

WHERE SHOULD OUR RESEARCH PRIORITIES LIE? USING TOBACCO USAGE PATTERN, FACILITATORS & BARRIERS AMONG STUDY POPULATION OF SAURASHTRA REGION OF GUJARAT IN ORDER TO QUIT TOBACCO

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Abstract

Background: Tobacco is one of the leading causes of disease and death in the world. Therefore, this study was designed and conducted to carry out to have a broader understanding of tobacco use prevalence, pattern, facilitators & barriers among study population to determine the effect of such measures in order to quit tobacco. Objectives is our objectives were to determine tobacco usage pattern and prevalence among study population of Saurashtra region of Gujarat and also to identify facilitators and barriers to quitting or reducing tobacco use. **Materials and Methods:** A longitudinal follow-up study was conducted among 300 study participants who were coming to UHC and PHC of the study district. This study was conducted between March 2020 to November 2021. The data was collected using pre-tested close ended questionnaire. Appropriate statistical tests were applied. Informed Consent was taken. **Result & Conclusion:** Prevalence of current tobacco user was 35.33%, former tobacco user was 5.67% and non-tobacco user was 59%; smokers were 2.67% and smokeless tobacco users were 32.66%. Ratio between male and female were 2:1 which comprised of 66.67% men and 33.33% women. Bidi was the most widely used smoke form of tobacco followed by cigarette.

INTRODUCTION

Tobacco is one of the leading causes of disease and death in the world.^[1] Globally, tobacco use is the second-leading cause of preventable death,^[2] being responsible for more than 5 million deaths annually,^[3] a figure that is expected to increase to more than 8 million a year.^[4] India is one such country.^[5] In India, The World Health Organization (WHO) predicts that by 2020 tobacco deaths in India may exceed 1.5 million annually.^[6,7] More than one-third (35%) of Indian adults use tobacco,^[8] however there are great variations in prevalence between the sexes, between urban and rural communities, and between different states and among different socioeconomic and cultural groups.^[9] Tobacco is identified as the single most lethal agent known to humanity. There are 25 tobacco related diseases known till date.^[10]

In India, most common form of tobacco use is bidi (a hand-rolled, filter less tobacco cigarette). Tobacco is also used in the form of cigarette, hookah, as pan masala or gutkha, chutta, mishri, snuff; khaini.^[10] In India, Smokeless tobacco products are the most commonly used form (21%); however over one-quarter of tobacco consumers only use smoked forms (9%), whilst one-seventh (5%) use both forms. Smoking prevalence is much higher in men (23%) with only 3% of women smoking tobacco. Additionally, the diversity of forms of tobacco usage in India creates additional complexity for tobacco control initiatives.^[5,11]

In Gujarat, approximately 14.2% of men, 0.7% of women and 7.7% of all adults currently smoke tobacco. Whereas, 27.6% of men, 10.0% of women and 19.2% of all adults currently use smokeless tobacco and 38.7% of men, 10.4% of women and 25.1% of all adults either smoke tobacco and/ or use

smokeless tobacco.^[12] All forms of tobacco cause fatal and disabling health problems throughout life. According to the Global Adult Tobacco Survey India, 2016-17, nearly 267 million adults (15 years and above) in India (29% of all adults) are users of tobacco. The most prevalent form of tobacco use in India is smokeless tobacco.^[13,15] Evidence shows that Tobacco use is influenced by a variety of factors, including individual attitudes and beliefs, social norms and acceptability, availability, and advertising campaigns.^[14] There are also many misperceptions with regard to tobacco use, for example, that it aids concentration, suppresses appetite, reduces anxiety and tension, causes skeletal muscle relaxation, and induces feelings of pleasure.^[14,15] Therefore, this study was designed and conducted to carry out to have a broader understanding of tobacco use prevalence, pattern, facilitators & barriers among study population to determine the effect of such measures in order to quit tobacco.

