PREVELANCE AND PATTERNS OF TOBACCO AND SMOKELESS TOBACCO USAGE AND ASSOCIATED FACTORS AMONG WOMEN IN RURAL KOLAR -A CROSS-SECTIONAL STUDY.

BY

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DISSERTATION SUBMITTED TO

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION AND

RESEARCH KOLAR, KARNATAKA

IN PARTIAL FULFILLMENT OF THE

REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF MEDICINE

In

COMMUNITY MEDICINE

Under the guidance of

PROF Dr. Prasanna Kamath B T

DEPARTMENT OF COMMUNITY MEDICINE

SRI DEVARAJ URS MEDICAL COLLEGE, TAMAKA.KOLAR-563101

2025

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AKNOWLEDGEMENT

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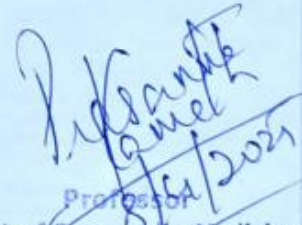
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TITLE OF STUDY: PREVELANCE AND PATTERNS OF TOBACCO USAGE AND ASSOCIATED FACTORS AMONG WOMEN IN RURAL KOLAR -A CROSS SECTIONAL STUDY. ABSTRACT Introduction The World Health Organisation (WHO) has declared the tobacco epidemic as one of the largest public health threats and a major concern for policy makers and health professionals. This is not because of the associated mortality each year (7 million) but also due to the increased out of pocket expenditure on health, burden on health system and impaired the quality of life. It's an alarming concern that four-fifth of [ ] worldwide are from low- and middle-income nations. The epidemiological analysis of various studies has revealed that women not only have a short latent period from the initiation of substance use to the onset of progression of substance but also more susceptible to the adverse medical, psychiatric and social consequences. Globally, smoking causes 71% lung cancer 42% chronic respiratory diseases and about 10% cardiovascular disease. In India, tobacco is smoked as beedi

11

LIST OF ABBREVATIONS

SLT: Smokeless Tobacco

STC: Smokeless Tobacco Consumption

GATS – Global Adult Tobacco Survey

WHO – World Health Organization

OR – Odds Ratio

CI – Confidence Interval

p-value – Probability Value

NRT – Nicotine Replacement Therapy

SES – Socioeconomic Status

SPSS – Statistical Package for the Social Sciences

AOR – Adjusted Odds Ratio

BQT – Betel Quid with Tobacco

BQ – Betel Quid without Tobacco

KAP – Knowledge, Attitude, and Practice

SES – Socioeconomic Status

NHFS – National Family Health Survey

FCTC – Framework Convention on Tobacco Control

RDT – Rapid Diagnostic Test

IEC – Information, Education, and Communication

CI – Community Intervention

ABSTRACT

Introduction

The tobacco pandemic has been identified by the World Health Organization (WHO) as one of the biggest hazards to public health and a top priority for decision-makers in the medical field. This is not just because of the 7 million annual deaths that are linked to it, but also because of the load on the health system, higher out-of-pocket medical costs, and lower quality of life. The fact that four out of five smokers worldwide come from low- and middle-income countries is concerning. Women not only have a shorter latent period between the start of substance use and the onset of drug progression, but they are also more vulnerable to the negative medical, psychological, and social effects, according to epidemiological analysis of several studies.

Globally, smoking causes 71% lung cancer,42% chronic respiratory diseases and about 10% cardiovascular disease. In India, tobacco is smoked as beedi, cheroot or in a pipe. The smokeless forms are chewed as raw tobacco leaves /pan masala or inhaled as snuff. Chewing of tobacco products is a risk factor for oral cancers. Further, tobacco consumption was found to be higher among the lower socioeconomic groups.

As reported in many studies, Smokeless tobacco products have a high level of toxicity, mutagenicity and cancer-causing elements and roughly 4200 low grade chemicals which would disproportionately affect health. Smokeless tobacco products also cause life threatening complications in reproductive stages of women with adverse pregnancy outcomes (stillbirth, low birth weight).

