Original Research Article

Tobacco chewing habits and barriers in cessation among tobacco users: a survey from Western Rajasthan, India

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ABSTRACT

Background: Tobacco chewing is a considerable public health concern leading to high mortality rates. In India, about 28.6% of the population consume one or another form of tobacco. Tobacco cessation is a very challenging process usually surrounded by various factors. The current work intended to assess tobacco chewing habits and barriers in cessation of tobacco chewing among tobacco users.
Methods: This study was conducted among conveniently selected 101 tobacco chewers residing at Pratap Nagar, Jodhpur, Rajasthan. Data were collected through face to face interview by using self-structured barrier in tobacco cessation rating scale. Analysis was done by using descriptive and inferential statistics.
Results: Nearly 34% of tobacco users were chewing tobacco since 10-20 years. 68% of subjects consumed tobacco ≥5 times a day. All tobacco users tried to quit tobacco chewing at one or other point of time in life but quitting attempts were unsuccessful. Environmental barriers were more evident as compare to other barriers. Levels of barrier were found to have significant association with estimated amount of tobacco consumption per day number of attempts taken to quit tobacco chewing and history of smoking (p level <0.10).
Conclusions: Tobacco remains preventable cause of mortality and morbidity in India. Despites of multiple attempts to quit tobacco chewing, most of tobacco users were not successful because of various barriers. There is need to have deep thoughtful deliberations on this concern. More visible and stringent awareness campaigns can be planned and implemented.

Keywords: Barriers, Tobacco cessation, Tobacco users

INTRODUCTION

Tobacco is the most extensively supplied and commonly consumed drug throughout the world. Tobacco is used in many forms by various means such as chewing (Zarda, gutka, pan masala), smoking (bidi, cigarette, cigar, E-cigarette), snuffing, sucking, application to teeth and gums etc. Tobacco is the gateway to number of lethal but preventable diseases all over the globe. Tobacco consumption in each and every form kills nearly seven million people worldwide each year.[1] According to the World Health Organization (WHO) estimates, globally, there were 100 million premature deaths due to tobacco in the 20th century, and if the contemporary trends of tobacco use continue, this number is expected to rise to 1 billion in the 21st century.[2]

The impact is extremely catastrophic in developing countries. India is the second largest user of tobacco in the world. In India 28.6% of adults aged 15 and above use tobacco in any form with higher prevalence rates in rural areas as compare to urban population (GATS-2). The statistics are more distressing in Rajasthan as number of smokers (13.2%) is more than the national average

(10.7%). Overall tobacco users in India account for 28.6%, but in Rajasthan it is 24.7% (GATS- 2016-17).[3] The overall prevalence of Tobacco users (chewing and smoking) in Jodhpur in the age group 15 year and above is 43.6% in males and 37.6 % in females.[3]

Tobacco is addictive and its consumption is a major public health issue and is the major risk factor for sources of death in each and every form. Chewing tobacco is a risk factor for number of health issues mainly oral cancer, cancer of oesophagus, pancreas and many more non-communicable diseases.[3]

Intensive promotive and preventive initiatives have been implemented by many International and national health organizations to combat this solemn issue. Government of India too intensively focusing on controlling the current situation. Tobacco cessation (quitting) is considered to be one of the most cost-effective intervention in reducing tobacco addiction. All the control and cessation measures are expected to decline tobacco use among general population. However, still the prevalence rates are high and static. Tobacco cessation program is usually faced by various barriers associated with poor cessation compliance. GATS 2016-17 revealed that at national levels nearly 49.6% of current tobacco users were planning or thinking of quitting tobacco use, but they were facing various problems or barrier in tobacco cessation.[3-6]

Tobacco addiction is considered as a major health concern, has excessive impact on growing economy and high expenditure on health. It is crucial to extract the principle cause why do people initiate and continue the tobacco and if they want to quit what are the barriers. With this viewpoint researchers planned to carry this survey with an aim to assess tobacco chewing habits and barriers in cessation of tobacco chewing among tobacco users.

METHODS

Study design, setting and sample

This descriptive community survey was conducted among tobacco users residing at Pratap Nagar of Jodhpur, Rajasthan, India. Data was collected in the month of October 2018 to December 2018. 101 tobacco chewers were recruited for the study via convenient sampling technique. Sample size was determined using formula:[7]

$$n = \frac{m}{1+ (m-1)/N} \qquad \text{where } m = 4PQ/L^2$$

n= sample size based on population of Pratap Nagar.

m= sample size by prevalence.

