrant Labour Worker (MLW)	Self-employed	Un-employed		
Key study population	Injecting Drug user	3.5	26.5	14.3	Asymp. Sig. (2-sided) =0.001
	Sex worker	1.2	0.3	7.6	
	Spouse of MLW	0.3	2.0	10.2	
	Spouse of MLW	4.4	1.5	28.3	
*.Significant at the 0.05 level					

Source: Filed survey 2016

Table 2 compares the employment status after being HIV/TB co-infection of key study population. The study found that the HIV/TB co-infection was significant association (p=0.001) with employment status and key study population. However, the participants were asked about effect of HIV/TB on their employment status. Looking at unemployed status due to HIV/TB co-infection, it was seen that the spouse of MLW was much higher (28.3%) rate of unemployed than other study population. Despite the differences of unemployed status among key study population, the migrant labour worker had higher (26.5%) self-employed status than other key study population. Similarly, both spouse of MLM and Migrant Labour Worker had higher employed status than other key study population as shown table 2.

Table 3 shows that there was significant difference between disclosed HIV/TB status and study districts (F=5.004, p=0.001), followed by family reaction to HIV/TB status and study districts (F=6.241, p=0.001) and facing stigma/discrimination and study districts (F=11.03, p=0.001) of respondents. Similarly, there was significant difference between disclosed HIV/TB status and key study population (F=5.658, p=0.001), followed by family reaction to HIV/TB status and key study population (F=5.812, p=0.001), facing stigma/discrimination and key study population (F=6.940, p= 0.001).

On the other hand, there was no significant difference between disclosed HIV/TB status and gender (F=2.662, p=0.104), family reaction to HIV/TB status and gender (F=0.206, p=0.650) of respondents. Similarly there was no significant difference that facing stigma/discrimination and gender (F=0.235, p=0.628) of respondents.

Table 3. Prevalence of stigma/discrimination				
Variables	Description	F values	p values	Remarks
Gender	Disclosed HIV/TB status	2.662	0.104	Insignificant
	Family reaction to HIV/TB status	0.206	0.650	Insignificant
	Facing stigma/discrimination	0.235	0.628	Insignificant
Key study population	Disclosed HIV/TB status	5.658	0.001*	Significant
	Family reaction to HIV/TB status	5.812	0.001*	Significant
	Facing stigma/discrimination	6.940	0.001*	Significant
Study districts	Disclosed HIV/TB status	5.004	0.001*	Significant
	Family reaction to HIV/TB status	6.241	0.001*	Significant
	Facing stigma/discrimination	11.03	0.001*	Significant
***.Significant at the 0.05 level**				

Source: Field Survey 2016

Table 4. Socio-economic status variables and coping strategies to access services				
Variables	Description	F values	p values	Remarks
Education	Used of previous saving	4.349	0.014*	Significant
	Selling asset	1.109	0.331	Insignificant
	Borrowing loan	0.022	0.979	Insignificant
Family income	Used of previous saving	1.532	0.218	Insignificant
	Selling asset	6.824	0.001*	Significant
	Borrowing loan	0.255	0.775	Insignificant
Occupation of family	Used of previous saving	10.461	0.001*	Significant
	Selling asset	1.073	0.361	Insignificant
	Borrowing loan	3.616	0.014*	Significant
*.Significant at the 0.05 level				

Source: Field Survey 2016

Table 4 presents the data of ANOVA which includes F and p values to measure the significance difference between coping strategies and three socio-economic status variables of study. The study found that there was significant difference between used of previous saving and education (F=4.349, p=0.014) as coping strategies to access HIV/TB services. Similarly, there was significant difference between selling asset and family income (F=6.824, p=0.001) as a coping strategies to access HIV/TB services. Likewise, there was significant difference between used of previous saving and occupation of family (F=10.461, p=0.001), borrowing loan and occupation of family (F=3.616, p= 0.014) as coping strategies to access HIV/TB services.