Due to the lack of precise estimates regarding the prevalence of tobacco consumption among women in rural settings in India, the policy makers lack

adequate evidence and find it difficult to mobilize the existing resources. There is limited data on the social and behavioural factors that influence the use of various forms of tobacco and attitudes of tobacco users towards quitting the habit.Hence there is a need to study the Prevalence and associated factors of tobacco use in the form of smoking only, smokeless tobacco only and dual use among rural women in Kolar.

Objectives:

1. To determine the prevalence and patterns of tobacco usage among women in rural Kolar.
2. To assess the factors associated with initiation and quitting of tobacco usage among women in rural Kolar.

Materials and Methods:

- A community-based cross-sectional study was conducted in the field practice area of the Primary Health Center (PHC) Devarayasamudra, Mulbagal Taluk, Kolar District. The study population included rural women aged 18 years and above. Cluster sampling technique was used for sample selection. All the 20 villages in the field practice area of PHC, Devarayasamudra were considered as clusters, and 6 such clusters were selected by Simple Random sampling. Villages were randomly selected using a random number generator. In each of the selected villages, I have allocated samples by probability proportional size accordingly to meet my estimated sample size of 511. Tobacco consumption was assessed by using the (GATS)Global Adult Tobacco Survey questionnaire.

Results: Smokeless tobacco (SLT) use was reported by 70% of rural women in Kolar. The most frequently used items were khaini (47.9%), gutkha (68%),

pan/betel quid (63.8%), and betel quid with tobacco (23.19%). The use of SLT was found to be substantially connected with socioeconomic status, age, occupation, education, and family influence. Women with less education and those from poorer socioeconomic backgrounds were more likely to use SLT. Peer pressure and family history also had a substantial impact on tobacco use initiation and continuance.

Conclusion:

This study highlights the high incidence of smokeless tobacco use among rural women, which is influenced by a number of behavioural and socioeconomic factors. Significant relationships were identified between lower socioeconomic status, employment type, illiteracy, and cultural norms. Women who worked in physically demanding jobs including farming and daily wage labor were more likely to smoke due to habitual behaviour, peer pressure, and stress relief. Other important characteristics included age, education, and marital status; women who were older and less educated were more likely to use smokeless tobacco. The study also highlights the ways in which ignorance, social acceptance, and accessibility support tobacco use.

Key words: initiation, cessation, rural women, smokeless tobacco.