Aims and Objectives

Our aim is to determine tobacco usage pattern and prevalence among study population of Saurashtra region of Gujarat and to identify facilitators and barriers to quitting or reducing tobacco use.

MATERIALS AND METHODS

A longitudinal follow-up study type was carried out in UHC and PHC located in the study district, Gujarat between March 2020 to November 2021. Out of total 300 participants (28.6% prevalence of tobacco user as per GATS-2 with 20% precision value, response rate or loss to f/u); 106 were current tobacco users who were consuming tobacco in one or the other form. There were 33 PHCs and 12 UHCs in the study district. Out of which 2 PHCs and 2 UHCs were chosen through simple random technique. Verbal informed consent was obtained from the study participants and they were assured of the privacy of their data. After getting Institutional Ethical Clearance from Ethics Committee study was started (Ethical Clearance Certificate Reference Number IEC/CERTI/66/02/2020). Data was collected first by one-to-one interview and then by Focussed Group discussion (5FGD) which was the part of counselling for awareness regarding quitting of tobacco. A pre-tested, semi structured questionnaire was used to get information regarding tobacco consumption severity (FND Scale) and to assess the reduction or abstinence of tobacco consumption and reason associated with it.

Inclusion Criteria

- PHCs and UHCs located in the study district
- Participants who were attending the selected health facilities
- Participants who were ≥ 18 years in the age
- Participants who were willing to give the interview

Exclusion Criteria

- PHCs and UHCs located outside the study district

- People who were not attending the selected health facilities
- People who were < 18 years in the age
- People who were not willing to give the interview

In order to ensure the quality of the data, each completed questionnaire was manually checked before it could be coded in MS Excel 2019. The data was analysed using Statistical Package for Social Sciences (SPSS version 26) and result in terms of quit rate were presented in tables and charts using MS Excel 2019.

RESULTS

As per current study [Table 1] shows that out of total 300 participants 200 were male and 100 were female participants. [Total 4] Health centre were selected; among them 2 UHC (UHC-1 and UHC-2) and 2 PHC (PHC-1 and PHC-2) were taken. 75 participants were selected from each Health Centre. [Table 2] shows that current tobacco users were 106 (35.33%), former tobacco users were 17 (5.67%) and non-tobacco users were 177 (59%). Among current tobacco users, 38 participants were from UHC-1, 20 participants were from UHC-2, 26 participants were from PHC-1 and 22 participants were from PHC-2. Among former tobacco users, 8 participants were from UHC-1, 3 participants were from UHC-2, 5 participants were from PHC-1 and 1 participant were from PHC-2. Among non - tobacco users, 29 participants were from UHC-1, 52 participants were from UHC-2, 44 participants were from PHC-1 and 52 participants were from PHC-2.

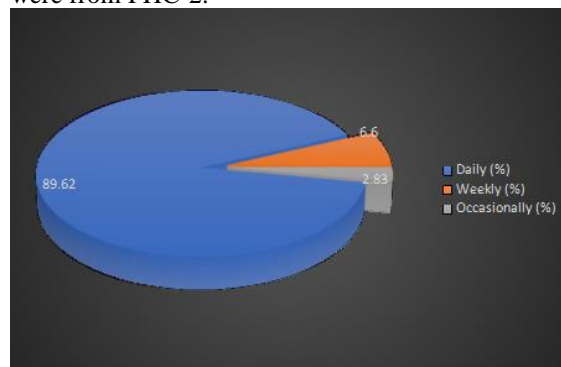


Figure 1: Percent distribution of the current tobacco users as per their tobacco use habit (n=106)

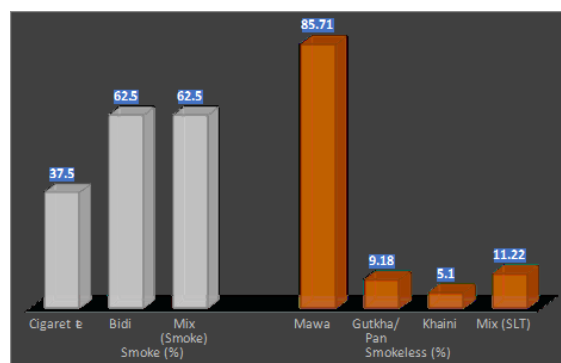


Figure 2: Prevalence of most commonly used tobacco products among current tobacco users (n=106)

