KNOWLEDGE, RISK BEHAVIOUR AND VULNERABILITY TO HIV/AIDS AMONG FEMALE TRIBAL WORKERS IN A SELECTED AREA OF BANGLADESH

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ASTRACT

BACKGROUND

The sexual health issues and vulnerability to HIV/AIDS of the tribal female workers in the urban areas are almost non-existent in the literature in Bangladesh. An attempt was made in this study to assess the level of knowledge of HIV/AIDS, risk behaviour as well as vulnerability to HIV/AIDS among the female tribal workers in Bangladesh.

METHODS

A total of 280 young female tribal workers aged between 15-24 years working in different factories in Chittagong, the second largest urban centre in Bangladesh, were studied. A semi-structured questionnaire was used to collect the relevant information.

RESULTS

The results showed that around three-quarters of the respondents heard about the HIV/AIDS; however, their detail knowledge of HIV/AIDS was low. Sexually transmitted infection/diseases like genital ulcer and vaginal discharge and risk behaviours like low use of condom, multiple sex partners and drug abuse were also found among the workers. The most common source of information about HIV/AIDS was radio/television. The logistic regression analysis identified that women with higher education were significantly more likely to use condom during sex than women with primary education. Among other predictors, use of condom, Tripura tribe, radio/television, health service provider, mother/friends, factory workshop and knowledge score had significant odds. The significant odds in regard to sex with multiple sex partners were also found among female workers in Tanchangya tribe in comparison with Chakma tribe.

CONCLUSION

The overall findings suggest that the young female tribal workers are potentially vulnerable to HIV/AIDS issues. Consideration should be given on various issues like education, information dissemination, and treatment of sexually transmitted diseases as well as complete knowledge on HIV/AIDS in order to reduce the risk of HIV/AIDS vulnerability among the female tribal workers.

KEYWORDS: Knowledge, HIV, AIDS, Vulnerability, Female Tribal Workers and Risk Behaviour.

INTRODUCTION

The issues of HIV/AIDS formally and globally emerged as a broader development agenda during the declaration of the United Nations Millennium Development Goals (MDGs) in 2000 where MDG 6 called for unprecedented actions to fight and halt the AIDS epidemic [1]. Bangladesh, the 8th largest and one of the most densely populated countries in the world with all its underdevelopment context is also facing the potential dangers of HIV/AIDS issues [2]. The first case of HIV in Bangladesh was detected in 1989 [3]. Bangladesh has a very low HIV prevalence of <0.1% in the general population and <1% in most key affected populations. While current global trends show stabilizing or decreasing epidemics in many high-prevalence countries, Bangladesh has had a >25% increase over the past decade [4]. In 2013, it was estimated that 9,500 people were living with HIV in Bangladesh [5].

The prevalence among injecting drug users (IDUs) rose from 1.7% in 1999 to 7% in 2006 which marked the appearance of the first concentrated epidemic among any high risk group in Bangladesh [6, 7]. Though overall HIV prevalence is low, significant underreporting of cases occurs because of the country's limited voluntary testing and counseling capacity and the social stigma, which leads to the fear of being identified and detected as HIV positive [8]. Further, the behavior patterns and extensive risk factors that facilitate the rapid spread of the infection are making Bangladesh highly vulnerable to an HIV/AIDS epidemic. These risk factors include low level awareness, a large commercial sex industry, transport workers, the low level consistent condom use, significant prevalence of sexually transmitted diseases (STDs), gender discrimination and violence, stigma and discrimination related to HIV/AIDS, IDUs as well as the routine needle sharing among IDUs and frequent interaction of risk groups with the general population [9, 10, 11]. Bangladesh is surrounded by high HIV prevalence country like India and Myanmar which also poses a potential threat to become a highly vulnerable country to HIV/AIDS [12, 13]. Increased mobility of people among countries like Bangladesh, Nepal and India has the potential to create a bridge between high prevalence India and low prevalence Bangladesh and Nepal [14]. Huge number of Bangladeshi migratory labourers, both male and female, is highly vulnerable to different

health problems including HIV and STIs due to their marginal position in the destination country. Available data shows that more than 50% of the passively identified cases of HIV infections are comprised of external migrant workers and their families [15, 16].

The knowledge on symptoms, transmission and prevention of STIs and HIV/ AIDS is inadequate in this country [17]. Considering the low level awareness especially among vulnerable people as well as general population regarding HIV/AIDS, the government of Bangladesh has set a strategy in the National Strategic Plan for HIV/AIDS 2004-2010 which included one implementing strategy entitled "to create nationwide awareness through traditional and modern means of interpersonal communication and mass media" among many other implementing strategies [18]. As a signatory country to the Millennium Development Goals, Bangladesh is committed to 'to reduce HIV/ AIDS, Malaria and Tuberculosis' [19]. However, studies related to HIV/AIDS among tribal people is almost absent in Bangladesh. Furthermore the tribal people are migrating to other parts of this country in order to earn their livelihood which made them more vulnerable to HIV/AIDS.

