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Alcohol & Substance Use and its Correlated Risk among Slum Dwellers of Mumbai City

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Abstract:

Substance use by the dwellers in the urban areas put them into the aggravated health risk and poses questions for their development before the policy makers. This study has attempted to study the substance use by the slum dwellers of Mumbai Slum. Primary data has been collected from 688 slum dwellers across all age groups through structured interview schedule during 2008-2009. Qualitative data has also been collected as a confirmatory measure for quantitative data and for indepth data capture and data analysis. Substance use and treatment seeking has been analyzed. Bi-variate and multivariate logistic regression has been applied as a statistical tool for analysis and indepth analysis. It is found that men should be educated about harmful effects of the consumption of tobacco and substance. Mass media like T.V., FM channel could be used for educating males regarding such issues. Many times slums are considered as the buffer for the economy of metros since they provide cheap labour that can support the city's economy by doing all sorts of jobs. However, they become a curse to society when they indulge in unlawful activities including communal fights, domestic violence for petty things and involve in sex trade. Also, as the slum dwellers live in a filthy condition, they often act as viable medium to spread diseases.

1. Introduction

The program of action of the International Conference on Population and Development (ICPD) set a new agenda in 1994 on male responsibilities and participation in reproductive health matters. Realizing the need, the draft National Population Policy (2000) suggested a holistic approach to family welfare programme and stressed on male involvement particularly in the context of prevailing gender inequality. If men are brought into a wide range of reproductive health information and services, better outcomes are expected in all health indicators as well as demographic indicators. Hence, for improving the reproductive health of couples there is need to involve men in the reproductive health issues such as safe motherhood, family planning, contraceptive utilization and prevention of dreaded infections like Sexually Transmitted Infections (STIs) and Human Immunodeficiency Virus (HIV) and alcohol & substance use by men. Further, the problem gets aggravated if men are from lower socio-economic strata.

2. Alcohol And Substance Use

In most societies, alcohol use is rooted in tradition, but alcohol abuse is a major health problem (Room et al., 2005). It is associated with sexually transmitted infections, but its association with HIV is unclear (Hunter, 1993). Alcohol use is common, and disinhibition as a result of alcohol may precipitate and reinforce sexual risk-taking. The global burden of disease project estimated alcohol to be responsible for 1.5 per cent of all deaths and 3.5 per cent of the total disability adjusted life years (DALYs). The morbidity and mortality associated with alcoholism is in part related to the link between alcohol use and high risk behaviour. The word 'RISK' implies probability of occurrence of harm, and different approaches have been used to examine the association between alcohol use and high risk behaviour. In individual based studies in the context of alcohol use, high risk behaviour is defined as an occurrence of event with probability of harm and bearing a temporal relationship to the consumption of alcohol. The annual incidence of STI in India is estimated as five percent or approximately 40 million new infections every year (World Bank, 1996). The World Health Organization (WHO) estimates that 150 to 330 million cases of curable diseases occur in Developing and Developed countries as well (Johannisson, 1996). In Developing countries, the incidence of mortality and morbidity due to Reproductive Tract Infection (RTI) / STI are very high relative to those associated with other health problems. The high incidence of RTI/STI in India also indicates the vulnerable situation for rapid and extensive spread of HIV epidemic. Spurred by the threat of AIDS and rising interest in holistic approach to address reproductive health concerns, there is substantial

international activities related to integration of RTI/STD/HIV prevention care into Family planning. Availability of data on reproductive health and effective interventions are very limited. There are very few community-based studies where male's knowledge about reproductive health has been studied.