According to [Table 3], socio-demographic variables of all the study participants categorising as per their Current Tobacco Status (Current, Former, Non-Tobacco Users). Among Current Tobacco Users, maximum participants were from age group 28-37 years with 30.19% followed by age group 18-27 years with 22.64% and followed by age group 38-47 years with 18.87%. The Mean age of Current Tobacco Users were (36.93 years SD 13.73). Almost 89% participants were male whereas 11% participants were female; 63.21% participants were from urban area whereas 36.79% from rural area. Almost 79% participants were married and 21% were unmarried; 63.21% participants were from joint family whereas 36.79% were from nuclear family type. Maximum participants were illiterate with 29.25% followed by lower primary with 20.75% followed by upper primary with 16.98% followed by secondary school, senior secondary school, undergraduate and postgraduate education qualification with 11.32%, 9.43%, 7.55% and 4.72% respectively. Maximum participants were unemployed with 21.7% followed by businessmen/ shopkeeper with 19.81% followed by peon/ security guard/ driver/ farmer with 16.98% followed by healthcare worker, vender, teacher/ employee, student and housemaid with 12.26%, 10.38%, 7.55%, 6.60% and 4.72% respectively. Among all current tobacco users, 43.40% participants belong to socio-economic class IV followed by socio-economic class III, II, I and V with 33.02%, 10.38%, 9.43% and 3.77% respectively. Among all current tobacco users, maximum participants were having 3-4 members in their family with 46.23% followed by more than 4 members followed by 1-2 members in their family

with 33.02% and 20.75% respectively. Maximum participants were having 2 children in their family with 36.79% and no children with 33.02% in their family.

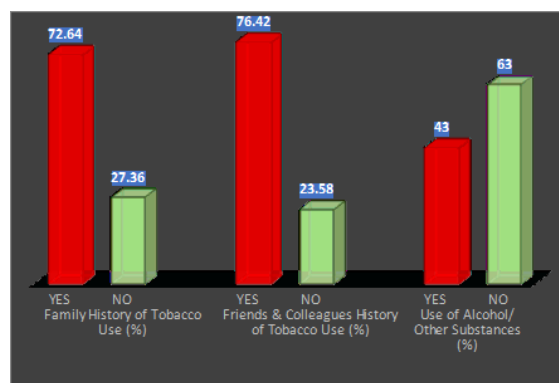


Figure 3: Contributing factors leading to tobacco consumption among the current tobacco users (n=106)



Figure 4: Percent distribution of the reasons of continuation of tobacco among the current tobacco users

Table 1: Distribution of study population as per Health Centre and Gender

S.N.	Health Centre	Male		Female		Study Population	
		N	%	N	%	N	%
1.	UHC-1	56	28	19	19	75	25
2.	UHC-2	48	24	27	27	75	25
3.	PHC-1	46	23	29	29	75	25
4.	PHC-2	50	25	25	25	75	25
TOTAL		200	100	100	100	300	100

Table 2: Distribution of study population as per Health Centre and Current Status of Study Participants

S.N.	Health Centre	Current Tobacco User		Former Tobacco User		Non-Tobacco User		Total Study Population	
		N	%	N	%	N	%	N	%
1.	UHC-1	38	50.67	8	10.66	29	38.67	75	25
2.	UHC-2	20	26.67	3	4	52	69.33	75	25
3.	PHC-1	26	34.67	5	6.66	44	58.67	75	25
4.	PHC-2	22	29.34	1	1.33	52	69.33	75	25
TOTAL		106	35.33	17	5.67	177	59	300	100

Table 3: Distribution of study population as per Current Status of Study Participants and their Socio-demographic details

