

# OCCUPATIONAL CHARACTERISTICS AND FACTORS ASSOCIATED WITH PREVENTION PRACTICES RELATED TO HIV/AIDS AMONG ALCOHOL FACTORY MALE WORKERS IN INDUSTRIAL ZONE (1), PYI GYI TAGON TOWNSHIP, MANDALAY, UNION OF MYANMAR

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**ABSTRACT:** The objective of this cross-sectional study was to identify the occupational characteristics and to find factors associated with prevention practices related to HIV/AIDS among alcohol factory male workers in IZ (1), Pyi Gyi Tagon Township and Mandalay, Union of Myanmar. This study was conducted among 219 respondents by using a structured interview questionnaire and data were collected in March 2012. Workers' sex practices and prevalence of condom use were assessed in relation with the independent variables by using multiple logistic regressions. Some of the respondents were married but they were living with friends, relatives or living alone instead of living with families for their jobs and this factor was associated with more extramarital sex (OR= 0.220, 95% CI= 0.063, 0.767, *p-value*= 0.017). One of the occupational characteristics, travelling for jobs, was significantly associated with sex after drinking alcohol (OR= 26.696, 95% CI= 8.846, 80.551, *p-value*= <0.001) and extramarital sex (OR= 9.509, 95% CI= 3.099, 29.182, *p-value*= <0.001). These results strongly suggest that an occupational characteristic is one of the associated factors with unsafe sex, but does not prove causality. The observed association should be investigated further and the future studies should not only be descriptive study but also include action research for HIV prevention and control.

**Keywords:** occupational characteristics, prevention practices and alcohol factory workers

## INTRODUCTION

The most important risk factor for the spread of HIV in several parts of Asia is unprotected sex. The men who were single or apart from their wives were more likely to have sex with prostitutes and multiple partners as it was found among Myanmar migrant workers in Samut Sakhorn province, Thailand [1]. The respondents who need to travel due to their job had risk sexual behavior comparing to the ones who do not need to travel [2]. Occupational status is one of the important factors that associated with risk behavior that the increase transmission of HIV. Participants who worked in construction sites, factories, hotels and restaurants, tattooing and hair dressing were more likely to visit sex workers [3].

HIV infection rate is highest in the working age group. Some of work related factors such as mobility of workers and separation from families can increase the risk of HIV infection [4]. People who abuse alcohol are more likely to engage in risk behaviors

for contracting HIV and other sexually transmitted infection (STD).

Factory workers had a higher rate of alcohol consumption than non-factory workers [5]. Factors increase the risk of HIV infection, such as mobility, working in a male dominated profession and working in geographically isolated and male dominated environment [6]. In Myanmar, factors associated with HIV infection among workers have not been fully examined. This is the reason for conducting the study on the occupational characteristics and factor associated with prevention practices related to HIV among male factory workers.

## MATERIALS AND METHODS

A cross sectional descriptive study was used to assess the occupational characteristics and factor associated with prevention practices related to HIV/AIDS among alcohol factory male workers. The study population was all male workers aged between 18-49 years in alcohol factories, Industrial Zone (1), Pyi Gyi Tagon Township and Mandalay,

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Myanmar. There were ten alcohol factories and 486 alcohol factory male workers in Industrial Zone (1) and a sample of 219 was required for this study. Proportional sampling method was used to recruit the study participants from each subgroup in proportion to the actual size of the group in the total population. After getting permission from factory owners/managers to recruit the sample, the sample from each subgroup was recruited by using simple random sampling.

Ethical clearance was obtained from Chulalongkorn University. The data were collected using a five item structured questionnaire. Four trained research assistants conducted face-to-face interviews. The questionnaire was adapted from previous used instruments for similar studies of occupational characteristics and risk factor for safe sex practices related to HIV/AIDS among adult persons [1, 2]. The questionnaire was divided into 5 sections: 1. socio-demographic characteristics, 2. occupational characteristics, 3. Knowledge about HIV/AIDS, 4. Attitude towards HIV/AIDS and 5. Prevention practices about HIV/AIDS. The knowledge of HIV/AIDS section was included about 33 questions, attitude section was 14 questions and practice section included 6 questions. The questionnaire was pre-tested among 30 male alcohol factory workers in Industrial Zone (2) and Mandalay, Union of Myanmar. The Alpha Cronbach's coefficient for the knowledge questions was 0.84 and for attitude questions was 0.72. The questionnaires was revised and improved after pre-testing. All respondents gave informed signed consent before answering the questionnaire. Completion of the same took 25-30 minutes.

SPSS software version 17 was used for the data analysis. For descriptive statistics, frequency and percentage were used. Simple logistic regressions were used to find association between independent variables (eg. marital status, living status, travelling for job, working time, knowledge and attitude) and dependent variables (eg. sex practices and consistent condom use). Semifinal multiple logistic models were constructed for respondents' dependent variables and all independent variables for which p is less than or equal to 0.15 in bivariate analysis were entered (eg. respondents' age, education, marital status, living status, eligible to buy alcohol at discount, travelling for job). Final logistic regression model was then constructed. In these final model, all independent variables for which p is less than or equal 0.15 in semifinal models were entered. The final models independent variables for which p is <0.05 were considered significant.