3. Reproductive And Sexual Health Problems

The concern about male sexual health, and concomitantly the health of their sexual partners, is set in the context of rapid spread of HIV/AIDS and increasing rates of STI in India. As in most developing countries, estimates of disease burden rest on surveillance in limited sites or stand-alone studies. An estimate of the actual burden of HIV-infected population in India suggests that 1.5 percent of the one billion Indian population, or 11.5 million individuals were already infected with HIV, making the country, one with the largest burden of HIV in the world in numerical terms (*Kumar, 1999*). The state of Maharashtra and the city of Mumbai have severely been impacted by the spread of STI and HIV/AIDS. Surveillance data on Mumbai indicate that there has been a steady increase of HIV positive individuals among patients attending STI clinics from 1.6 percent in 1987 to the recent estimate of 64.4 percent in 1999, with HIV prevalence increasing in the city from one percent in 1993 to three percent in 1999 (*UNAIDS 2000*). Majority of HIV/STI infected individuals in India are men and estimates in 1994 indicated male to female HIV prevalence ratio is 5:1, with female cases being mainly sex workers (*Pais, 1996*). More recent estimates indicate a 3:1 ratio. Of the 3.5 million adults (between 15-49 years) living with HIV/AIDS in India, 2.2 million are males (*UNAIDS 2000*).

4. Consumption Of Intoxicating Items

Consumption of substances like alcohol, tobacco and consumption of Bidi/ Cigarette and pan gutkha consumption is mostly addictive, harmful and causes health problems. Significant populations of slum dwellers of Mumbai too were found to be consuming tobacco and other such items. An idea about alcohol and tobacco consumption and its associated facts was obtained from the slum dwellers of Mumbai. Poulouse and Srinivasan, (2009) observed that there was a high prevalence of high risk behaviour following an episode of heavy drinking in male patients with alcohol dependence syndrome. Both, severity of drinking and personality factors were associated with the occurrence of high risk behaviour as a consequence of heavy drinking. Thankappan and Thresia (2007) pointed out that tobacco use in Kerala is almost at the same level as in rest of India but is significantly higher among the poor. Smoking is comparatively low among women compared to men. Tobacco chewing is increasing among men, children and adolescents possibly due to the ban on smoking in public places and strategies of tobacco industry to shift their focus to smokeless tobacco products which are not affected by current tobacco control policies. In order to assess the knowledge, attitude and behavior towards pre-marital sexuality among youth, there is an urgent need for programs on the aspects of practicing safe-sex targeting not only the youth but also their peers and parents who would be able to guide them properly in this direction (*Kumar and Tiwari, 2003*). The IIPS Youth Study (2010) shows that youth participation in civil society and political life is increasingly recognized as an important development objective. A study by (*Rhule-Louie et al. 2008*), examined how substance abuse is associated with the health and safety of homeless youth using cross-sectional, self-reported data from 285 homeless adolescents. The study also discussed the implications of interventions on homeless adolescents. "*Youth in India: Situation and Needs Study*", (2007) covered a total of 8,330 married and unmarried young men and women. The study tells us that youth participation in civil society and political life is increasingly recognized as an important development objective. Examination of specific drugs revealed the relationships between psychological distress and use of alcohol, cocaine, and amphetamines, and also a specific association between housing risk and use of heroin. None of the measures of substance abuse was significantly related to youth's medical problems. The study also discussed the implications of interventions on homeless adolescents. *Ross and Chaloupka (2004)* have tested the effect of various tobacco control measures on youth cigarette demand, using a 1996 nationally representative survey among US High School students which indicates that youth access to law has a negative effect on smoking probability. Relatively strong clean indoor air laws may also reduce the probability of smoking. *Verma et al. (2001)* study in a Mumbai slum, examines the vocabulary men use to describe issues such as sexual health problems, cultural views about categorization, and the views of local health practitioners etc., The study suggests that a comprehensive reproductive health program should address the male health problems in order to motivate men to play more active and positive roles in reproductive health and family planning. *Visaria (1998)* suggested that multi-disciplinary dialogues and discussions on the ways and means of raising the capacity of the Indian society to confront and alleviate the problems of poverty and unemployment need to be organized on a priority basis to tackle the problems of youth as well. This is only a beginning which highlights the need for a comprehensive analysis of all the evidences on the subject.

