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A cross sectional study on tobacco usage among rural population of Puducherry

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Abstract
Background: Tobacco kills more than 1million annually in India. 266.8 million people are current tobacco users and a substantial number of people exposed to secondhand smoke are at increased risk of CVDs. Its high time to address the burdens caused by tobacco usage.
Objective: To assess the epidemiological pattern about the tobacco usage and factors associated with it in the rural area of Puducherry.
Materials and Methods: This was a cross sectional study done in the field practicing area of Sri Lakshmi Narayana Institute of medical sciences from April to June 2019 with sample size of 200.A pre tested structured questionnaire was used to assess the sociodemographic and tobacco usage domains. Mean, proportions and chi square test was used to analysis the collected data with SPSS version 21.
Result: The mean age of the study group is 45.8±15.2 yrs. In our study 28% of the population belonged to 16 to 35 yrs,42.5% of them belonged to 35 to 55 yrs and 29.5% belonged to 55 yrs and above.60.5% were male and 39.5% were female. In our study highly significant association was found between gender and type of tobacco usage (smoking type vs smokeless type)and p value is <0.001, gender and quality of cigarettes per day with p value <0.001 and significant association between gender frequency of smokeless type tobacco usage per day with p value<0.05
Conclusion: Our study shows the present epidemiological factors associated with tobacco usage and gaps in the prevention program. The present study helps in designing a module to create awareness among the tobacco users of rural Puducherry.

Keywords: Tobacco, smokeless tobacco rural, nicotine, puducherry

Introduction

Globally tobacco products are made completely or partly of tobacco leaf as raw material, which are planned to be smoked, sucked, chewed or snuffed. All contain nicotine which is a highly addictive psychoactive ingredient. Tobacco use kills more than 7 million people annually. Cardiovascular disease and stroke are the commonest ways by which tobacco kills people. The tobacco industry's interests are in conflict with the interests of public health policy [1]. Most of deaths occur in the age group between 35 – 69 yrs due to tobacco use and an average loss of 20-25 years of life. It is estimated that the annual death rate may rise to 8 million by the year 2030 [2]. India has a unique pattern of tobacco consumption. Legitimate cigarettes with statutory warning (smoking type) account for just 10% of overall tobacco consumed. The remaining 90% consumption is represented by traditional products like chewing tobacco, beedis, khaini etc. which are smokeless and illegal cigarettes. This is unlike rest of the world where tobacco is synonymous with cigarettes representing 90% of tobacco consumption [3]. Many socioeconomic and political factors have contributed to the global spread of tobacco consumption. The fast changing social milieus, social sanctions and other factors are mainly contributing to this proliferation [4]. Tobacco kills more than 1million annually in India. 266.8 million people are current tobacco users and a substantial number of people exposed to secondhand smoke are at increased risk of CVDs [5]. This includes more than 5 million child smokers, with 55,000 children taking up tobacco use every year So to prevent the mortality and morbidity, a significant proportion of adult tobacco users have to quit using tobacco in any form and especially children must be prevented from acquiring this unhealthy habit. It is also vital to elicit the root cause i.e. why do people initiate and continue the tobacco intake in their life. So the present study was planned to be carried out in this background to throw light on reasons to start and continue the tobacco consumption among the rural people of this region.

Materials and Methods

Study design: We had conducted a community based cross sectional study.

Study setting and study period: Our study was conducted from April, 2018 to June, 2019 in the Kumarapalayam and Koodapakkam, rural field practicing area of Sri Lakshmi Narayana Institute of Medical Sciences, Puducherry

Sample size calculation: Based on the previous publication by Kailash *et al.* [6] the SD of tobacco usage was 8.5yrs, with allowable error 1.25% and adding 10% nonresponse rate The sample size was 200

$$n = \frac{(z_{\alpha/2})^2 \sigma^2}{E^2}$$

Sampling technique: The sample was selected using simple random sampling method using computer generated random number, 100 sample from each village.

Study population: The target population of this study was people who are above 15 yrs who are the resident of rural Puducherry.

Inclusion criteria: 1. Individuals above 16 yrs and using any type of tobacco active and passive usage 2. Those who gave informed consent

Exclusion criteria: 1. Individuals who are in withdrawal of tobacco, pregnant women, bed ridden. The individuals those who refused to participate in the study were excluded.

Software used: The collected data were entered into a Microsoft Excel 2013 (Office 365, Microsoft Company Ltd., USA) and were analyzed using statistical software SPSS 21 version (IBM SPSS software, USA).