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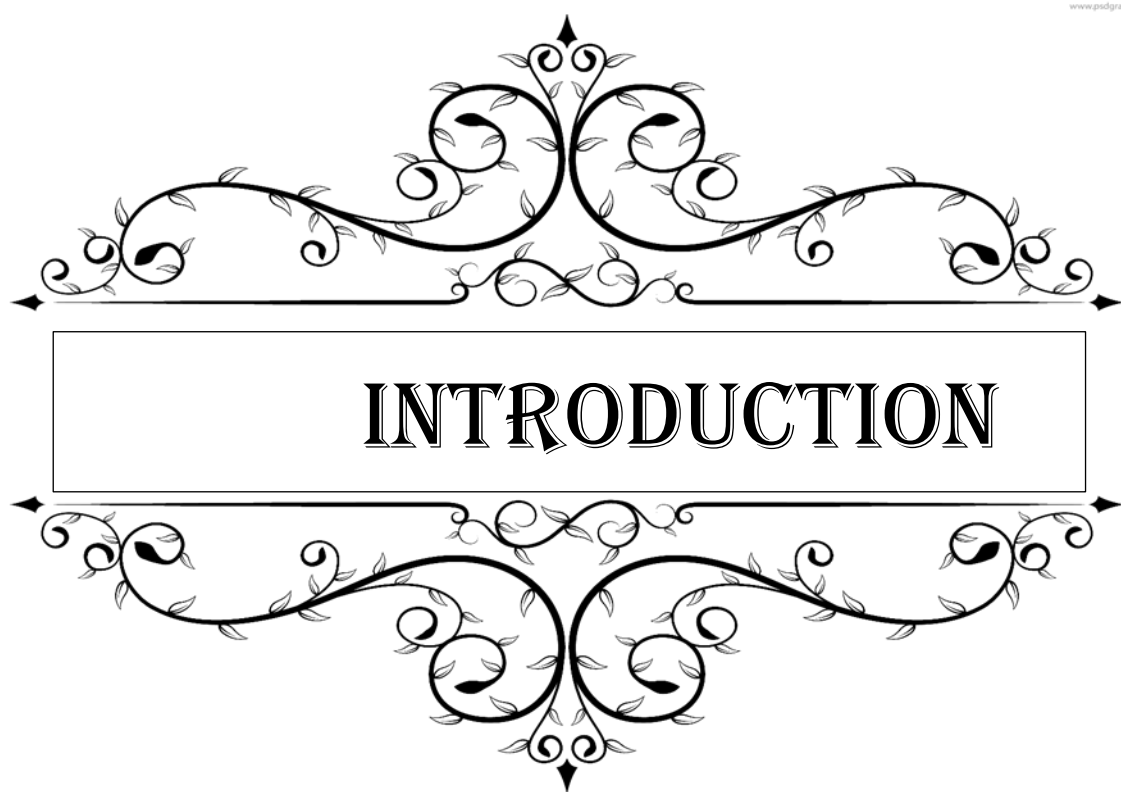
INTRODUCTION

1. INTRODUCTION

Tobacco use is a major global public health challenge, contributing substantially to morbidity and mortality.[1] It is one of the leading causes of preventable deaths worldwide, claiming nearly nine million lives each year and is a major contributor to cardiovascular diseases, cancer, and chronic respiratory conditions which underlines the critical importance of implementing robust tobacco control policies to reduce its use and in turn its devastating impact.[2]

In India, women are increasingly using tobacco, defying the historically male-dominated pattern. Women are increasingly utilizing electronic nicotine delivery systems (ENDS) and smokeless tobacco, putting them at serious risk for conditions like cardiovascular disease and cancer, which are frequently overlooked in public health campaigns.[3]

84.2% of women report never having used tobacco, which is significantly lower than the rate for men. Men are more likely to smoke, but women prefer smokeless tobacco. Nonetheless, smoking increases the chance of premature menopause and gynaecological malignancies, among other major health hazards.[4]

Women's use of smokeless tobacco is linked to adverse reproductive outcomes, such as preterm labour and neonatal fatalities, as well as other adverse effects, such as periodontal disease and oral cancers. Targeted tobacco control initiatives are urgently needed since smokeless tobacco use can increase oral lesions, promote immunological dysfunction, and cause chronic disease. These health hazards are present in both chewable and non-chewable forms.[5]

The unburned tobacco dust that rural women who roll beedis are exposed to causes high rates of morbidity, especially headaches, body aches, and

hypertension. These health problems have a significant impact on their general well-being and raise the population's chance of death.[6]

The commencement of tobacco use is influenced by a number of elements, including social factors like peer pressure, psychological commitments that are addictive, and cultural traits derived from past customs and rituals. These interrelated factors have influenced tobacco use-related cultural norms and individual behaviours over time. Ascertain the age at which tobacco use began in the tribal hamlet and how it relates to socioeconomic status and culture. Determining these elements is crucial to creating effective public health programs.[7]

India's tobacco cessation problems include a lack of health care cessation centers, a lack of health care professionals, an unmotivated user, interference from the tobacco industry, social and physical isolation, increased exposure to tobacco marketing, pro-tobacco social norms, and a decline in SES and education regarding higher smoking among users. Due to a lack of understanding and social support networks, these issues are considerably more severe in rural areas than in metropolitan ones.[8]

The main sociocultural factors influencing tobacco smoking among rural women are living in nuclear households, widowhood, lower economic position, illiteracy, and being unmarried. These variables increase nicotine dependency and decrease quitting attempts, underscoring the necessity of tailored therapies to support and promote cessation.[9]