5. Need For The Study

Over the years, the metro cities have been getting congested because of the rapidly growing slum population. According to the 2001 Census, 35 towns/cities of India's census account for 28 percent of urban population (*Census of India, 2001*). Further, congestion in slums results in occurrence/spread of diseases, burdening of infrastructure, endangering gender development and environment. Environmental pollution has been putting peoples' health at risk demanding better facilities from the government. More than half of the Mumbai population resides in slums (*MCGM, 2010*), which are over loaded with several problems. Hence, there is a need to look into the problems, the slum dwellers of Mumbai face including their health conditions and its correlated risk factors. Hence, there is a pressing need to carry out a study in Mumbai slum to understand their living condition, life style and the health status. It is hoped that the study will highlight the problems that the slum dwellers of Mumbai facing in their day to day life. Further, there are hardly a few studies about the youth living in Mumbai slum, as such and hence it become necessary to study the life style and other particulars of the youth living in Mumbai slum to understand the health condition of the slum dwellers. The life style and pattern of living varies according to age and sex. It is much more different for the youth than that of

other age groups. Around the world, the term 'YOUTH' generally refers to a time of life that is neither childhood nor adulthood, but rather somewhere in between. Youth also identify a particular mind set of attitudes. Youth is an individual from 15 through 24 years of age. In this context, this paper explores the alcohol & substance use and its correlated risk.

6. Objectives

The basic objectives of the study are as follows:

- To examine the impact of life style on health status of slum dwellers
- To study the socio-economic and demographic differential of suffering and treatment seeking due to substance use

7. Data And Methodology

7.1. The location of the study

This study is carried out in Greater Mumbai (Municipal Corporation), the capital of Maharashtra state. This area is densely populated and highly industrialized urban location is situated at the west coast of India. Greater Mumbai (Municipal Corporation) constitutes a geographical area of 437, 77 sq. km, (Rama Rao, 2005). According to Census 2001, 11.9 million persons, 6.6 million male (55.2 percent) and 5.3 million females (44.8 percent) reside in Greater Mumbai. The sex ratio is 811 females/1000 males and population density is found to be 272.16 persons per sq. km. This capital city of Maharashtra holds 12 percent population of the entire state and 1.1 percent of the country's population, (Census 2001).

7.2. Design of the study

Around half of Mumbai population lives in slums which are spread throughout the city. Some localities have very high population density. Multi stage sampling design has been adopted for selection of representative localities and households. Primary data have been collected from slums which are representative of the entire Mumbai city and cover different segments of the slum population. The Mumbai Municipal Corporation has administratively divided Mumbai city into 6 zones, viz, zone 1, 2...6. Each zone is divided into a few wards and the wards are further divided into sections.

Three zones are selected randomly. The selected zones are: zone 2, zone 3 and zone 5. Once the zones are selected, in the second stage of sampling, one ward with slum inhabitants is randomly selected. The wards selected from the different selected zones are:

- Zone 2-----Ward G/North
- Zone 3-----Ward K/East
- Zone 5-----Ward M/East

The next stage of sampling consists of selection of sections. One section is randomly selected from each of the selected ward. The sections selected from above mentioned wards are:

- Ward G/North ----Mahim
- Ward K/East -----Andheri
- Ward M/East -----Mankhurd

We have selected three slums from three different parts of Mumbai. Mankhurd slum, which is in the eastern part of Mumbai, is dominated by Muslims. Dharavi slum, the biggest slum in Asia is located in the central part of the city. The slum of wards K/E is located in the western suburb of Mumbai which is better off than the other two. Keeping in mind the disparity in economic status of the slum dwellers, three slums from different areas of Mumbai have been selected. It appears from the analysis also that the ward K/E has better water and sanitation facilities than the other slums.

| Wards | IMR per 1000 live births | MMR per 1000 women | No. of Dispensaries | No. of Hospitals | No. of Anganwadi | No. of Schools |
|---------|--------------------------|--------------------|---------------------|------------------|------------------|----------------|
| G-North | 35.70 | 0.37 | 246 | 93 | 270 | 93 |
| K-East | 25.99 | 0.26 | 799 | 113 | 274 | 141 |
| M-East | 57.93 | 0.53 | 16 | 39 | 492 | 106 |

Table 1: Some selected indicators of three different wards of Mumbai, 2009

Source: Human Development Report, 2009

The IMR of K/E ward is the lowest (26 per 1000 live births) in comparison to any other wards of Mumbai. Further, the health care infrastructure in the K/E ward is better than other two wards. For example, the number of hospitals (public and private) is 113, which is one of the highest figures with regard to different wards of Mumbai. These findings clearly pointed out that K/E ward has better health facilities.