In Bangladesh, there are approximately 45 tribal communities among which Chakma, Marma, Murang, Khumi, Hajong, Monipuri, Khashia, Garo, Mog and Rakhain are the leading tribal communities [20]. The majority of the tribal people live in the hilly districts of Rangamati, Khagrachari and Bandarban. The tribal people are usually food gatherers, hunters, forestland cultivators, and minor forest product collectors. Most of them live in hard to reach areas and in natural condition and hence, called 'son of soil'. Tribes constitute separate socio-cultural groups having distinct customs, language, traditions, marriage, kinship, property inheritance system and they are living largely in agricultural and pre-agricultural level of technology while depending on nature and impoverished economy that affects population growth and control, literacy, sex ratio, pregnancy procedure, sexual and health care [21, 22].

But, tribal population in Bangladesh is now undergoing a change due to the advent of modernization and it is being evident in their changing life style, value system and patterns of occupational trends [23]. The percentage of tribal households having income from business, transport/communication, construction and remittances has increased over the decades. At present, thousands of tribal female workers in their reproductive age are migrating to the urban areas to be employed in formal economic activities. Although there are some government and non-governments organizations' interventions to promote their reproductive health status of the women workers as a whole, very little is known about the migrated female tribal workers.

In this backdrop, the objectives of this study were to

- identify the knowledge of HIV/AIDS among young female tribal workers, and
- assess the risk behaviour and vulnerability of the female tribal workers to HIV/AIDS.

METHODS

Study Area and Population

This study was a cross-sectional and descriptive in nature. Study area was divided into two parts as per factories at the southern and the northern part of Chittagong city. The respondents were the young female tribal workers aged between 15-24 years who are migrants from other districts of Chittagong Hill Tracts and currently working at different factories in Chittagong. Information was collected from a total number of 280 respondents.

Questionnaire

Questionnaires were the key instrument for collecting data in this study. Before final data collection, a pre-test of the questionnaire was conducted to localize the languages as well as to understand the scenario from a more concrete perspective. Questionnaire included both open ended and close ended questions. Information on socio-economic condition, risk behaviour, knowledge and vulnerability to HIV/AIDS and sexually transmitted disease (STDs) issues were collected.

HIV/AIDS Knowledge Scale

In order to assess the knowledge of HIV/AIDS among the tribal workers, 14 items were developed to calculate Cronbach's Coefficient Alpha. Workers were asked to endorse either "yes", "no" or "I do not know" responses on statements about HIV/AIDS transmission, prevention and misperception. Each correct (yes response) was given 1 while incorrect (both No and I do not know) was given 0. The individual score was summed up in to scale score by arithmetic transformation procedure and used in the analysis.

Data Processing and Analysis

Data was scrutinized through necessary editing and screening. Recoding of the open ended questions was undertaken after editing of the interviewed questionnaire. Furthermore, data were doubly entered through Statistical Package for Social Sciences. At the analysis stage, mainly frequency was distributed

in regard to background profile, knowledge of HIV/AIDS, sources of knowledge of HIV/AIDS, STDs and risky behaviours. Finally, in order to identify the likelihood of risk behaviors among tribal workers, logistic regression procedure was applied as the dependent variables were dichotomous while independents were nominal, ordinal and interval level of measurement. In this regard, the following general logistic equation was used [24]:

$$\text{Log} = \frac{P_1}{1-P_1} = \alpha + \beta_1 X_1 + \beta_2 X_2 + \ldots\ldots\ldots \beta_p X_p$$

Where, α = intercept, β = vector of unknown coefficients, X = vector of covariates that affect the institutional delivery and delivery assisted by heath professional and p = the number of independent variables in the equation.

RESULTS

Tribal Female Workers' Socio-economic Condition

The majority of the respondents were 20-24 years of age while 32.9% of the respondents were less than 20 years of age (Table 1). Most of the respondents (56.4%) were unmarried. 36.8% of the respondents have below Secondary School Certificate (SSC)