**Table 1** The level of HIV/AIDS knowledge among respondents (n=219)

Knowledge Level	Number	%
Low Level (1-24 scores)	111	50.7
High Level (25-33 scores)	108	49.3
Range =13.0-33.0, Mean $\pm$ SD = 23.9 $\pm$ 3.9, Median = 24.0		

**Table 2** The level of HIV/AIDS attitude among respondents (n=219)

Attitude Level	Number	%
Negative Attitude (1-49 scores)	108	49.3
Positive Attitude (49-70 scores)	111	50.7
Range =26.0 -70.0, Mean $\pm$ SD = 49.3 $\pm$ 7.2, Median = 49.4		

**Table 3** Number and Percentage of the Sex Practices of the Respondents

Sex Practices (Yes)	N	%
Sex after drinking alcohol (n=154)	84	54.5
Extramarital Sex (n=100)	45	45
Casual Sex (n=219)	84	38.4
Sex with Female Sex workers (n=219)	69	31.5
Having Homosexual Sex (n=219)	42	19.2

**Table 4** Number and Percentage of the Consistent Condom Used of the Respondents

Consistent Condom Used (Yes)	N	%
Extramarital Sex (n=45)	5	11.1
Casual Sex (n=84)	11	13.1
Sex with Female Sex workers (n=69)	20	29
Having Homo Sex (n=42)	21	50

## RESULTS

Majority of respondents were under the age of 29 (54%), single (53.4%) and most of the respondents and a large minority (41.1%) finished high school level education. Fifty seven percent of the respondents' hometown was Mandalay, and (43.4%) of the respondents came from all around the country. Most of the respondents (71.2%) were living with their family. More than half of the respondents (61.2%) could not buy their factories' product at the discount. During the last one month, (46.6%) were working at night shift and alternate shift. Two third of the respondents were travelling for jobs. Nearly half of the respondents (48.9%) were not provided HIV educational workshops by NGOs. Majority (58.4%) of the respondents received HIV related health knowledge in the workplace and they received information from their colleagues (76.6%).

The level of HIV/AIDS knowledge among respondents was low level (50.7%), Table 1. The

**Table 5** Sex practices (sex after drinking alcohol) in respondents, final multiple logistic regressions

Independent variables	Modeled Coefficient (B)	Odds Ratio Exp (B)	95% CI	p-value
<b>Marital Status</b>				
Single <sup>Ref</sup>	1	1	1	1
Married, Divorced, Widowed	2.255	9.531	3.653, 24.868	<0.001
<b>Education</b>				
Primary, Secondary Education <sup>Ref</sup>	1	1	1	1
High School, University	-1.264	0.282	0.090, 0.882	0.030
<b>Travelling for job</b>				
No <sup>Ref</sup>	1	1	1	1
Yes	3.285	26.696	8.848, 80.551	<0.001

<sup>Ref</sup> - Reference group

attitude level was positive attitude (50.7%) in Table 2. Table 3, there were 154 drinkers among the total respondents. In these 154 drinkers, (54.5%) of the respondents had sex after drinking alcohol. There were 100 married persons among the total respondents and (45%) of the married respondents had extramarital sex during the past 12 months. Only 11.1% of the respondents consistently used condom when they had extramarital sex (Table 4). Marital status, education level and travelling for jobs were included in semifinal model and final model and were found to be significantly associated with sex after drinking alcohol as shown in Table 5.

## DISCUSSION

This study was conducted to evaluate the occupational characteristics and how work-related factors were associated with HIV/AIDS prevention practices among males working at ten alcohol factories in Industrial Zone (1), Mandalay, Union of Myanmar. The finding for this study confirm those of a similar study done in Uganda in which being multiple sexual partners, travelling for job, being married but not residing with regular sex partner and drinking alcohol were associated with HIV risk behaviors [7]. High education among Myanmar migrant workers in Thailand was negatively associated with sex after drinking alcohol as well as safer sex behavior as reported by Aung [2]. Travelling for a job is one of the risk factors. In this study, travelling for jobs was significantly and positively associated with sex after drinking alcohol and extramarital sex. These findings are consistent with a previous study in Zimbabwe that has shown that men residing separately from their wives were more likely to report multiple sexual partners [8]. HIV intervention strategies should address work related factors of this type. The result provides support for the hypothesis that there is an association between socio-demographic characteristics,

occupational characteristics and prevention practices related to HIV/AIDS among alcohol factory male workers.

Further research should study factory and other occupational workers in other places to find out the factors influencing sex practices including consistent condom use. Travelling is one of the major factors associated with multiple sexual partners' practices. Therefore, more efforts are needed in providing supportive and intervention programs to workers who need to travel in order to increase their awareness and knowledge about HIV/AIDS. Some of the respondents were married workers; they migrated from all over the country and lived with friends, relatives or alone instead of living with their wives. These factors lead to extramarital sex. The findings showed implications for the design of HIV/AIDS control programmes for workplaces and work policies. Whenever possible, married migrating workers should be provided with accommodation for their spouses/partners and other family members.

A limitation of the study was in sampling since the area was pre-selected and the study was only focused on the alcohol factory male workers in Industrial Zone (1), Pyi Gyi Tagon Township and Mandalay, Myanmar. A study that would include samples from various districts in the country might be more representative of the status of Myanmar male alcohol factory workers. In addition as the study was a cross-sectional one, it could not detect changes among workers over time.

It is expected that the result of this study will provide some baseline information (assessment of occupational characteristics, factor associated with prevention practices related to HIV/AIDS) for workplace HIV prevention practices and intervention- health education, health promotion, IEC (information, education and communication) material development, condom promotion and BCC

(behavioral changed communication).

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