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Prevalence and pattern of tobacco-use among Muslims of Manipur: a cross-sectional study

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Abstract:

Introduction: Tobacco consumption is a major global public health problem. One person dies every six seconds due to the health related effects caused by tobacco. The effects of tobacco and its related diseases are heaviest in low and middle-income countries including India. To frame local-specific policies and strategies to reduce this social menace, it is always important to know accurately about its magnitude and its associated background characteristics. Data regarding this is scarcely available for the Muslim community of Manipur. **Objectives:** (i) To determine the prevalence of tobacco-use among adults aged 18 years and above residing in Kshetrigao, a Muslim-inhabited area in Imphal East District of Manipur and (ii) To study the pattern and background characteristics of tobacco-use in the same community. **Materials and methods:** A cross-sectional study was taken up in the Kshetrigao area of Imphal East District, Manipur. The area had 13 villages mostly dominated by Muslims. Adults aged 18 years and above were the study subjects. The sample size calculated was 272 and multistage sampling method was used to get this sample. Data regarding tobacco-use and its associated background characteristics were collected by a team of trained personnel during Nov 2015 by using a pre-tested, semi-structured questionnaire. Ethical approval for the study was obtained from the IEC, JNIMS. Data collected were analysed by using both descriptive and analytical statistics. **Results:** Completed data sets were collected from 308 eligible subjects. The prevalence of ever-users of tobacco and current users of tobacco were found to be 73.38% and 69.16% respectively. The mean age of starting tobacco-use was 23.8 years (SD±10.8) within the minimum age as 12 years. Zarda paans were the commonest form of tobacco used (74%). The mean number of zarda paans consumed was 3.63 with the maximum as high as 30 per day. Peer pressure was the main factor (41.3%) for initiation of tobacco-use. Higher educational status, marriage and age were the significant factors associated with tobacco-use. The rate of tobacco-use was comparable among the males and females. **Discussion:** The prevalence of tobacco-use was higher than previous study findings done in other parts of the country. Zarda paans being the principal form of tobacco products used in the study area may be because of easy availability and local preference. The present study finding of tobacco-use rate being higher among married persons and older age group was comparable with studies done in other parts of the country. **Conclusion:** The high rate of tobacco-use among the Muslims among which tobacco-use is regarded as a social taboo poses a sinister warning.

Key words: Muslim community, Prevalence & Patterns, Tobacco-use, Zarda-paan

Introduction:

Tobacco consumption is a major global public health problem. One person dies every six seconds due to the health related effects caused by tobacco [1]. It accounts for one in every 10 adult deaths. Up-to half of current users will eventually die of a tobacco-related disease. It kills nearly six million people a year.

The effects of tobacco and its related diseases are heaviest in low and middle-income countries. After China, India has the second largest number of smokers in the world (47.9% of males and 20.3% of females) [2].

To frame local-specific policies and strategies to reduce this social menace, it is always important to know accurately about its magnitude and background characteristics. Scientific data regarding this among the Muslim community of Manipur is very scarce.

Hence it was felt important to take up the current study.

Objectives

The objectives of the current study were (i) To determine the prevalence of tobacco-use among adult a Muslims in Imphal East District of Manipur and (ii) To study the pattern and background characteristics of tobacco-use in the same community.

Materials and Methods

A cross-sectional study was taken up in Kshetrigao area of Imphal East District, Manipur, which was a Muslim-inhabited area during the period of November - December 2015. The area was also identified as a Field Practice Area of Jawaharlal Nehru Institute of Medical Sciences (JNIMS). The area had 13 villages with a total population of approximately 13,000.

Adults aged 18 years and above residing in the area were the study subjects with the exclusion criteria being households with no adult member(s) available even on 2nd visit, not willing to participate and seriously ill patients. The sample size was calculated by using the 58.6% prevalence of tobacco-use from a pilot study done in the same area prior to the present study. Using a significance level of 0.05 with an allowable error of 10% was used a sample size of 272 was calculated. A multistage sampling technique was used for selection of the study subjects. Four villages were first selected randomly out of the 13 villages existing in the area. Secondly, from each of the four selected village, every third house was selected (systematic random sampling). Lastly, from each of the selected household, one eligible person was selected by drawing lottery. From the family line-listing maintained in the Department of Community Medicine, JNIMS, it was presumed that families, thus selected, will give a sample size adequate for this study.

