



“A Comparative Study to Assess Oral Health Status among Tobacco Consumers and Non-Tobacco Consumers of Middle Age Adults in Selected Rural Areas of Bagalkot, Karnataka, India.”

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KEYWORDS

Assess, consumers, middle age adults, tobacco, oral health.

ABSTRACT:

Introduction: Oral health is the practice of keeping the oral cavity clean and free of disease and other problems by regularly brushing teeth and practicing good hygiene habits. The tobacco epidemic is one of the biggest public health threats the world has ever faced to date. Tobacco use being a major risk factor for a number of chronic diseases. It is one of the most important causes of death and disease globally.

Objectives: To assess oral health status among tobacco consumers and non-tobacco consumers of middle age adults in selected rural areas of bagalkot.

Methods: A cross sectional design was used and a sample of 200 middle age adults were selected by convenient sampling technique. The data was collected by using Steps oral health module. The data was entered in MS excel sheet and transferred to SPSS 25 for statistical analysis.

Results: Among 200 samples 58% were males and 42% were females. Among 200 participants 62.5% used to consume tobacco and 37.5% did not consume tobacco. Among Tobacco users 34.4% were 55 & above years of age. A significant difference($P < 0.000$) in mouth dryness , persistent wound and/or swelling in the mouth for more than 3 weeks, a red or white patch in the mouth , felt tense because of problems with teeth or mouth , embarrassed about appearance of teeth, sleep is often interrupted due to oral health, during the past 12 months teeth, gums or mouth pain or discomfort and difficulty in chewing food was found between tobacco consumers and tobacco non consumers and a significant difference($P < 0.003$) in avoiding to smile because of teeth or mouth due to oral health between tobacco consumers and tobacco non consumers was found.

Conclusions: Age, Gender, and Education, increase the risk of tobacco use. The tobacco consumer's prohibitor strategies must be strengthened to reduce the prevalence of tobacco use among middle age adults.

1. Introduction:

In India, tobacco is used in two major forms smoking (beedi/biri, cigarette, hookah, cigarillo, and cigar) and smokeless (pan masala, gutkha, mishri, and

toothpaste).¹ Tobacco kills nearly 6 million people each year globally, in which direct smokers are around 5.4 million, while second-hand smokers are 0.6 million.² The major emerging health problems related to the tobacco consumption are the non-communicable disease



viz cancer, diabetes, stroke, respiratory diseases^[3] Tobacco use is associated with oral disease, and there is sufficient evidence for a causal relationship between cigarette smoking and periodontal disease.^[4] Tobacco production results in other negative consequences such as economic loss for countries, poverty for individuals, deforestation and other environmental problems in countries growing tobacco.^[5]

Tobacco use contributes to more mortality and morbidity globally than any other behavioural risk factor. Complications will not bare the oral cavity, with many oral diseases are very common, and the treatments are less effective in the tobacco-using patient.^[6] Oral cavity diseases is going to affect people's everyday lives permanently, disrupting while eating, sleeping, working and even in social life. Oral health is very essential to overall health, well-being, and quality of life.^[7] Effective approaches to screen, prevent and treat tobacco use can be widely implemented to limit tobacco's effect on individuals and society.^[8] Consumption of tobacco is a complex and multidimensional problem faced by the country. It is the main culprit behind oral cancer.^[9] Karnataka shows a prevalence of 28.2% of tobacco consumption. Among users, 12% use tobacco in the form of cigarettes while 19% use it in smokeless tobacco form^[10]

2. Objectives:

To find the effects of tobacco consumption on Oral Health and to assess oral health status among tobacco consumers and non-tobacco consumers of middle age adults in selected rural areas of bagalkot,

3.Methods:

It was a cross sectional study with an aim to assess oral health status among tobacco consumers and non-tobacco consumers of middle age adults in selected rural areas of bagalkot". A sample of 200 middle age adults was selected by convenient sampling technique.

Study participants:

The participants were middle age adults i.e (45 years to 60 years) residing in rural areas of Bagalkot. The participants were divided in to two groups, first one tobacco consumers and other group who do not consume tobacco.

Setting of the study:

Based on the investigator's familiarity, availability of the subjects and feasibility to conduct the study, the present study was conducted in Kelawadi village of Bagalkot.

Sampling technique:

A sample of 200 middle age adults were selected by using convenient sampling technique.

Sample size estimation:

The sample size was calculated using ROASOFT online sample size calculator. The sample size was calculated considering the following criteria, $Z = 1.96$ (95% confidence level), margin of error (e)=5%(0.05), Population proportion(P) = 0.5. The calculated sample size was 200.