P is prevalence in %=30%[8], Q= (1-P), L=allowable error (10%).

Approximate population of Pratap Nagar (N) =101,000. (As per ANM record 2017).

Selection criteria

Tobacco chewers who consumed chewable form of tobacco i.e. gutka, zarda, and pan masala, who were present at the time of data collection and were willing to participate were included in the survey.

Ethical considerations

Ethical approval was obtained from the Institutional Ethics Committee of the AIIMS, Jodhpur. Informed written consent was taken from the study subjects after giving proper explanation of the purpose of the study. Confidentiality of data was maintained and the study subjects were given full autonomy to withdraw from the study at any time.

Data collection tools and method

Data was collected using predesigned tools by face to face interview method. All the tools were initially prepared in English and then translated into Hindi. The tools were validated for its content and language by experts. Sociodemographic details and tobacco consumption details were collected using sociodemographic data sheet, self -structured rating scale was used to assess barriers in tobacco cessation by tobacco users. This barrier scale consisted of 24 items segregated among four major domains like psychological /emotional, physiological, social and environmental. Level of barrier in tobacco cessation were categorized as low (score 24-40), moderate (score 41-56) and high (score 57-72). Reliability (stability) of barrier scale was determined by Karl's Pearson's coefficient formula (r= 0.94).

Data analysis

Collected data were analyzed using SPSS 16.0 (IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp). Descriptive statistics were calculated to summarize demographics and key variables. Inferential statistics were applied (Chi-square, Fisher's Exact test) to determine the association of barrier levels with selected demographic variables. For all associations p<0.10 was considered statistically significant.

RESULTS

Sociodemographic characteristics

Table 1 depicts the sociodemographic details of the subjects. Nearly 40.5% of tobacco users were with in age group 45-60 years. Mean age of subjects was 49.79±15.54 years. More than half (52.5%) of subjects were Males. About 36% of chewers were homemaker and 33% were having their own business mainly work of

handicraft and shoe making. More than half (56.5%) of the subjects had monthly income between Rs.20,001 to 30,000. Majority (94%) of the tobacco chewers were following Hindu religion.

Table 1: Frequency and percentage distribution of Subjects in terms of socio demographic details (N=101).

Personal variable	f (%)
Age (years)	
15-30	13 (12.9)
30-45	24 (23.8)
45-60	41 (40.5)
>60	23 (22.8)
Mean age±SD	49.79±15.54
Gender	
Male	53 (52.5)
Female	48 (47.5)
Occupation	
Home maker	36 (35.7)
Private job	7 (6.9)
Government job	9 (8.9)
Own business	33 (32.7)
Agriculture	2 (1.9)
Daily wages	14 (13.9)
Monthly family income in Rs.	
≤10,000/-	4 (4.0)
10,001-20,000/-	21 (20.8)
20,001-30,000/-	57 (56.5)
30,001-40,000/-	17 (16.8)
40,001-50,000/-	2 (1.9)
Religion	
Hindu	95 (94.1)
Muslim	6 (5.9)

Tobacco chewing habit and quitting attempts

Table 2 presents the pattern of tobacco chewing. 68 of subjects started tobacco chewing at age ≥20 years. 33.6 of tobacco users were chewing tobacco since last 10-20 years. A large number of chewers (n=68) consumed more than 5 grams of tobacco per day.
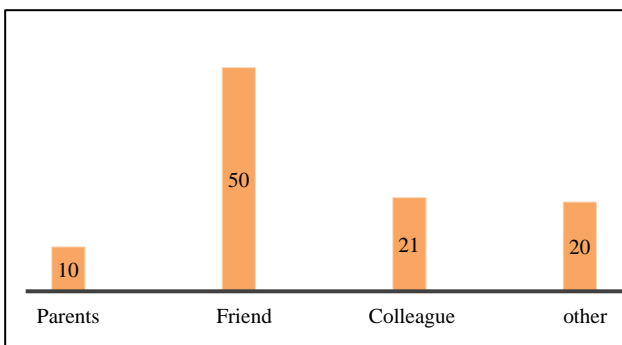

Figure 1: Source of initiation of tobacco chewing (N=101)

Table 2: Frequency and percentage distribution of Subjects in terms of tobacco chewing habit (n=101).