A team of trained surveyors collected data by using a pre-tested, semi-structured questionnaire translated in Manipuri (local dialect). It had sections on (i) Socio-demographic profile and (ii) Background characteristics of tobacco use, awareness about effects of smoking and attitude on tobacco-use. Verbal consent from the respondents was taken before the interview. Ethical approval for the study was also obtained from the Institutional Ethics Committee of JNIMS.

Data entry and analysis was done by using SPSS v16. Descriptive statistics like percentage, mean etc. were used. Also analytical tests like Chi- square test were applied wherever necessary. A P-value of < 0.05 was taken significant.

Results

A total of 334 households were approached by the survey team. In 14 households, there was no adult member even on two visits. Out of the remaining 320 households, 12 eligible study subjects refused to give consent. Completed data could be collected from 308 study subjects giving a response rate of 92.22%. 213 (69%) of the study subjects were females whereas 95 (31%) were male respondents. The mean age (SD) of the study subjects was 38.58 years (±14.88), the minimum and maximum ages being 18 years and 80 years respectively.

Table 1: Distribution of study subjects by use of tobacco (N=308)

Type of use	Frequency	Percentage (%)
Ever-users	226	73.38
Current-users	213	69.16

226 study subjects out of the total 308 participants reported of ever using tobacco products, giving a prevalence rate of 73%. Out of this, 213 study subjects were found to be current-users, thus, giving a prevalence rate of 69%. The mean age of starting use of tobacco was 23.8 years (SD±10.8). The minimum age at starting was 12 years whereas the maximum age at starting was 69 years.

Table 2: Types of tobacco products used by the ever-users

Type	Frequency	Percentage
Zarda paan	180	74.07
Khaini	32	13.17
Cigarette	18	7.41
Bidi	10	4.12
Pan parag	1	0.41
Others	2	0.82

Zarda paans were the commonest form of tobacco used (74%). It was followed by khaini (13%). Cigerette, bidi, paan parag and other forms of tobacco were also used by the study subjects.

Table 3: Distribution by daily frequency of tobacco consumption

Form of tobacco-use	Mean	Minimum	Maximum

Cigarette/bidi	6.30	1	30
Zarda paan	3.63	1	30
Talab/Ghutka	2.67	1	3

Table 2 shows the frequency of tobacco-use among the current users. The mean number of cigarettes/bidis smoked per day was 6.30, with the maximum being 30. Similarly the mean number zarda paan consumed per day was 3.63 with the maximum being 30.

The average amount of money spent by the current-users was Rs. 22.46/-, the minimum and maximum being Rs. two and Rs. 200/- respectively.

Table 4: Factors influencing initiation of tobacco use among current-users (N =213)

Factors	Frequency	Percentage
Peer pressure	88	41.3
Personal choice	46	21.6
Time-pass	27	12.7
Curiosity	23	10.8
To overcome stress	19	8.9
Others	10	4.7

Among the current-users two-fifths (41%) started using tobacco because of peer pressure. Personal choice (22%), just to pass time (13%) and out of curiosity (11%) were the other important factors.

Table 5: Association between tobacco-use and background characteristics (N=308)