7.3. Sample Size Determination (In Terms Of Individual With An Ailment)

- Expected incidence of Diarrhoea 22 Percent (NFHS-II)
 - Confidence interval 1 Percent
 - Absolute precision (17% - 27%) 5 Percent point
- $d = 5/100 = 0.05$
 $C I (99\%) Z_{1-\alpha/2} = 2.58$
 $P = 22/100 = 0.22$

$$n = Z^2 \frac{p(1-p)}{d^2}$$

$$n = (2.58)^2 (0.22) * (1-0.22) / (0.05)^2 \quad n = 459$$

Total sample size with considering design effect of value 1.5 = 459 * 1.5,
n = 688

Three slums have been selected for the present study. Since it was proposed to collect information from 688 households located in the selected slums for the study the total number of households selected per slum would out to be 229 (688/3 = 229 approximately). The households were listed clockwise starting from the N-E corner. Slums that had more than 300 were segmented. After listing all the households of a particular locality, households have been selected by systematic random sampling procedure. Information has been collected from 676 households and response rate is 98.3 percent. The respondent for this study is head of the household or a responsible member of the family aged 18 years and above.

Six hundred and thirty six were found to be youth from 676 households selected for the study. Since households had more than one youth, using KISH Grid only 427 youth aged 15-24 years were interviewed to know their life style and other aspects. The rationale behind selecting only male members is to reduce clustering effect due to the high prevalence of substance abuse (tobacco and alcohol use was 41 and 33 percent respectively in Mumbai males (*IIPS and Macro International, 2005-06*)). Hence it was felt appropriate that the number of respondents who would provide information about household and life style is around 688.

7.4. Methods For Data Collection

The data collection involves both of quantitative as well as qualitative techniques. Quantitative data was collected to get information about the households, its members, life style, food habits, and prevalence/occurrence of disease during the last six months through a well designed pre-tested interview schedule. All the information was collected either from the head of the household or from a responsible adult member. The qualitative data was collected through in-depth interviews of at least two key informants or stake holders in the selected slum areas to have first hand information about the locality, the demographic profile, food habits, life style, living condition and prevalence of diseases, if any. The incidence of illness to any member of the household during last six months was collected. The reference period was fixed as last 6 six months in view of the recall lapse error of the head of the households. Male youth aged 15-24 years provided information about their life style and involvement in household decision making. At least one Focus Group Discussion (FGD) was conducted separately among males and females from the each slum under study.

7.5. Period of data collection

Both quantitative and qualitative information was collected from three slums of Mumbai viz. Mankhurd, Andheri and Mahim during December 2008 to February, 2009.

7.6. Quantitative techniques

- A semi-structured household questionnaire was prepared for the household survey in the slums.
- Another questionnaire was used to elicit information from unmarried males 15-24 years old in Mumbai slum to know their life style and involvement in decision making process.

7.7. Qualitative techniques

- Focus group discussion (FGD) is an important qualitative tool to collect data. In FGD the discussion (question /answer) hovers around some specific points which are quite often not captured in the quantitative data analysis.
- Similarly in in-depth interviews of certain persons are selected for interview who hold some position in the locality often called as stake holders. The selected stakeholders in three slums of Mumbai were (Private Doctors, Bhojpuri Film Maker and Social Activist etc.) who provided information about general status of housing and living condition.
- Focus Group Discussions were also conducted among males and females separately to understand the housing and living condition of Mumbai slum dwellers using an already a pretested interview guide.