Variable	f (%)
Age of starting the tobacco chewing (in years)	
<20	33 (32.7)
≥20	68 (67.3)
Duration of tobacco chewing (years)	
<5	22 (21.8)
5-10	21 (20.8)
10-20	34 (33.6)
20 year	24 (23.8)
Estimated amount of tobacco consumption per day	
<5 gm	33 (32.7)
≥5 gm	68 (67.3)
Ever tried to stop/quit tobacco chewing	
Yes	101 (100)
If yes then it was successful or not	
Not successful	101 (100)
Number of attempts taken for quitting	
<5 times	77 (76.2)
>5 times	24 (23.8)
Duration of abstinence from tobacco product during quitting attempt	
<15 days	15 (14.9)
>15 days	86 (85.1)
Any diagnosed complication of tobacco chewing	
Yes	16 (15.8)
No	85 (84.2)

All tobacco users tried to quit habit of tobacco chewing at one or other point of time in life but quitting attempts were unsuccessful. Nearly 24% of tobacco chewers had >5 attempts to quit tobacco chewing. Major proportion (85%) of subjects-maintained abstinence of more than 15 days while attempting tobacco cessation. 15.8% of tobacco chewers were having diagnosed complication of tobacco chewing such as ulcer in mouth, difficulty in opening of mouth and changes in skin colour of mouth. Figure 1 depicts that half of tobacco users learned their habit of tobacco chewing from their friends. Pan masala was the most favoured chewable form (Figure 2).
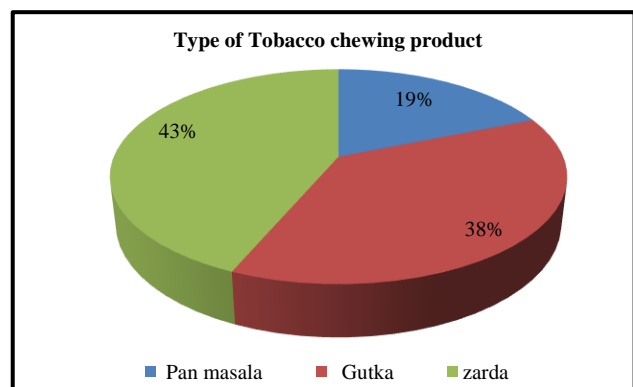
Figure 2: Type of Tobacco chewing product (N=101)

Barriers in tobacco cessation

An evident number of subjects reported to have faced different barriers while trying to quit tobacco chewing. Figure 3 presents the levels of barrier in tobacco cessation among tobacco users. Nearly 64% of tobacco users reported to have moderate level of barrier in tobacco cessation, 26% tobacco users reported high barrier levels and rest 11% had low level of barrier in tobacco cessation.
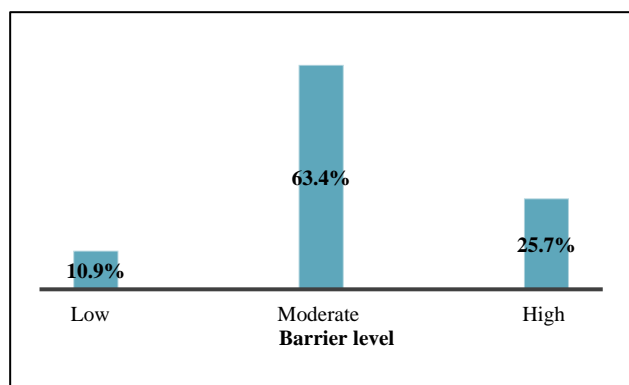

Figure 3: level of barrier among tobacco users.

Table 3 shows the domain wise mean barrier score. Environmental domain (mean score 17.059±4.23) was more evident as compare to other barrier followed by

social barriers (mean score 13.09±4.21), physiological (10.57±2.17) and psychological barriers (10.55±3.383) respectively. Most of the tobacco chewers reported inadequate source of information regarding quitting and limited counselling facilities as most common barriers. Lack of support and encouragement from family emerged as a least reported barrier by subjects.

Table 3: Domain wise mean score of barrier in tobacco cessation scores (N=101).

Domain	Mean score±SD	Overall mean barrier score
Psychological	10.55±3.383	
Physiological	10.57±2.178	51.29±8.49
Social	13.099±4.21	
Environmental	17.059±4.23	

Association of barrier levels with socio demographic characteristics

Table 4 depicts the association of barrier levels with socio demographic characteristics of subjects. Levels of barriers were found to have significant association with Estimated amount of tobacco consumption per day (p level=0.022), Number of attempts taken by each subjects to quit tobacco chewing (p level= 0.054) and history of smoking (p level= 0.023). Rest all the demographic variables did not find any significant association with barrier levels.