Data collection Instrument:

The data was collected by using Steps oral health module to assess the oral health status among tobacco consumers and non-tobacco consumers of middle age adults in selected rural areas of bagalkot.

Translation and reliability of data collection instruments:

Steps oral health module was used to compare tobacco consumers and non-tobacco consumers. The tool's content, construct, and criterion validity have been bolstered by use in a variety of research projects, as well as by consultation, feedback, and refinement. Linguistic specialists determined the degree of resemblance between the original and translated instruments after translating them into Kannada and then back into English. The instrument was given to twenty middle-aged persons to verify its dependability. The instrument was deemed dependable for data gathering, as indicated by the alpha coefficient ($r=0.85$) suggesting the tool was reliable for conducting the study.

Data collection Procedure:

The data was collected in august 2023. A formal Permission was obtained from the Principal of Sajjalashree Institute of Nursing Sciences Navanagar, Bagalkot. And Prior permissions were taken from president of gram panchayat Kelawadi. All the



participants were explained about the purpose of study and that the data or information provided from them will be kept confidential and their identity will not be revealed. They were informed to avoid discussion with other fellow mates. Instructions were given regarding content of data collection instruments. The researcher attained and clarified the doubts of participants during data collection. The filled tools were collected from the participants. Researcher thanked all the participants and president of gram panchayat Kelawadi.

Ethical clearance:

Ethical clearance certificate was obtained from Institutional ethical clearance committee, B.V.V.S Sajjalashree Institute of Nursing sciences, Bagalkot (ref No. BVVSSIONS-IEC/2022-23/301. Dt: 30/05/2023) Written consent of participation was obtained from participants before data collection.

Statistical analysis:

The data was analysed using SPSS version 25. The obtained data was entered in MS excel sheet. The data was edited for accuracy and completeness. The categorical responses were coded with numerical codes. The data was presented with frequency and percentage distribution tables and diagrams. The description of oral health was presented with Arithmetic mean, median, range and standard deviation. Binary logistic regression analysis and Odds ratio were used to associate the tobacco users and tobacco non users.

4. Results

Table 1: Frequency and percentage distribution of socio-demographic characteristics of sample. N=200

Variables	Tobacco consumers		Non tobacco consumers	
	F	%	F	%
Age				
a) 35-39	13	10.40	21	28.40
b) 40-44	20	16	12	16.40
c) 45-49	26	20.80	08	10.50
d) 50-54	23	18.40	16	21.70
e) 55 and above	43	34.40	17	23.10
Gender				
a) Male	74	59.2	41	55.4
b) Female	52	40.8	33	44.6
Education				
a) No formal schooling	38	30.4	20	27
b) Less than primary school	26	20.8	15	20.3
c) Primary school completed	18	14.4	16	21.6
d) Secondary school completed	12	9.6	4	5.4
e) High school completed	24	19.2	14	18.9
f) College/university completed	7	5.6	5	6.8
Religion				
a) Hindu	97	77.6	63	85.1
b) Muslim	27	21.6	11	14.9
c) Christian	1	0.8	0	0
Marriage				
a) Never married	3	2.4	3	4.1
b) Married	108	86.4	69	93.2
c) Separated	5	4	0	0
d) Divorce	1	0.8	0	0
e) Widowed	7	5.6	2	2.7
f) Cohabiting	1	0.8	0	0



Occupation					wound and/or swelling in the mouth for more than 3 weeks				
a)	Government employee	7	5.6	5	6.8	Tobacco non consumers	4	5.4	
b)	Non-government employee	4	3.2	2	2.7	Have a red or white patch in the mouth	Tobacco consumers	64	51.2
c)	Self-employed	64	51.2	42	56.8		Tobacco non consumers	11	14.9
d)	Non-paid	4	3.2	0	0	Felt tense because of problems with teeth or mouth			5.099 .000*
e)	Homemaker	26	20.8	17	23.0		Tobacco consumers	52	41.6
f)	Retired	1	0.8	0	0	Embarrassed about appearance of teeth			5.474 .000*
g)	Unemployed(able to work)	6	4.8	3	4.1		Tobacco non consumers	4	5.4
h)	Unemployed(unable to work)	10	8	5	6.8	Avoid smiling because of teeth or mouth	Tobacco consumers	59	47.2
i)	Refused	3	2.4	0	0		Tobacco non consumers	11	14.9
18+ members in family					Sleep is often interrupted				4.605 .000*
a)	1-3	64	51.2	41	55.4		Tobacco consumers	38	30.4
b)	4-6	56	44.8	31	42		Tobacco non consumers	9	12.2
c)	7-9	4	3.2	0	0		Tobacco consumers	42	33.6
d)	9-12	1	0.8	2	2.7		Tobacco non consumers	7	9.5
e)									
Table no.2: Comparison among the tobacco consumers and tobacco non consumers based on oral health.					During the past 12 month, did your teeth, gums or mouth cause any pain or discomfort?				
N=200									
Oral Health	Group	F	%	Z value	'p' value				
Mouth feels dry	Tobacco consumers	58	46.4	4.176	.000*				
	Tobacco non consumers	10	13.5			Difficulty in chewing foods	Tobacco consumers	64	51.2
Have persistent	Tobacco consumers	35	28	3.871	.000*		Tobacco non consumers	11	14.9
						Teeth status	Tobacco consumers	125	75
								5.408	.000*