Chewing tobacco, areca nut, and betel leaf affects a significant percentage of people in several Asian countries as well as immigration from these areas. Many betel quid products are applied or held in the mouth instead of being chewed, which causes contact with the oral mucosa. However, all of these

behaviours ought to be regarded as a component of the betel quid chewing habit.[10]

Both chewable and non-chewable tobacco products significantly increase morbidity and mortality among Indian rural women, making them more vulnerable to respiratory disorders, cardiovascular diseases, and malignancies. The lack of specialized quitting programs and insufficient access to healthcare further increase these dangers.[11]

Peer pressure was frequently linked to the start of tobacco use, particularly with regard to cigarettes, hookahs, and small cigars and cigarillos (LCCs). It must also be applied constructively to quitting, fostering settings that encourage quitting and discouraging tobacco use. It's interesting to note that, aside from smokes, stress, price, and enticing flavours or tastes were significant factors in beginning and maintaining their usage.

Family obligations, the health risks associated with tobacco use, and understanding of these risks are important motivators for quitting. Reducing nicotine consumption, especially from cigarettes and e-cigarettes, and avoiding situations where tobacco users are present were common cessation techniques.[12]

Current strategies to increase rural women's access to cessation programs include text-based interventions. These treatments can reach women in rural areas by using mobile technology, providing crucial support to help them stop using smokeless tobacco and reduce their risk of tobacco-related illnesses.[13]

Women are more likely to use smokeless tobacco (5.53%) than smoke (0.52%), especially in rural areas. This highlights a significant disparity in data on tobacco use behaviours among Indian adults by gender and by region.[14]This underscores the need for further research on the use of chewable versus non-chewable tobacco, particularly within rural populations.

PROBLEM STATEMENT

• Tobacco usage was present in 22.3% of the world's population in 2020, with a larger incidence among men (36.7%) than women (7.8%). Compared to urban regions, tobacco usage is substantially greater in rural areas (52.6% of males and 17.7% of females). With an alarming 46.7% prevalence in rural Kolar, women's use of smokeless tobacco (5.53%) is higher than smoking (0.52%), underscoring the critical need for gender- and region-specific cessation   initiatives.

• With 46.7% of women in Rural Kolar reported using chewable smokeless tobacco, its usage is notably widespread. This emphasizes how urgently gender-specific and rural-specific data are needed to inform focused smoke cessation programs. [15]

2. NEED FOR THE STUDY

Studies on tobacco use typically focus on prevalence in general, with little consideration given to the particular behaviours, challenges, and patterns of tobacco use among women living in rural areas. Men's tobacco use has been extensively studied, but less is known about the social, psychological, and economic factors that influence women to begin smoking. Interventions that directly address the challenges faced by rural women receive less attention, and most smoke cessation programs are primarily designed for men urban groups.

The effects of cultural views, financial independence, and familial impact on rural women's smoking cessation are not well studied.

Understanding the prevalence and patterns of tobacco use among rural women is crucial for several reasons.

Impact on Health: Rural women are more vulnerable to the long-term health consequences of tobacco use, including as chronic illnesses, problems with reproduction, and oral cancer, because they often do not have access to healthcare.

Social and Cultural Influences: How rural women begin and continue to use tobacco is greatly influenced by economic conditions, social acceptance, and cultural norms. Gaining a deeper comprehension of these factors can aid in the development of more effective intervention strategies.

Gender-Specific Cessation Strategies: Because many cessation programs are broad in design, they could not sufficiently address the unique challenges that rural women face when attempting to quit smoking, such as financial constraints, social dependency, and a lack of understanding.