Table 1. Socio-economic condition of the tribal female workers

Variables	Categories	Number	Percentage
Mean Age in years		21.55	
Marital Status	Unmarried	158	56.4
	Married	122	43.6
Education	Primary	53	18.9
	Below SSC	103	36.8
	SSC	101	36.1
	HSC and Above	23	8.2
Tribe	Chakma	180	64.3
	Murma	38	13.6
	Tripura	38	13.6
	Tanchangya	24	8.5
Religion	Buddhist	237	84.6
	Hindu	35	12.5
	Christian	8	2.9
Monthly Income	<=Tk3000	53	18.9
	Tk3001-5000	139	49.6
	>Tk5000	88	31.4
Residence	Rented house	252	90.0
	Mess	28	10.0

education and 36.1% of the respondents have completed the SSC. Although lower percentage, Higher Secondary Certificate (HSC) and above education was also found to some extent. Most of the respondents (64.3%) were from Chakma tribe. A few percentages of workers were also found from Murma, Tripura and Tanchangya tribe. Buddhist was the dominant religion among the tribal workers. More than four-fifths of them were Buddhist while Hindu and Christian respectively reported by 12.5% and 2.5%. The monthly income was mostly less than 5000tk(U$64) among the respondents; however, more than 5000tk(U$64) was also mentioned by slightly more than 30% of the respondents. The tribal worker came to Chittagong for job purpose mostly resided in rented house. To some extent, mess and factory premises were also mentioned.

Knowledge of HIV/AIDS

The knowledge of HIV/AIDS among the tribal workers is almost universal (Table 2). Around 78.57% of the respondents mentioned that unsafe sex can transmit HIV. To a lesser extent, transmission by infected blood transfusion, use of same syringe, mother to child, infected body transplant and breast milk were reported by the respondents.

Table 2. The percentage distribution of knowledge of HIV/AIDS

Knowledge of HIV/AIDS	Number (Yes)	Percentage
Heard about HIV/AIDS	272	97.1
Unsafe sex can transmit HIV	220	78.57
Infected blood transfusion	175	62.5
Use of same syringe	160	57.14
Mother to child transmission	184	65.71
Infected body transplant	192	68.57
Breast milk	176	62.86
Avoiding unsafe sex	220	78.57
Using condom during sex	211	75.36
Having no sex with sex workers	225	80.36
Having sex only with married partner	199	71.07
Mosquito bite can transmit HIV	175	62.50
Cough of HIV infected people can transmit HIV	180	64.29
Sharing same glass can transmit HIV	177	63.21
Cronbach's Alpha=.8132		

Comparatively, knowledge on HIV/AIDS prevention was higher among factory workers than that of transmission. For example, having no sex with sex workers was reported as preventive measure of HIV/AIDS by 80.36% of the respondents. However, the misperception was higher among the respondents. Transmission of HIV/AIDS by mosquito bite, cough and sharing same glass was respectively mentioned by 62.5%, 64.29% and 63.21% of the respondents respectively. The calculated Cronbach's Alpha in this study is .8132 which is higher than 0.7, the acceptable reliable coefficient [25]. It suggests that the inter correlations are strong enough to justify the single combined score on HIV/AIDS knowledge among the female tribal workers.

Sources of Knowledge of HIV/AIDS

The sources of knowledge of HIV/AIDS were both

mass media and personal (Table 3). The single most frequent source of knowledge of HIV/AIDS was mentioned by tribal workers as mass media (radio/ television). Health service provider as a source of such knowledge was mentioned by the majority of the workers; however, teacher and mother/friends as the sources was less reported. To some extent, factory workshop played a role in disseminating the messages of HIV/AIDS.

Table 3. The distribution of sources of knowledge of HIV/AIDS

Sources of Knowledge	Number	Percentage
Radio/TV	245	87.50
Health service provider	144	51.43
Teacher	62	22.14
Parents/friends	72	25.71
Factory workshop	35	12.50
Others	32	11.43

Symptoms of Sexually Transmitted Infections/ Diseases

The number of workers with symptoms of sexually transmitted infections/diseases is quite high (Table 4). The most common symptom was lower abdominal pain mentioned by 26.1%, while vaginal discharge was also reported by 16.4% of the respondents. Genital ulcer was also found among 4.3% of the respondents.

Table 4. The distribution of sexually transmitted infections/diseases

Sexually Transmitted Infections/ Diseases	Number	Percentage
Genital ulcer	12	4.3
Lower abdominal pain	73	26.1
Vaginal discharge	46	16.4
Others	4	1.4

Risk Behaviour of the Tribal Workers

Some risky behaviors were observed among the tribal workers in the study areas (Table 5). Among the workers, the use of condom was lower i.e., only one third of workers reported that they use condom during sexual intercourse. Sex with multiple sex partners and drug abuse were also reported by respectively 23.21% and 12.86% of the respondents among other risky behaviours.

Table 5. Attitude towards HIV/AIDS vulnerability among tribal female

Risk Behaviours	Number	Percentage
Use of condom	95	33.93
Sex with multiple sex partners	56	23.21
Drug Abuse	36	12.86

Logistic Regression Analysis

An attempt has been made in this section to predict the likelihood of risk behaviours among the tribal workers in regard to the outcome variables such as use of condom during sex, sex with multiple sex partners and drug use. Table 6 presents the odds ratio as well as significance level (p-value) by different independent variables.