8. Analysis And Findings

8.1. Substance Abuse By Slum Dwellers

Three out of every 5 slum dwellers of Mumbai consume intoxicating items such as bidi, pan, gutkha or alcoholic drinks. It is evident from table that around three fourth slum dwellers are consuming Pan/khaini/gutka/mava, followed by Bidi/cigarette (53 per cent) and only 27 per cent are consuming alcohol. Consumption of any one of the intoxicating item is almost universal among the slum dwellers of Mumbai. Approximately one fourth of the slum dwellers began to use three substances when they were less than 14 years of age and around 37 per cent have used the substance when they were aged 15-19 years. Tobacco use is responsible for five million deaths in the world every year and 50 per cent of these deaths occur in the population aged (35-69 years). Mortality attributable to tobacco has been estimated to be one million every year in India (Pai, 2002). In case of Mumbai, around 22 per cent slum dwellers are suffering due to the use of intoxicating items. Among them as high as 97 per cent sought any kind of treatment but only 75 per cent slum dwellers got their diseases cured. Two fifths of the slum dwellers have borrowed money from any source for the treatment of their disease. Less than one fourth have borrowed money from close relative while around four of every five slum dwellers have borrowed money from other relatives.

| Substance Use | Per cent |
|-------------------------------------|----------|
| Consumption of intoxicating items | 60.2 |
| Bidi/Cigarettes | 52.9 |
| Pan/ khaini/gutka/mava | 74.2 |
| Alcohol/Drugs | 26.8 |
| Any others | 2.3 |
| Anyone | 99.2 |
| Age at which consumed first (Years) | |
| Less than 14 | 25.8 |
| 15-19 | 37.4 |
| 20 and above | 36.8 |
| Suffered due to use | 22.1 |
| Any treatment sought | 96.6 |
| Diseases cured | 74.7 |
| Money borrowed | 39.7 |
| Source barrowed | |
| Close relatives | 22.7 |
| Other relatives | 78.8 |
| Cooperative society | 2.3 |
| Employer | 2.3 |
| Number of Household | 676 |

Table 2: Percentage distribution of slum dwellers by substance abuse in slums of Mumbai, 2009

Table 2, represents the use of intoxicating items among slum dwellers by their background characteristics. Consumption of Bidi, Cigarette Pan/Khaini/Gutkha (but not alcohol) is most common among the slum dwellers of Mumbai. The use of any other intoxicating item is comparatively very less. Use of any one of the intoxicating items is almost universal among them. Irrespective of age around three fourth of the slum dwellers use Pan/Khaini/Gutkha while another half of the slum dwellers are use Bidi/Cigarette. Alcohol use is around 23 per cent which is comparatively less. Though there is not much differential among the slum dwellers belonging to different age categories in the use of Pan/Khaini/Gutkha the alcohol use increases as the age increases. There appears to be particulars association between age of the slum dwellers and alcohol use.

| Background Characteristics | Bidi/Cigarette | Pan/Khaini/ Gutkha | Alcohol | Any other* |
|----------------------------|----------------|-----------------------|---------|------------|
| Age category | | | | |
| Up to 24 | 56.3 | 73.6 | 23.1 | 2.3 |
| 25 – 34 | 52.6 | 75.9 | 24.6 | 1.4 |
| 35 – 44 | 58.1 | 72.4 | 26.7 | 2.5 |
| 45 & above | 41.0 | 73.8 | 35.9 | 4.6 |
| Level of education | | | | |
| Illiterate | 55.3 | 74.6 | 24.1 | 4.0 |
| Up to fifth | 58.0 | 74.0 | 21.2 | 2.1 |
| Up to eight | 57.8 | 72.6 | 28.7 | 2.0 |
| Eight & above | 44.0 | 73.4 | 32.2 | 1.3 |
| Caste | | | | |
| SCs/STs | 56.7 | 67.3 | 30.4 | 0.0 |
| OBCs | 57.1 | 73.3 | 25.1 | 2.5 |
| General | 49.4 | 78.8 | 22.1 | 3.4 |
| Religion | | | | |
| Hindu | 49.4 | 72.3 | 34.7 | 1.4 |
| Muslim | 60.0 | 77.0 | 11.7 | 3.9 |
| Other | 71.2 | 55.8 | 44.2 | 0.0 |
| Occupation | | | | |
| Did not work | 55.8 | 71.4 | 14.3 | 1.7 |
| Working | 50.6 | 73.4 | 30.9 | 2.7 |
| HH activity | 53.6 | 74.4 | 27.2 | 3.3 |
| Student | 58.2 | 75.1 | 24.4 | 1.8 |
| Wealth Index | | | | |
| Poorest | 60.8 | 78.0 | 9.1 | 1.6 |
| Poorer | 57.8 | 73.9 | 12.3 | 2.5 |
| Middle | 68.4 | 77.7 | 29.9 | 4.6 |
| Richer | 44.3 | 69.9 | 42.0 | 2.8 |

| | | | | |
|---------|------|------|------|-----|
| Richest | 31.5 | 66.3 | 44.2 | 0.0 |
|---------|------|------|------|-----|