Tobacco		
non	75	25
consumers		

5. Discussion

It was a comparative study conducted to assess oral health status among tobacco consumers and non-tobacco consumers of middle age adults in selected rural areas of bagalkot. Middle aged adults are taken from rural areas of Bagalkot. In a similar cross-sectional community-based study, conducted on tobacco consumption and related associated morbidity and mortality, with the aimed to estimate the prevalence of tobacco consumption, community-based study was carried out in 330 respondents aged 35 and above.¹⁰

The sociodemographic data and determinants were assessed by using a structured close ended questionnaire prepared by researcher and steps oral health module was used to assess the oral health .The same instrument was used in many research studies with similar purpose, A study was conducted on tobacco use among high school students with aim to determine the prevalence of tobacco-use and describe tobacco-related knowledge, perceptions, and behaviour of high school students aged 13-15 years in Kampala, Uganda, study samples was carried out among 2,789 students in 19 high schools in Kampala District, by using questionnaire consisting 58 questions, the questions were grouped into categories relating to tobacco use.¹¹

Gender shows that among tobacco consumers, majority (59.20%) of respondents were males and only 40.80% were females & among non-tobacco consumers majority (55.40%) were male and other 44.60% were females. Overall, 57.5% were male in the study and in another Similarly study conducted in Allahabad reported that 67% of the participants were males.¹²

According to type of tobacco product consumed shows that 37(29.6%) participants were consuming tobacco in beetle leaf, 36(28.8%) % participants were consuming gutka, 32(25.6%)% participants were consuming tobacco in lime, 17(13.6%) % participants were smoking cigarette and 3(2.4%) participants were consuming other type of tobacco

products. In similar study conducted at Karnataka shows a prevalence of 28.2% of tobacco consumption. Among users, 12% use tobacco in the form of cigarettes while 19% use it in smokeless tobacco form. A sentinel survey in Karnataka reports about 50% of males and 16% of females in rural areas and 32.7% of males and 8.5% of females in urban areas to be tobacco users. In both urban and rural areas, about two-thirds of male user's smoke, while most female users chew tobacco.¹³

In this study according to number of samples tried to stop chewing tobacco shows that majority 75(60%) participants were tried to stop consuming tobacco and other 50(40%) participants were not tried to stop consuming tobacco and according to number of samples who has history of tobacco chewing shows that the majority 74 (59.2%) participants had history of consuming tobacco and other 51(40.8%) participants had no history of consuming tobacco.¹⁴

According to family history of usage of tobacco shows that majority 73(58.4%) participants family were not used tobacco last 30 days and other 52(41.6%) participants family were used tobacco last 30 days, and use of tobacco in the work place shows that majority 73(58.4%) participants co-workers were used tobacco in workplace past 30 days. and other 52(41.6%) participants co-workers were not used tobacco in workplace past 30 days. In another study auto-rikshaw drivers are likely to have stress in their workplace due to hectic work schedules, late night working hours, financial concerns, long working hours in traffic and highly polluted environment and the free time they get during working hours makes them vulnerable to increased tobacco consumption.¹⁵

Conclusion and Recommendation:

The study concludes that there is significance difference in oral health among tobacco consumer and non-tobacco consumers hence, the study recommends that the tobacco consumers need consistent guidance on prevention of tobacco use. Middle age adults group should be given health education and awareness on tobacco consumption and its effects on oral health. Oral health associations should form the institutions and to give education regarding tobacco use and its effect on oral health. The study may be conducted with a large sample size.



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