Characteristics	Tobacco-user (%)	Non-user (%)	P value
Sex • Male • Female	71 (75.5) 142 (66.4)	23 (24.5) 72 (33.6)	0.108
Educational status • Illiterate • < 5th Standard • 5th -9th Standard • 10th -12 Standard • Graduate/PG	53 (80.3) 14 (93.3) 65 (97.0) 103 (93.7) 48 (100)	13 (19.7) 1 (6.7) 2 (3.0) 7 (6.3) -	0.001*
Marital status • Currently married • Unmarried • Divorced • Widowed	170 (72.3) 18 (46.2) 3 (100) 22 (71.0)	65 (27.7) 21 (53.8) - 9 (19.0)	0.009*
Age (in years) • <35 • ≥ 35	94 (63.5%) 119 (74.4%)	54 (36.5%) 41 (25.6%)	0.039
Occupation • Professional • Clerical/ Shop-owner/Farmer • Skilled workers • Unskilled workers • Unemployed	27 (56.2%) 38 (77.6%) 51 (68.9%) 1 (50.0%) 96 (72.2%)	21 (43.8%) 11 (22.4%) 23 (31.1%) 1 (50.0%) 37 (27.8%)	0.147*

** Fisher's Exact Test*

There was no statistically significant difference in the rate of tobacco-use among the male and female study subjects. Regarding educational status, as the educational level went up, the proportion of tobacco-users also went up. This difference was statistically significant. Tobacco-use was again found to be higher among the married people compared to unmarried people. The difference was again statistically significant. Study subjects aged 35 years and above were found to be using tobacco products more than study subjects who were less than 35 years of age. The difference was again found to be statistically significant. There was no statistically significant association between occupation of the study subjects and use of tobacco products.

Table 6: Association between gender and awareness tobacco causing cancer (N=308)

Gender	Yes (%)	No (%)	P value*
Male	87 (91.58)	8 (8.42)	0.993
Female	98 (46.01)	115 (53.99)	
Total	185 (60.06)	123 (39.94)	

***Pearson Chi Square test*

185 study subjects (60% of the total) were aware that tobacco-use could cause cancer. There was no statistically significant difference in this awareness in between the two sexes.

Discussion

From the present study, the prevalence of tobacco use was found to be 73.38% (ever-users) and 69.16 (current-users). This was found to be higher if compared to study results of TK Mondal et al (West Bengal 2012) [3] and Gaude Shital Rama et al (Goa 2015) [4]. Probably the present study population (Muslim community living in the sub-urban area of Imphal) were less aware about the bad effects of tobacco-use compared to the people of more developed areas like West Bengal and Goa.

In the present study, there was no significant difference in the use of tobacco products among males and females. This was different from the study findings made by TK Mondal [3] (61.2% among males and 1.5% among females) and Vivek Gupta (35.5% among males and 3.5% among females) [5]. This might be because of religious or traditional difference between different communities.

Tobacco-use, in the present study was found to be more among older age group (74.4% among people aged ≥ 35 years and 63.5% among people aged < 35 years). Similar findings were also made by Agarwal Rani [6].

It was observed from the present study that, the prevalence of tobacco-use was found to be higher among the married people (72.3% among currently married persons, 100% among divorcees and 71% among widows/widowers) if compared to un-married persons (46.2%). Similar study finding were made by Gaude SR et al [4]. The burden of running a family and seeking alternate means of coping the pressure cannot be ruled out.

In the present study, the commonest tobacco product used was found to be zarda paan (58.4%) followed by khaini (10.4%), cigarette (5.8%) and bidi (3.2%). However, earlier study done by Rituparna Das et al found that bidi was the commonest form of tobacco used (34.1%) followed by cigarette (33.5%), zarda paan (32.9%), khaini (11.2%), and gutkha (1.8%) [7]. The difference may be because of easy availability of the products and people's preference at the different parts of the country.

The data collection timing of the present was 9.00 am to 12 Noon daily. This is also the time to go out for outdoor works by the earning members of the family who were mostly males. This may be the reason for the majority of the study subjects being females. This may affect the generalizability of the study findings and consequently affect the magnitude of the tobacco-users in the study area. Nevertheless, the present study is the first of its kind done in a Muslim community in the State. For future similar studies, it is recommended that, data collection timing be extended to outside the normal official hours. This will ensure more representativeness of the community.

Conclusion and Recommendation

As the tobacco-use prevalence was found to be very high among a community among whom tobacco-use is almost a taboo, concerted efforts from the governmental level and non-governmental levels need to be focussed to curve this social menace. Also community actions and actions at family level need to be taken up against this social evil.

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