Statistical methods used: Mean and proportions were used for descriptive datas. Chi square test was used to find the association between sociodemographic variables and tobacco related domains

Study tool and data collection instruments: We have collected the data using a two-part questionnaire. In Part I, sociodemographic information were collected by face-to-face interview method using a structured questionnaire, and in Part II, various domains like type of tobacco, duration, quantity, reasons for tobacco usage, clinical symptoms on using tobacco and its frequency, attempted to quit, withdrawal symptoms and expenditures

Ethical considerations: Scientific and ethical approval was taken from the Institutional Ethics Committee, of Sri Lakshmi Narayana Institute of Medical Sciences, Puducherry before conducting the present study. We explained about our study and its importance to the participants in vernacular language, Tamil and English. Anonymity and confidentiality were ensured throughout the study

Result

The mean age of the study group is 45.8±15.2 yrs. Table 1 shows frequency distribution of the study population. In our study 28% of the population belonged to 16 to 35 yrs,42.5% of them belonged to 35 to 55 yrs and 29.5% belonged to 55 yrs and above.60.5% were male and 39.5% were female. Around 58.5% of them used smoking type of tobacco and 41.5% of them used smokeless panmasala -a mixture of arecanut, tobacco and other ingredient, or inhaled as snuf, khaini (tobacco-lime mixtures), gutkha (tobacco with betel nut, catechu, lime, and flavorings), naswar (snuff), or zarda paan (betel quid with tobacco). Majority of them belonged to coolie (27.5%) type of occupation and26% homemakers.

Table 2 shows association between independent variable gender and other dependents variables regarding tobacco usage. In our study highly significant association was found between gender and type of tobacco usage (smoking type vs smokeless type)and p value is <0.001,gender and quality of cigarettes per day with p value <0.001 and significant association between gender frequency of smokeless type tobacco usage per day with p value<0.05 as shown in Table 2.27.5% of them males used to start their day with tobacco and 12.5% of female used to start their day with tobacco consumption.29.5% of males used to have respiratory illness 3 month once,4% of female used to have respiratory illness 3 months once.18.5% male think both smoking and smokeless both cause same risk and 8.5% female think both smoking and smokeless are harmful.16.5% male used to get tremors if they try to quit and 4.5% female used to get tremors when they try to quit, and significance p<0.05. Dear ones awareness 47% in males and 35.5% in females with p value <0.05

Table 3 shows association between age and tobacco usage in various domains, 35.5% were less than 50yrs and 23% were more than 50 yrs but was not statistically significant. Soreness in mouth was 27.5% in less than 50 yrs and 12% were more than 50yrs but not significant. Co morbidities were found in 8.5% diabetes <50yrs and 5% >50yrs, 11% were hypertension in <50yrs and 7% >50yrs but insignificant. Association between age and awareness of dear ones with p value<0.02.

Table 1: Frequency distribution

Sl. No.	Variable	Subtype	Number	Frequency
1.	Age	16 to 35 yrs	56	28%
		35 to 55 yrs	85	42.5%
		55 yrs and above	59	29.5%
2	Gender	Male	121	60.5%
		Female	79	39.5%
3.	Type of Tobacco	Smoking	117	58.5%
		Smokeless	83	41.5%
4.	Occupation	Student	4	2%
		Coolie	55	27.5%
		Farmer	37	18.5%
		Shopkeeper	8	4%
		Clerical	31	15.5%
		Homemaker	52	26%
		No occupation	13	6.5%