Variable		Tobacco Habit					
		Current Tobacco User		Former Tobacco User		Non-Tobacco User	
		N	%	N	%	N	%
Age (years)	08-17	5	4.71	0	0	18	10.17
	18 - 27	24	22.64	0	0	33	18.64
	28 - 37	32	30.19	1	5.88	41	23.16
	38 - 47	20	18.87	2	11	37	20.90
	48 - 57	14	13.21	11	76	29	16.38

	>58	11	10.38	3	64.71	19	10.73
Gender	Male	94	88.68	15	17.65	91	51.41
	Female	12	11.32	2	88.24	86	48.59
Area of Residence	Urban	67	63.21	13	11.76	111	62.71
	Rural	39	36.79	4	76.47	66	37.29
Education Qualification	Illiterate	31	29.25	0	23.53	8	4.52
	Lower Primary	22	20.75	0	0	11	6.21
	Upper Primary	18	16.98	0	0	16	9.04
	Secondary School	12	11.32	7	41.18	49	27.68
	Senior Secondary	10	9.43	8	47.06	64	36.16
	Undergraduate	8	7.55	2	11.76	18	10.17
	Postgraduate	5	4.72	0	0	11	6.21
Marital Status	Married	84	79.25	16	94.12	39	22.03
	Unmarried	22	20.75	1	5.88	138	77.97
Family Type	Nuclear	39	36.79	14	82.35	75	42.37
	Joint	67	63.21	3	17.65	102	57.63
Occupation	Business/ Shopkeeper	21	19.81	4	23.53	29	16.38
	Peon/ Security Guard/ Driver	9	8.49	1	5.88	3	1.69
	Farmer	9	8.49	0	0	19	10.73
	Vender	11	10.38	0	0	9	5.08
	Housemaid	5	4.72	0	0	6	3.39
	Healthcare Worker	13	12.26	4	23.53	18	10.17
	Teacher/ Employee	8	7.55	6	35.29	39	22.03
	Student	7	6.60	0	0	23	12.99
	Unemployed	23	21.70	2	11.76	31	17.51
Socio-economic status	I	10	9.43	2	11.76	15	8.47
	II	11	10.38	4	23.53	52	29.38
	III	35	33.02	9	52.94	79	44.63
	IV	46	43.40	2	11.76	28	15.82
	V	4	3.77	0	0	3	1.69
Family Size	1-2	22	20.75	6	35.29	57	32.20
	3-4	49	46.23	9	52.94	73	41.24
	>4	35	33.02	2	11.76	47	26.55
Children Age less than 18yrs	0	35	33.02	2	11.76	38	21.47
	1	21	19.81	6	35.29	53	29.94
	2	39	36.79	8	47.06	65	36.72
	>3	11	10.38	1	5.88	21	11.86
Co-morbidity	Hypertension	17	16.04	5	29.41	34	19.21
	Diabetes	10	9.43	3	17.65	21	11.86
	HTN & Diabetes*	15	14.15	3	17.65	30	16.95
	CAD/MI	5	4.72	1	5.88	11	6.21
	Gum Teeth Problem	18	16.98	0	0	1	0.56
	Lung Diseases	4	3.77	2	11.76	2	1.13
	Cancer	1	0.94	0	0	0	0
	Stroke	3	2.83	1	5.88	7	3.95
	Mental Illness	7	6.60	0	0	3	1.69
	None	41	38.68	5	29.41	98	55.37
Total Study Population		106	100	17	100	177	100

*Multiple Responses

DISCUSSION

Tobacco use is on the rise in several developing countries including India. In the current study, prevalence of current tobacco user was 35.33%, former tobacco user was 5.67% and non-tobacco user was 59%; smokers were 2.67% and smokeless tobacco users were 32.66%. Ratio between male and female were 2:1 which comprised of 66.67% men and 33.33% women. Bidi was the most widely used smoke form of tobacco followed by cigarette. Whereas in smokeless form of tobacco type and among all tobacco form, mawa was the most commonly used with 85.71% followed by mixture of smokeless form with 11.22%. According to GATS-2,^[16,17] in India current tobacco users were 28.6% whereas in Gujarat it was 25.1% which was lesser than the current study while smokers were 10.7% and smokeless tobacco users were 21.4%. Prevalence of

smoking among men and women was 19% and 2% respectively whereas prevalence of smokeless tobacco use among men and women was 29.6% and 12.8% respectively and 42.4% of men, 14.2% of women were either smoke tobacco and/ or use smokeless tobacco.