Table 3: Percentage distribution of the use of intoxicating items among slum dwellers by their background characteristics in Mumbai, 2009
**Snuff or Spirit or Bhang or Ganja etc. **Bidi/cigarette or pan/khaini/gutkha or alcohol/drug*

Amongst all caste groups, the consumption of Pan/Khaini/Gutkha is highest while the use of Bidi/cigarette and alcohol is lowest for those belonging to general category. Around one third of SC/ST use alcohol. More Muslims (77 per cent) are consuming Pan/Khaini/Gutkha compared to other (56 per cent). Less than 50 per cent of Hindus use Bidi/Cigarette. The use of alcohol among Muslims is very less (12 per cent) as compared to other religious groups (44 per cent). There is not much differential among the slum dwellers with different levels of education in the consumption of Pan/Khaini/Gutkha. Irrespective of the level of education the use of alcohol is least as compared to other intoxicating items. Poverty factors might be the underlying cause behind this phenomenon. The use of Bidi/Cigarettes least among slum dwellers with level education eight and above while the use of alcohol is highest among them. Consumption of Pan/Khaini/Gutkha is most common among slum dwellers having different occupations. Highest percentage (58 per cent) of students in Mumbai slums use intoxicating items like Bidi/Cigarette. The consumption of alcohol is highest among working group (31 per cent) and least among those who are not working (14 per cent). The table clearly depicts that the consumption of alcohol is very much affected by the economic status of the slum dwellers. The consumption of Pan/Khaini/Gutkha and Bidi/Cigarette is less among the slum dwellers in the richer and richest quintile while the consumption of alcohol is very high in these groups as compared to all other wealth quintiles.

8.2. Alcohol Use And Its Factors

Among slum dwellers very high percentages (84 per cent) report that they have not yet started alcohol consumption. After attaining the age of 20 years only 9 per cent of the slum dwellers start alcohol use. Use of alcohol among children below fourteen years of age is only two per cent.

| Household assets | Alcohol consumption by slum dwellers |
|---|--------------------------------------|
| Age at which started alcohol/drug use (Years) | |
| Not used so far | 83.8 |
| Less than 15 | 2.4 |
| 15-19 | 5.2 |
| After 20 | 8.7 |
| Frequency of consumption | |
| Daily | 15.7 |
| Once in a week | 76.9 |
| Once in a month | 5.5 |
| Occasionally | 2.0 |
| Amount of consumption | |
| Less than two pegs | 17.7 |
| More than two pegs | 82.3 |
| Place of consumption | |
| Home | 14.0 |
| Shop/ Bar | 84.1 |
| Friends/Relative's house | 1.9 |
| Company given | |
| None (alone) | 14.8 |
| Family members | 74.7 |
| Friends/ relative | 10.5 |
| Material type | |
| English | 15.9 |
| Desi/Local | 83.3 |
| Others | 2.3 |

Table 4: Percentage distribution of slum dwellers by the alcohol use in Mumbai, 2009

In case of frequency of alcohol consumption it was found that alcohol once in a week is most common among the slum dwellers of Mumbai. Those who consume alcohol daily are comparatively very less (16 per cent). Consumption of more than two pegs of alcohol is as high as 82 per cent among slum dwellers. Most of the slum dwellers take alcohol at shops/ bars (84 per cent) followed by 14 per cent who consume at home. By and large they take desi/local daru with family members.