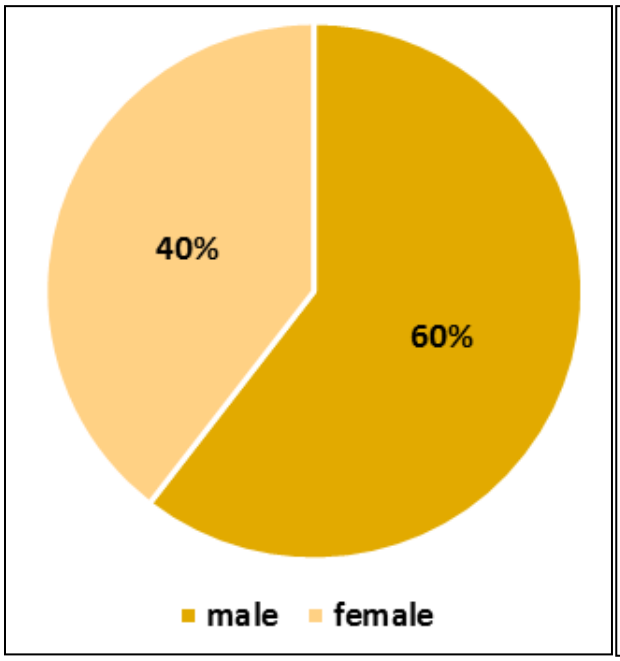

Fig 1: Combined tobacco usage in both gender

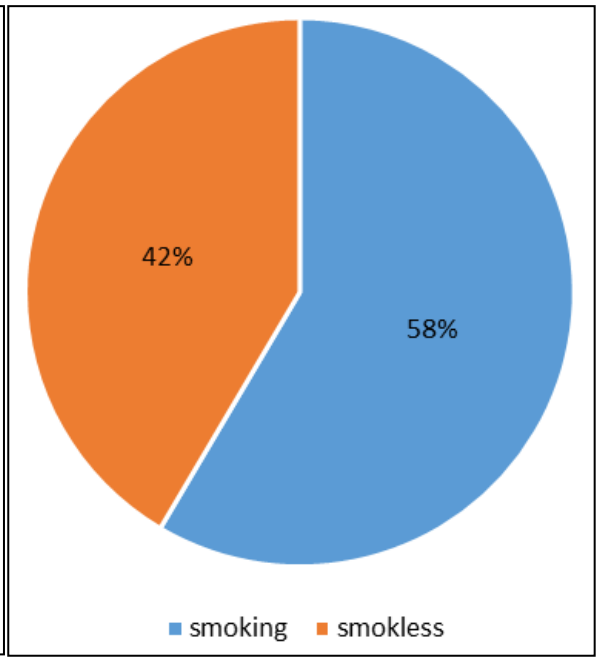

Fig 2: Tobacco type usage

Table 2: Association between gender and various domains regarding tobacco usage

Sl. no.	Variable	Options	Male	Female	Chi square	*P* value
1.	Type of tobacco	a) Smoking b) Smokeless	95 26	22 57	50.53	*P*<0.001
2.	Duration of smoking	a) <10yrs b) 10-20yrs c) 20-30yrs d) >30yrs	37 37 28 19	22 21 20 16	1.04	*P*=0.79
3.	Quantity of cigarettes per day	a) 1 to 5 b) 5 to 10 c) 10 to 20 d) None(smokeless)	32 42 31 16	7 9 14 49	54.12	*P<0.001*
4.	Usage of Smokeless tobacco per day	a) Once b) Twice c) >4 times d) None(smoking)	17 25 15 64	18 28 14 19	16.54	*P*=0.001
5.	Starting the day with tobacco	a) Yes b) No	55 66	25 54	3.79	*P*=0.051
6.	On seeing whom	a) Self b) Friends c) Parents d) Cinema e) Grandparents	19 28 36 22 16	10 16 18 12 23	7.7	*P*=0.10
7.	Reason to start using Tobacco	a) Due to success b) Due to failure c) Due to pressure d) Distress towards others	42 30 32 17	21 22 17 19	4.30	*P*=0.23
8.	Oral symptoms	a) Soreness in mouth b) white patch in oral cavity c) Bad breath d) Teeth discoloration e) None	49 23 30 16 3	30 18 19 12 0	2.51	*P*=0.64
9.	Frequency of respiratory illnes	a) Every month b) Every fortnight c) 3 month once d) Rarely	17 32 59 13	16 20 28 15	5.40	*P*=0.14
10.	Tried to quit	a) No b) yes due to illness c) yes due to high cost	74 47 0	43 35 1	2.24	*P*=0.32
11.	Past H/o nebulization or hospitalization due to resp. illness	a) Yes b) No	34 87	16 63	1.56	*P*=0.21
12.	Usually carry tobacco with you	a) Yes b) No	50 71	36 43	0.35	*P*=0.56

13.	Comparing to smoking, smokeless has	a) More health risk b) Less health risk c) Both cause same risk d) Different risk	22 38 37 24	9 40 17 13	7.7	*P*=0.05
14.	Longest length of time stopped using tobacco	a) Hours b) Days c) Weeks d) Months	20 38 29 34	14 25 19 21	0.08	*P*=0.99
15.	Having Systemic diseases	a) None b) Tuberculosis c) Diabetes d) Hypertension e) Asthma	51 14 15 18 23	23 9 12 18 17	4.28	*P*=0.36
16.	Symptoms you get if you try to withdraw	a) None b) Cough c) Headache d) Tremor e) Sleeplessness	29 27 28 33 4	20 16 27 9 7	10.6	*P*<0.05
17.	Possibility to quit	a) Yes b) No	59 62	46 33	1.71	*P*=0.18
18.	Everyday expenditure for tobacco products	a) Less than 50 b) 50 to 100 c) 100 to 200 d) >200	27 72 14 8	28 38 9 4	4.31	*P*=0.22
19.	Dear ones aware of using tobacco	a) Yes b) No	94 27	71 8	4.91	*P*<0.05