As per Urvish Joshi et al,^[18] about 37.2% of the total study population was found to be exposed to tobacco chewing either in past or present, out of which, 32.9% were current-chewers while 7.4% were smokers. Mawa-masala was the preferred form of chewing found in 63.72% whereas, as per Gupta V et al,^[19] prevalence of betel quid with tobacco was 27.1% and as per Sonali gupta et al,^[20] prevalence for ever users was 15.5% and for current tobacco users was 17.3%. Among them, maximum were smokers in which 24.8% were cigarette smokers followed by 5.8% of hookah smokers. As per Urvish Joshi et al,^[18] prevalence of current tobacco users among male was

31.33% and among female was 4%; smoking among men was 2% and among women it was 0.67% while smokeless tobacco use among men and women was 29.33% and 3.33% respectively whereas 1% of men, 0.67% of women were either smoke tobacco and/ or use smokeless tobacco. Narayan et al,^[21] however had reported a higher proportion of population used bidi and cigarette. Gutkha and khaini were two common smokeless tobacco products used.

In the current study approximately 92% participants were using smokeless tobacco and 8% were using smoke form of tobacco whereas 4.71% participants were using both forms of tobacco. As per Urvish Joshi et al,^[18] the study results suggest a wide prevalence of tobacco chewing in the study population. Almost one-fourth of the residents were found to be exposed towards the habit of chewing tobacco while as per Sen et al,^[22] who found the prevalence rate of tobacco chewing to be 36% in males and 19% in females.

In the current study approximately 90% of participants use tobacco daily whereas 7% use weekly and 3% use tobacco occasionally. Hussain CA et al,^[23] revealed that 44.7% male and 13.7% of female are daily users of any form of tobacco, 41.1% of male and 0% female use daily smoking form of tobacco, 22.6% male and 13.7% female use daily smokeless form of tobacco and 19.3% male and 0% female consumed both forms daily. Similar study by Gupta PC et al,^[24] showed that 48.3% of male and 11.9% of female are daily tobacco users, 40.8% of male and 9.1% female use daily smoking form of tobacco, 10.5% male and 3% female use daily smokeless tobacco.

Among current study tobacco users, maximum participants were from age group 28-37 years with 30.19% followed by age group 18-27 years with 22.64% and followed by age group 38-47 years with 18.87%. The Mean age of Current Tobacco Users were (36.93 years SD 13.73). while as per Urvish Joshi et al,^[18] tobacco chewing prevalence was almost 10% in the age group of 13 to 17 years, which rose to 51.3% among 17 to 19 years. It was found highest in 45-55 years of age group (76.1%), followed by 56.6% in 35 to 45 years of age.

In the current study maximum participants were illiterate with 29.25% followed by lower primary with 20.75% followed by upper primary with 16.98% followed by secondary school, senior secondary school, undergraduate and postgraduate education qualification with 11.32%, 9.43%, 7.55% and 4.72% respectively. As per GATS-2,^[16,17] in India; 41.9% were educated less than primary, 38.9% were illiterate, 31.3% educated till secondary and 15.6% were educated above secondary. Whereas as per Vivek Gupta et al,^[25] higher proportion of respondents who are poorly educated and are unemployed or engaged in lower paying jobs. Similar findings were supported by observations of Jindal et al,^[26] Chaudhary et al,^[27] Chhabra et al,^[28] and Gupta et al,^[19] According to Narayan et al,^[21] Gupta et al,^[19] Reddy et al,^[29] and Subramanian et al,^[30] more

tobacco users were uneducated compared with educated.