Effect on Upcoming Generations: Women are vital to their families' health, and their tobacco use can significantly influence the habits and health-related behaviours of their children and other family members.
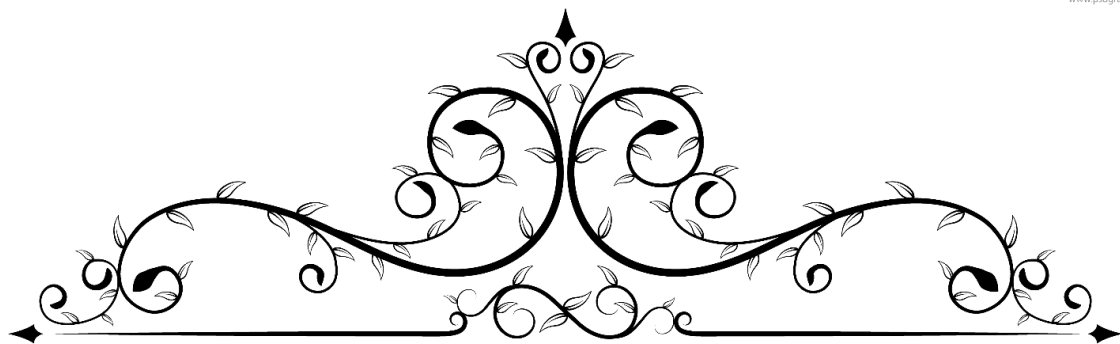
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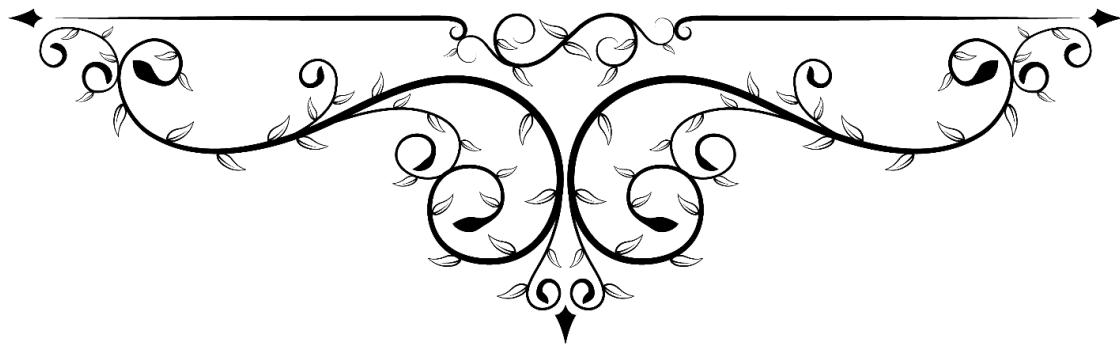
3. OBJECTIVES OF STUDY:

1. To determine the prevalence and patterns of tobacco usage among women in rural Kolar.

2. To assess the sociodemographic determinants associated with tobacco usage among women in rural Kolar.

3. To assess the factors associated with initiation and quitting of tobacco usage among women in rural Kolar.
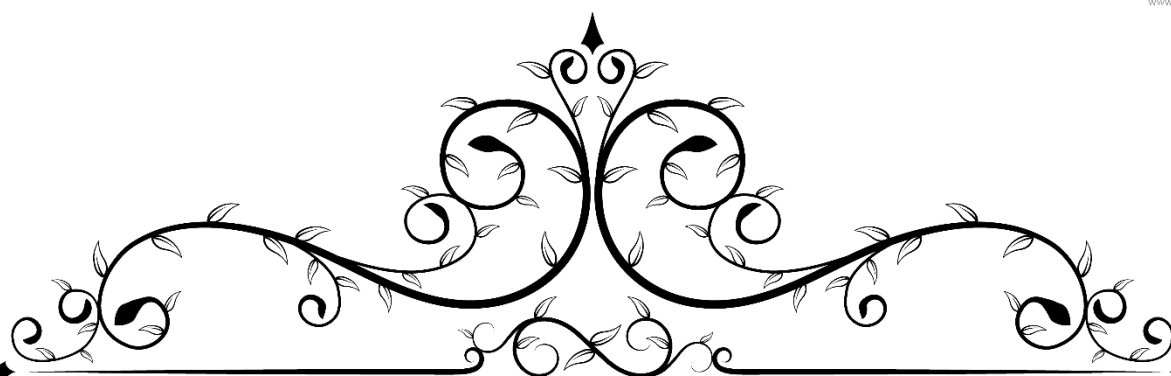
REVIEW OF LITERATURE
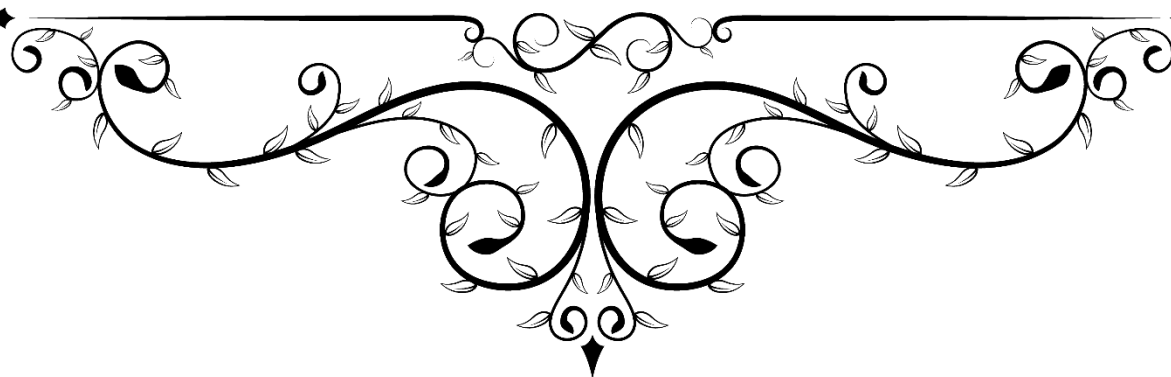
4. <u>REVIEW OF LITERATURE</u>

➤ **History of Tobacco use:**

➤ Approximately 12,000 years ago, the oldest evidence of tobacco usage was found among the remains of an old fire. This discovery highlights the plant's long history in human culture by indicating that Stone Age hunter-gatherers either chewed or smoked it.[16]

➤ Nicotiana, the scientific name for tobacco, has been essential to human history because of its intoxicating qualities. It has had a greater impact on world culture than any other psychoactive chemical. The first evidence of tobacco usage by humans was discovered at the Wishbone site in the western North American desert some 12,300 years ago. This finding implies that tobacco usage started far earlier than previously thought. There is ongoing discussion on the spread of tobacco in North America. Some theories contend that post-Pleistocene temperature shifts caused its natural dispersal, while others contend that people intentionally promoted its spread through cultivation and transportation after realizing its intoxicating properties.[17]

➤ Historical and ethnographic documents attest to the tobacco's great cultural significance in Mesoamerica. It is quite uncommon, though, for its organic remains to be recovered from archaeological settings. At Cotzumalhuapa, Guatemala, evidence of ritual tobacco usage during the Late Classic period (AD 650–950) has been discovered. Three cylindrical ceramic vases found to have nicotine residue in them were found in cache deposits close to the El Baul acropolis. This suggests that the vases held liquid preparations, such as tobacco infusions. This discovery offers the first tangible proof of ancient Mesoamerican tobacco ritual practices.[18]

➢ **Prevalence of Tobacco usage**:

➢ About 22.3% of people worldwide had usage of tobacco in 2020, with 36.7% of men and 7.8% of women doing so.[1]

➢ Based on data from the Global Adult Tobacco Survey-1, the study found that tobacco smoking was highly prevalent in the eastern, central, and northeastern parts of India. It demonstrates a strong correlation between smoking and variables like sex, residence, literacy, and work status. [4]

➢ With higher usage in rural areas (52.6% among males and 17.7% among females) than in urban areas (35.2% among males and 3.5% among females) and urban-slum populations (48.3% among males and 11.9% among females), prevalence rates show notable regional differences. These trends highlight the impact of geographic locations on tobacco use patterns.[3]