Table 3: Association between age category and tobacco usage domains

Sl. no.	Variable	Options	Age<50yrs	Age>50yrs	Chi square	P value
1.	Type of tobacco	a) Smoking b) Smokeless	71 55	46 28	0.64	0.42
2.	Duration of smoking	a) <10yrs b) 10-20yrs c) 20-30yrs d) >30yrs	31 57 22 16	16 30 15 13	1.37	0.71
3.	Quantity of cigarettes per day	a) 1 to 5 b) 5 to 10 c) 10 to 20 d) None(smokeless)	26 35 24 41	13 16 21 24	2.72	*0.43*
4.	Usage of Smokeless tobacco per day	a) Once b) Twice c) >4 times d) None(smoking)	23 34 17 52	12 19 12 31	0.38	0.94
5.	Starting the day with tobacco	a) Yes b) No	52 74	28 46	0.22	0.63
6.	On seeing whom	a) Self b) Friends c) Parents d) Cinema e) Grandparents	21 31 32 30 22	8 13 22 14 17	3.45	0.48
7.	Reason to start using Tobacco	a) Due to success b) Due to failure c) Due to pressure d) Distress towards others	38 39 30 19	25 13 19 17	5.08	0.16
8.	Oral symptoms	a) Soreness in mouth b) white patch in oral cavity c) Bad breath d) Teeth discoloration e) None	55 26 27 18 0	24 15 22 10 3	7.92	0.09
9.	Frequency of respiratory illnes	a) Every month b) Every fortnight c) 3 month once d) Rarely	16 36 58 16	17 16 29 12	4.76	0.19
10.	Tried to quit	a) No b) yes due to illness c) yes due to high cost	79 46 1	38 36 0	3.28	0.19
11.	Past H/o nebulization or hospitalization due to resp. illness	a) Yes b) No	28 98	22 52	1.4	0.23
12.	Usually carry tobacco with you	a) Yes	46	40	5.8	0.01

		b) No	80	34		
13.	Comparing to smoking, smokeless has	a) More health risk b) Less health risk c) Both cause same risk d) Different risk	16 50 34 26	15 28 20 11	2.6	0.45
14.	Longest length of time stopped using tobacco	a) Hours b) Days c) Weeks d) Months	16 40 32 38	18 23 16 17	4.86	0.18
15.	Having Systemic diseases	a) None b) Tuberculosis c) Diabetes d) Hypertension e) Asthma	48 14 17 22 25	26 9 10 14 15	0.215	0.99
16.	Symptoms you get if you try to withdraw	a) None b) Cough c) Headache d) Tremor e) Sleeplessness	31 26 28 32 9	18 17 27 10 2	8.37	0.07
17.	Possibility to quit	a) Yes b) No	68 58	37 37	0.29	0.58
18.	Everyday expenditure for tobacco products	a) Less than 50 b) 50 to 100 c) 100 to 200 d) >200	33 70 17 6	22 40 6 6	2.27	0.51
19.	Dear ones aware of using tobacco	a) Yes b) No	98 28	67 7	5.26	0.02

Discussion

The study study shows prevalence of smokess tobacco is wider in the study population. In our study the mean age of the population 45.8±15.2yrs, 41.5% of our study population smokeless(chewing type) whereas a study done by Urvish Joshi *et al.* [7] in Jamnagar, Gujarat showed 37.2% were chewing type tobacco users, a study done by Seema mutti *et al.*[8] in India and Bangladesh, 88.9%showed higher prevalence. A study done by Pradeep kumar *et al.*[9] from Kerala showed smoking type 55% and smokeless was 31%.Mondal *et al.* [10] from West Bengal showed 81.7% were smokers and6.5% smokeless and both1.5%.4.7% were smokeless tobacco users by a study done by Gunilla Bolinder *et al.* [11], variation is due to geography. But Rajesh Kumar Konduru *et al.* [12] done a study in Tamil Nadu which showed a prevalence 46% both smoking and smokeless form of tobacco.

Urvish *et al.* [7] showed 28.4% showed willingness to quit and our study showed 41.5% willingness to quit due to illness. In our study the reason for starting using tobacco showed due to success 21% in males and 10.5% in females and due to failure in 15% males and 11% in female. Our study showed tobacco usage causing white patch in oral cavity in males was 12.5% and in females 9% similarly 18.6% of tobacco users showed oral in study done by Rajesh Kumar Konduru *et al.* [12].