Current study revealed the contributing factors leading to tobacco consumption in current tobacco users. 72.64% participants were having family history of tobacco use whereas 76.42% participants were having friends & colleagues' history of tobacco use. 50% participants thought that tobacco 'keep me focus' whereas 46.23% participants thought that 'It's a habit now'. According to 45.28% participants 'enjoy tobacco (cool feeling)' and according to 31.13% participants 'feel alive, relax, satisfied' whereas 10.38% participants thought that 'Can't live without it' As per Urvish Joshi et al,^[18] about 63.9% of current-tobacco-chewers had a family member consuming tobacco in any form while as per Babu et al³¹ report, which shows positive association of tobacco smoking with presence of smokers in the family in urban areas of Delhi. Similarly, a study from Delhi reported "enjoyment" and "curiosity" as major factors that influence adolescents to start using tobacco also another study by Nichter et al curiosity (52%), encouragement from friends (40%), and appearing "in style"(18%) were reasons given frequently to start smoking whereas, Baby Mathews et al,^[32] observed that 34.2% of the students started the habit for the sake of adventure followed by mental tension (25.4%), peer pressure (15.8%), and 5.3% tobacco advertisement. Das R et al,^[33] showed that the most common reason for initiation of tobacco use was "group habit" and the reason for maintenance of its use was "sense of wellbeing". 10 Present study shows the most common reason for initiation is "offered in occasions" and most common reason for maintenance of its use is addiction.

According to current study maximum participants were having no co-morbidity with 38.68% whereas around 16% participants were having hypertension and gum teeth problem each. Around 14% participants were having both diabetes and hypertension. According to Doll R et. al,^[15] almost 40% of all diseases associated with tobacco which was relatively higher than current study. Vivek Gupta et al,^[25] study showed that the risk of the development of disorders like oral cavity cancer was known to be particularly high with the use of smokeless tobacco products. The burden imposed by these disorders has the potential to further aggravate the already poor health status of these populations.

CONCLUSION

India being a developing country is currently grappling with tobacco use in terms of its magnitude, disease and use in different forms. India is experiencing a major mortality and epidemiological transition; these subgroups are likely to suffer more from the dual burden of communicable and non-communicable diseases. There may be several reasons which could be related to such a high burden of use of tobacco in India. Marketing efforts of the

tobacco industry, targeting large group, lenient enforcement of tobacco control policies, easy affordability and continuous availability of tobacco products, and insufficient knowledge about the harmful effects of tobacco were the factors contributing to a high use of tobacco

The higher prevalence of tobacco uses among males, age group 18-37 years, illiterate, marriage, joint family and the lower socio-economic status were the matter of concern as these people even lack resources to combat the morbidity associated with tobacco use. Among all current tobacco users, maximum participants were having 3-4 members in their family with 46.23% followed by more than 4 members followed by 1-2 members in their family with 33.02% and 20.75% respectively. Maximum participants were having 2 children in their family with 36.79% and no children with 33.02% in their family. Among all current tobacco users, maximum participants were having no co-morbidity with 38.68% whereas around 16% participants were having hypertension and gum teeth problem each. Around 14% participants were having both diabetes and hypertension. In addition to the differences in the prevalence of tobacco usage, form and amount of tobacco and its dependency may also vary between various age groups which further aggravating the differences in the disease burden attributable over exposure to tobacco.

While few current users also wanted to quit tobacco use in future but they lack proper method and source to execute their plan. Thus, prevention of tobacco use in people appeared to be the at most priority and opportunity for preventing non-communicable disease today. For India more holistic and coercive approach to fight the problem of tobacco by channelizing mass media, delivering sufficient awareness, information education and communication and behaviour change communication through proper interventional activities and establishing tobacco de-addiction and counselling centres to local people. Our being a responsible citizens would certainly need to support the fight against this global epidemic.

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