| Characteristics of Respondent | Categories | Suffering |
|-------------------------------|----------------------|-----------|
| Age | Upto 24 years | 1.00 |
| | 25-34 years | 1.09 |
| | 35-44 years | 1.19 |
| | 45 years and above | 1.06 |
| Wealth Quintile | Poorest® | 1.00 |
| | Poorer | 1.02 |
| | Middle | 1.82** |
| | Richer | 0.86 |
| | Richest | 1.34 |
| Level of education | Illiterate® | 1.00 |
| | Up to fifth | 0.81 |
| | Up to Eight | 1.25 |
| | More than eight | 1.25 |
| Caste | SC/ST® | 1.00 |
| | Other backward caste | 2.58*** |
| | General | 1.21 |
| Religion | Hindu® | 1.00 |
| | Muslim | 3.10*** |
| | Others | 4.05*** |
| Occupation | Did not work® | 1.00 |
| | Working | 2.10*** |
| | HH activity | 1.29 |
| | Student | 1.47* |
| Sex | Male® | 1.00 |
| | Female | 0.37*** |

Table 5: Odds ratio for anybody suffering and taking treatment for intoxicating items among slum dwellers in Mumbai, 2009
 ***Significant at $p < 0.01$; ** at $p < 0.05$; * at $p < 0.1$

| | Mean | Std. Deviation | N |
|------------------------------|------|----------------|------|
| Consume intoxicant | .38 | .48 | 3241 |
| Suffering due to intoxicants | .78 | .42 | 2027 |
| Taking treatment | .03 | .17 | 451 |
| Money borrowed | .61 | .49 | 451 |

Table 6: Descriptive Statistics

| | 1 | 2 | 3 | 4 |
|--------------------------------|------|------|---------|-----|
| 1.Consume intoxicant | | | | |
| 2.Suffering due to intoxicants | .040 | | | |
| 3.Taking treatment | .(a) | .(a) | | |
| 4.Money borrowed | .(a) | .(a) | -.138** | |
| Number | 451 | 451 | 451 | 451 |

Table 7: Correlations

** Correlation is significant at the 0.01 level (2-tailed).

- **Descriptive Statistics:** Table shows that 37.8 percent are taken intoxicant. Around 77 percent are suffering and a very low proportion around 3 percent going for treatment. More than half around 61 percent borrowed money.
- **Correlations:** Those who are taking intoxicant are positively associated with suffering. Those taking treatment are negatively associated with money borrowed.
- **Odds ratio for tobacco consumption**

| Characteristics of Respondent | Categories | Suffering |
|-------------------------------|--------------------|-----------|
| Age (years) | 15 to 24® | 1.00 |
| | 25-34 | 2.37 |
| | 35-44 | 1.12 |
| | 45 years and above | 1.57 |
| Wealth Quintile | Poorest® | 1.00 |
| | Poorer | 1.47 |
| | Middle | 1.94 |

| | | |
|--------------------|-------------------------------|--------|
| | Richer | 1.01 |
| | Richest | 1.34 |
| Level of education | Illiterate® | 1.00 |
| | Up to Primary | 0.57 |
| | Above primary–up to secondary | 1.18 |
| | Higher | 0.98 |
| Caste | SC/ST® | 1.00 |
| | Other backward caste | 2.85* |
| | General | 1.23 |
| Religion | Hindu® | 1.00 |
| | Muslim | 2.90 |
| | Others | 3.60 |
| Occupation | Non working® | 1.00 |
| | Working | 1.78 |
| | Domestic help | 2.70 |
| | Student | 2.70 |
| Sex | Male® | 1.00 |
| | Female | 0.32** |

Table 8: Odds ratio for anybody suffered due to tobacco consumption in Mumbai slum, 2009

**Significant at $p < 0.01$; * at $p < 0.05$

The considered dependent variable is respondents who have suffered from any types of diseases due to tobacco consumption. The selected covariates are: Age (in years) (15 to 24/ 25-34/ 35-44/ 45 years and above); Wealth quintile (Poorest/ Poorer/ Middle/ Richer/ Richest); Level of education (Illiterate/ Up to Primary/ above primary–up to secondary/ Higher); Caste (SC/ST/ Other backward class/ others); Religion (Hindu/ Muslims/ Others); Occupation (Non working/ working/ domestic help/ student) and Sex of the respondents (Male/ female). The first category of each independent variable is considered as reference category.