In our study people told that comparing to smoking, smokeless tobacco has less risk by 19% male and 20% female. The longest length of time stopped using tobacco by males were 17% and 10.5% for months. The possibility to quit was shown 29.5% males and 23% females with positivity. Jangra *et al.* [13] study showed 13.6% male smokes 5 to 10 times per day similarly our study showed 17.5% males who smoke 5 to 10 times per day

In our study we had asked on seeing whom, they have started the habit to tobacco and 16% males and 11% females told parents but not statistically significant. But a study done by Asawa *et al.* [14] showed significant association between parental smokeless form of tobacco use was significantly associated with participants adverse habits. In our study everyday expenditure of >100 rupees due to tobacco in males 16.5% and in females 6%, but <100 rupees was 51.5% in males and 31% in females which other studies didn't cover. The percentage of systemic diseases like diabetes in tobacco users in males were 8.5% and females 5%, hypertensive tobacco users in males were 11% and females were 7% and 7% male had tuberculosis and 4.5% females had tuberculosis and 14.5% males had asthma and 7.5% females had asthma.

Conclusion

Tobacco use prevalence was higher among older age group, male people. Women mainly consider to use smokeless tobacco. Since tobacco use is one of the avoidable causes of morbidity and mortality, efforts should be made to control tobacco use in the country by improving the number and quality of facilities of tobacco cessation treatment, implementing usage based intervention strategies with counseling facilities and rigorous implementation of prohibition of smoking in public places.

References

1. WHO report on the global tobacco epidemic, 2017: monitoring tobacco use and prevention policies. Geneva: World Health Organization, 2017. Licence: CC BY-NC-SA 3.0 IGO
2. World Health Organization. Fact sheet No. 339. updated May 2014. Internet accessed on 03-07-14. Available at: http://www.who.int/mediacentre/factsheets/fs339/en. Accessed on 4 June 201
3. https://apps.who.int/iris/bitstream/handle/10665/272672/wntd_2018_india_fs.pdf?sequence=1
4. Jangra A, Malik JS, Singh S, Sharma N. Pattern of current tobacco use in a rural block of North India. Int J Community Med Public Health. 2017; 4:3802-7.
5. https://apps.who.int/iris/bitstream/handle/10665/272672

/wntd_2018_india_fs.pdf?sequence=1
6. Kailash Asawa, Astha Doshi, Nagesh Bhat, Mridula Tak, Ashish Chhajlani, Satish Bhosle *et al.* relationship between parental bonding and tobacco specific practices as predictors of tobacco usage in adults.Journal of Clinical and Diagnostic Research serial online], 2017. Jul cited:2019 Jun 25] 7 ZC36 - ZC41
7. Joshi U, Modi B, Yadav S. A study on prevalence of chewing form of tobacco and existing quitting patterns in urban population of jamnagar, gujarat. Indian J Community Med. 2010; 35(1):105-108. doi:10.4103/0970-0218.62560
8. Mutti S, Reid JL, Gupta PC *et al.* Patterns of Use and Perceptions of Harm of Smokeless Tobacco in Navi Mumbai, India and Dhaka, Bangladesh. Indian J Community Med. 2016; 41(4):280–287. doi:10.4103/0970-0218.193337
9. Pradeepkumar AS, Mohan S, Gopalakrishnan P, Sarma PS, Thankappan KR, Nichter M *et al.* Tobacco use in Kerala: findings from three recent studies. Natl Med J India. 2005; 18(3):148-53.
10. TK Mondal, PR Karmakar, GN Sarkar, Indranil Saha, Indranil Das, Supantha Chatterjee *et al.* Tobacco use pattern and awareness about tobacco hazards in a rural community of west Bengal. Indian J. Prev. Soc. Med. 2012; 43:4.
11. Bolinder G, Alfredsson L, Englund A, de Faire U. Smokeless tobacco use and increased cardiovascular mortality among Swedish construction workers. Am J Public Health. 1994; 84(3):399-404. doi:10.2105/ajph.84.3.399
12. Rajesh Kumar Konduru, BWC Sathiyasekaran. A study on tobacco use among rural adults. Journal of Evolution of Medical and Dental Sciences. 2013; 2(15). April 15,
13. Jangra A, Malik J, Singh S, Sharma N. Pattern of current tobacco use in a rural block of North India. International Journal of Community Medicine and Public Health, 2017; 4(10):3802-3807. doi:http://dx.doi.org/10.18203/2394-6040.ijcmph20174254
14. Asawa K, Doshi A, Bhat N *et al.* Relationship between Parental Bonding and Tobacco Specific Practices as Predictors of Tobacco Usage in Adults. J Clin Diagn Res. 2017; 11(7):ZC36-ZC41. doi:10.7860/JCDR/2017/26850.10173