Table 6. The odds ratio of risk behavior among female tribal workers

Variables	Use of Condom		Sex with Multiple Partners		Drug Abuse	
	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value
Age at present	1.005	.842	1.015	.630	.908	.127
Marital Status (0=Unmarried and 1=Married)	.830	.055	.887	.060	.894	.128
Respondents' Education						
Primary (0)	1.000	.739	1.000	.110	1.000	.349
Below SSC and SSC	1.112	.015	.945	.056	1. 015	.312
HSC and Above	1.230	.041	.939	.052	1.120	.074
Tribes of respondents						
Chakma (0)	1.000	.019	1.000	.210	1.000	.749
Murma	.449	.075	.805	.686	.979	.412
Tripura	1.132	.046	.915	.052	.9261	.427
Tanchangya	1.082	.057	1.332	.011	1.366	.531
Religion of Respondents						
Buddhist (0)	1.000	.526	1.000	.001	1.000	.005
Hindu	.728	.317	1.034	.056	.912	.437
Christian	1.000	.548	1.040	.123	1.340	.012
Information sources						
Radio/TV (0=No and Yes=1)	.920	.015	1.267	.040	.924	.068
Health service provider (0=No and Yes=1)	.704	.038	.772	.023	.747	.015
Teacher/school (0=No and Yes=1)	1.093	.719	.635	.210	1.112	.749
Mother/friends (0=No and Yes=1)	.949	.005	.955	.076	.979	.412
Factory workshop (0=No and Yes=1)	1.323	.026	.835	.012	.861	.031
Knowledge score	1.482	.010	.832	.036	.766	.034

The results show that women with higher education were significantly more likely to use condom during sex than women with primary education. Among other predictors of use of condom, Tripura tribe, information from radio/television, health service provider, mother/ friends, factory workshop and knowledge score had significant odds. The significant odds in regard to sex with multiple sex partners were Tanchangya tribe in comparison with Chakma tribe.

DISCUSSION

The majority of tribal female workers got the information from mass media (radio/television) as well as from health service providers. However, the communication with parents as well as teacher was very low in this study, though in a study it was found that the simulation of interest in parents and teachers regarding HIV/AIDS help them to educate themselves as well as students [26]. Over all, the tribal workers demonstrated satisfactory knowledge on HIV/AIDS; however, misconception was also found in this study to a greater amount. Such higher misconceptions were in this regard to transmission of HIV/AIDS through mosquito bite, coughing and sharing needles. This suggests that the knowledge on HIV/AIDS was not complete among the tribal female workers. As a result, misconception was observed by a significant amount. In another study conducted from February- March in 1997 among overseas job seekers, it was found that most who knew about AIDS had some inaccurate knowledge about HIV transmission, such as the virus can be transmitted through touch [27].

Sexually transmitted infections or diseases were also

found which cannot be ignored. Such infections/ diseases were vaginal discharge, lower abdominal pain and genital ulcer which suggest the higher probability of getting infected with HIV/AIDS if contacted. Most importantly, the use of condom during sex was lower among the tribal workers. Besides sex with multiple partners as well as drug use was also found in this study. This suggests that with the documented prevalence of sexual behavior of multiple partners, lack of condom use, the presence of sexually transmitted infections/ diseases, the prevention of risky sexual behaviour remains an essential intervention strategy.

Tribal female workers who had HSC and above education were more likely to use condom during sexual activities compared to that of primary educated female. This may be that women with higher education are more likely to have better understating about the disease causation as well as prevention compared to factory worker with lower or primary education. As expected, women with higher knowledge score were more likely to use condom while less likely to have multiple sex partners as well as to be drug abusers. It is general fact that knowledgeable people will be health conscious and hence healthy behaviour is expected from them.

Information sources such as radio/television, health service provider, parents/friends and factory workshops had also significantly varied with regard to the likelihoods of risk behaviour. However, among all the sources, women who were informed from factory workshops were more likely to use condom during sex while other sources had lower likelihood to some of the risky behaviour. This may be because information getting from factory workshop was recent and also made workers health conscious with proper environmental support i.e., medical facilities at the factories.

Among the different tribes, female workers from Tripura tribe were significantly more likely to use condom during sex while workers from Tanchangya significantly more likely to have multiple sex partners compared to that of Chakma. With regard to religion, factory worker from Christian religion were more likely to abuse drug compared to female factory workers from Buddhist community.

CONCLUSION

The overall findings showed that female tribal workers are at risk to HIV/AIDS vulnerability due to the low level of knowledge on HIV/AIDS, presence of sexually transmitted disease symptoms and risk behaviors such as low condom use, multiple sex partners and drug abuse. However, the risk behaviors varied depending on the different characteristics of the tribal workers. Therefore, consideration should be given on various issues like education, information dissemination, treatment of sexually transmitted diseases as well as complete knowledge of HIV/AIDS in order to reduce the risk of HIV/AIDS vulnerability.

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