Age was insignificantly associated with the reporting of the diseases. This result was also true in the case of wealth quintile and level of education of the respondent. Respondents were from other backward class had significantly higher chance of suffering from any type of diseases due to tobacco consumptions as compared to SC/ST. Occupation has not shown significant association of prevalence of diseases due to the tobacco consumption. However, women who were living in slum areas were less likely to be suffered from diseases due to tobacco consumption as compared to men ($p < 0.05$).

9. Related Findings From The Qualitative Data Analysis

As a part of entertainment they used to visit relative's house/ market place/ mall/ cinema hall. Majority of them like vada pav and missal pav which used to be part and parcel Mumbai food. They prefer to enjoy the special food with all the family members sitting together and watching TV, because this is a rare moment for the family members. The slum dwellers make merry (consuming alcohol) with their friends mostly on the weekends but otherwise they generally consume bidi/gutkha. The men said that they mostly suffered often from viral infections. They consulted doctors only when the problem was severe. But they never would like to risk their children's health and hence immediately sought treatment whenever their children facing any health problem. They have little knowledge about HIV/AIDS with regard to its transmission and prevention but they have no idea about location of counseling centers. Majority of women preferred to sterilization as a permanent family planning method but men preferred to use either condoms or pills as contraceptive methods.

10. Discussion, Conclusion And Policy Implications

Men should be educated about harmful effects of the consumption of tobacco and substance. Mass media like T.V., FM channel could be used for educating males regarding such issues. Many times slums are considered as the buffer for the economy of metros since they provide cheap labour that can support the city's economy by doing all sorts of jobs. However, they become a curse to society when they indulge in unlawful activities including communal fights, domestic violence for petty things and involve in sex trade. Since the slum dwellers live in a filthy condition, they often act as viable medium to spread diseases. The present study found through quantitative data analysis that the slum dwellers lack knowledge and have lot of misconceptions on the issue of RTI/STIs but have substantial knowledge of HIV/AIDS and family planning. Poor knowledge about STIs leads to improper treatment seeking behavior and thereby a higher chance of being infected with HIV. Therefore, the existing health programs should give focus on male reproductive health concerns. The central and state governments have definite policy for rehabilitating the slums do not encompassed the human rights and failed to cope with the pace of phenomenal increase in the slum population. In Mumbai, when the railway tracts were laid down for connecting Mumbai and Navi Mumbai several hutments were removed and they were allocated residential accommodation in other places.

Now that a greater proportion of Mumbai city's inhabitable area has been occupied by ever increasing slum dwellers and the so called encroachment is on the rise for ever. Hence there is an urgent need to stop further spread of the slums. The findings of this study unfold the following facts:

- The slum dwellers are poor and used to live in inhuman condition. Effort should be oriented to uplift them by improving their environment.

- They face problem of water and sanitation. The government should make concerted effort to provide water and sanitation which are basic needs of human survival.
- Since they are poor and cannot afford medical treatment and quite often neglect minor ailments. Charitable / government dispensaries should be set up in all localities to provide cheap and affordable treatment.
- In slums, the youth who are unemployed need to be involved in some productive activities. This will certainly curb indulgence of youth in unwanted act
- A significant proportion of slum dwellers consume tobacco. They need to be counseled about the ill effect of tobacco use.

11. Limitation Of The Study And Scope For Future Research

The present study has collected information from around 700 households spread over three slums. It is hoped that this is a representative sample to have a better ideas about the quality of life of slum dwellers in Mumbai. It would have been better to cover more slums that is more number of samples. Due to time and resource constrains, data collections was restricted in three slums only. In view of low prevalence of tobacco use (NFHS III) among the girls, information with regard to tobacco use was not collected from the girls. It would be useful if in future the research is carried over in different parts of Mumbai and Navi Mumbai, where the growth of slums seem to be very fast. There are different socio-economic development programs implemented by the states and central government for improving the life style of the slum dwellers. In order, to find out a sustainable and economically viable program it is very much needed to conduct 'action research' to identify the most effective program which will improve the lives of the slum dwellers under different circumstances. There is always scope to have more studies about life style and expenditure pattern. An effort should be made to know whether the slum dwellers want to go back to their native place or to the place from where they have moved and the reasons thereof.

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