On the other hand, there was no significant difference between selling asset and education (F=1.109, p= 0.331) and borrowing loan and education (F=0.022, p= 0.979) as coping strategies to access the HIV/TB services. Similarly, there was no significant difference between borrowing loan and family income (F=0.255, p=0.775) as coping strategies to access the HIV/TB services. Likewise, there was no significant difference selling asset and occupation of family (F=1.073, p=0.361) as coping strategies to access HIV/TB services.

DISCUSSION

The current study provides the information about distribution of HIV/TB prevalence among key population of five districts of Nepal. Majority (74.4%) of HIV/TB co-infection was found among two key population- MLW and their spouse. It is obvious that the MLW are responsible to transmit HIV to their spouse through the sexual contact. This finding is similar to the finding of national report of NCASC 2013, which stated that the most of HIV infections were transmitted by sexually, where male migrant workers were responsible to transmit HIV infection to the general population[9]. Likewise, Carvalho stated that HIV infection cause to the prevalence of TB among PLHIV as advancement of AIDS[13].

HIV/AIDS substantially increased in morbidity and mortality due to loss of immune system of individuals. Therefore, the infected individuals may face considerable variation the effect of HIV/AIDS on their employment status. The current study found that more than 42% of migrant labour workers and their spouses become unemployed due to effect of HIV/TB co-infection. A study done in Bostwana and found that the HIV prevalence had direct relationship with unemployment. In case of female, the unemployment rate was higher than male in the same age group[14]. The current study is also consistent with findings of previous study done by Henry et.al. in France where they concluded that the incidence of unemployment was high among HIV infected than general population. The main cause of unemployment among PLHIV was psychological rather than physical symptoms[15].

Although, HIV and TB are biologically difference but stigma of either disease is more or less same. Both diseases can lead to isolation, exclusion and devaluation from their friends and family as advancement of illness[16]. Moreover, female patients have to face high stigma with their older age and low education. However, the prevalence of stigma found high in TB disease than HIV[17]. In some setting, it is found that TB is an incurable and

inherited disease therefore infected people would show undesirable habits and hesitate to go in timely diagnosis and treatment[18]. This current study also corroborates with previous study done by Pradhan et.al. in India where, the family reaction is the influencing factors for development of stigma and discrimination in the community and most of PLHIV hide their status even in their family[19]. Our study also found same situation that there was significant difference facing stigma/discrimination and key study population. This means the PLHIV are very sensitive regarding the issue of HIV/TB co-infection and they hesitate to disclose their status in all condition.

TB and HIV treatment services are available for free of cost for all people. However; people with HIV/TB co-infection have facing higher levels of post-diagnosis catastrophic cost than those with HIV or TB only[20]. Therefore, the current research had tried to find out coping strategies of key study population to access the HIV/TB services in relation to their socio-economic status. The study found that there was significant difference between used of previous saving and education as coping strategies to access HIV/TB services. Similarly, there was significant difference between selling asset and family income to access HIV/TB services. Likewise, there was significant difference between used of previous saving and occupation of family, followed by borrowing loan and occupation of family to access HIV/TB services. It may be cause of perceived severity of HIV/TB co-infection and to have good quality of life. A study conducted in India stated that the improved understanding of HIV/AIDS, affiliation to PLHIV support group have created positive coping behaviour with HIV/TB co-infection service[21]. On the contrary, both male and female HIV infected has been facing gender related barriers while accessing HIV/TB services[17]. This current study also corroborates with previous findings of the study in relation to existing practice of stigma and discrimination in the society.

CONCLUSION

Overall the study results suggested that the HIV/TB co-infection was found among key population. The HIV/TB co-infection was relative higher among Migrant Labour Worker and their spouses. The existing stigma/discrimination was also contributing factor to be HIV/TB prevalence. The HIV/TB controls programme and policies should be comprehensively reviewed to protect general population. However, coping strategies to access HIV/TB services were significantly difference for use of previous saving and education and family occupation of respondents.

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CONFLICT OF INTEREST

None

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