Table 4: Association of Levels of barrier in tobacco cessation among tobacco users with selected socio-demographic variables.

Variable	Barrier level			χ^2	df	P value
	Low (f)	Moderate (f)	High (f)			
Estimated amount of tobacco consumption per day (in gm)						
<5	4	26	3	7.639	2	0.022
≥5	7	38	23			
No of attempts taken for quitting (times)						
<5	09	44	24	5.876	2	0.054
≥5	02	20	02			
History of smoking						
Yes	03	02	02	6.746	2	0.023
No	08	62	24			

DISCUSSION

Tobacco is most easily available and widely accessible consumed substance especially in developing countries. *It is a major risk factor for a number of diseases affecting all age groups across the geographical boundaries.* Due to its harmful effects' tobacco users want to quit it but most of the time the attempts are not successful owing to various barriers at an individual, group and mass level. The present study intended to assess the initiation habits of tobacco chewing and barriers in cessation of tobacco chewing.

The present study results show that mean age of the subjects under study was 49.79±15.54 years. Tobacco chewing was more prevalent among males. Major proportion of tobacco chewers were Hindu. These findings align with a study conducted by Kumar et al where about 51% of subjects were males with mean age of 49.5±17.5 years. [9] Mandal et al and Binnal et al research study on tobacco consumption and cessation also showed similar kind of socio demographic distribution of subjects under study.[10,11] A prominent number of tobacco chewers started consuming tobacco during early adulthood. Main source of initiation was peers and friends. These results are in alignment with the evidence

generated by Mandal et al and researchers.[10] Contrary to this Pradhan PMS study showed that the age of initiation of tobacco chewing among study subjects was 13.80 years.[12] Peer pressure and elder influence were reported as main sources behind initiation of tobacco chewing in studies conducted by Kumar et al and Pradhan PMS.[9,12]

Tobacco is consumed in various forms. In the present study zarda and pan masala were the most favoured chewable form of tobacco. These results are supported by study carried by Pradhan et al which found that pan masala was the most popular form of chewable tobacco among tobacco users.[12] Contrary to this, gutkha was identified as a most common chewable form of tobacco in a study conducted by Dixit et al.[13]

Quitting tobacco chewing habit is a very complex process. It needs great motivation and will power. All the tobacco chewers ever in their lives tried to quit tobacco chewing but the attempts were not successful which is much similar with findings from past studies.[10,11] Cessation process is often faced by many barriers. A significant number of tobacco chewers had experienced moderate level of barriers in tobacco cessation. Unawareness or Inadequate information regarding quitting was the most common reported barrier whereas the least reported barrier was lack of family support. The results are in agreement with the findings shown in study conducted by Fitz Gerald et al. The subject under this study identified that tobacco cessation is difficult due to limited exposure to information on cessation services.[14] The results are in alignment with a study conducted by Daoud et al which reported unawareness regarding tobacco hazards as a forefront barrier in cessation process.[15] Withdrawal effects, peer pressure and influence were few of the other reported barriers which make quitting difficult.[11]

Influence of the socio-demographic factors on levels of barriers is a key component which determines success of any quitting program. The current study shows that the barrier levels are significantly associated with Number of attempts taken by each subjects to quit tobacco chewing and history of smoking. Latkin et al observed in their study that obstacles in the way of SLT cessation were greatly affected by number of quitting attempts, desire to quit and kind of occupation.[16]

The results of the present study must be interpreted in view of its limitations. The study was conducted at a single setting among sample chosen by convenient sampling technique. The results may not be generalized to whole India because of varied geographical locations and mixed inhabitants.

CONCLUSION

The tobacco problem in India is distinctive, with consumption of various chewable form of tobacco. It remains preventable cause of mortality and morbidity in different parts of the country. People are usually aware about ill effects of tobacco chewing and try to quit it. But despites of multiple attempts to quit tobacco chewing, most of tobacco users are not successful because of various barriers. There is need to understand, plan and implement some extensive tobacco cessation programmes at various level of health care delivery system with special involvement of grass root level workers and community leaders. Cessation counselling should be conducted for families as a whole. Various barriers in quitting should be addressed through comprehensive public health approach.

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