➢ There is a significant disparity between gender-specific and rural-specific data on tobacco consumption behaviours among Indian adults, with women's usage of smokeless tobacco (5.53%) significantly surpassing tobacco smoking (0.52%), especially in rural regions.[4]

The prevalence of tobacco uses and smokeless tobacco (SLT) use varies widely throughout nations and is impacted by cultural, economic, and legal variables. Despite declining smoking rates, SLT use is increasing, according to recent studies, particularly in regions like South-East Asia and the Pan-American region. This study looks at prevalence rates, demographic trends, and their effects on public health. In all, 17% of adults and 11% of children in the PAHO (Pan American Health Organization) region use smokeless tobacco, making up 15% of the population. Venezuela has the highest incidence at 33.4.[19]

The incidence of smokeless tobacco (SLT) use varies significantly among South-East Asian countries. Between 2015 and 2019, there were an estimated

165.8 million SLT users in the region, and India accounted for 79.9% of the deaths connected to SLT use.[20]

There is a serious public health issue about the dangerously high rates of tobacco and smokeless tobacco (SLT) usage among Indian rural women. Research indicates that socioeconomic shifts, cultural tolerance, and a dearth of public health activities are the primary factors of this tendency. Despite the implementation of measures by the National Tobacco Control Programme (NTCP), women in India remain more vulnerable to the dangers of tobacco use. They are more vulnerable to the negative effects of second-hand smoke (SHS), smoking tobacco, and smokeless tobacco (SLT) since they are regularly exposed to these substances.

Smokeless tobacco (SLT) and smoking tobacco combined accounted for 79.5% of the total tobacco exposure among women in a rural region of West Bengal, India.[21]

The percentage of women of reproductive age who use smokeless tobacco (SLT) is 17.85% in the rural Koppal, Karnataka, area. Among these women, tobacco and betel quid are the most often utilized SLT products.[22]

Use patterns: There are discernible differences in tobacco use patterns across various product categories and demographic groupings. The most prevalent use pattern is among teenagers who only use e-cigarettes. Nonetheless, using e-cigarettes in conjunction with other tobacco products is common and may be associated with risky behavior**.**[23]

Non-chewable tobacco products include a wide range of smoked or inhaled items, each with unique properties and potential health risks. Pipes, cigars, water pipes (narghiles), and electronic nicotine delivery systems (ENDS) are a few examples of these.

Examples of smokeless items include snuff and a variety of oral chewables, including pan masala, khaini, gutkha, gudakhu, and betel leaf/paan.[25]

Items Made of Tobacco That Cannot Be Chewed Cigars, bidis, kreteks, and waterpipes are examples of smoked tobacco products that are frequently thought to be less dangerous than cigarettes. But they can be equally harmful to health and present comparable hazards.[24]

- **Types of Tobacco Products and Their Health Risks**

- a) Water Pipe or Narghile This technique, which is often referred to as hookah or shisha, entails smoking flavoured tobacco using a water pipe. It has long been widely used in low-income countries, but its use is rapidly growing in Western countries as well. Contrary to popular belief, smoking a water pipe poses health risks that are on par with, and occasionally higher than, those associated with smoking cigarettes.[25]

Figure 1: Waterpipe Tobacco [26]

b) Bidis

Made from tobacco wrapped in tendu or temburni leaves, bidis are tiny, hand-rolled cigarettes. They are mostly used in South Asia and, like other tobacco products, present significant health concerns because to their higher quantities of nicotine, tar, and carbon monoxide than traditional cigarettes.[25]

Figure 2: Bidi [27]

c)Kreteks

Kreteks are cigarettes with a clove flavour that come from Indonesia. They are made using a mixture of tobacco, cloves, and other ingredients. Kreteks are associated with serious health risks, just as other smoked tobacco products.[25]

Figure 3: Kreteks [28]

- **Potentially Reduced Exposure Products (PREPs)**
- PREPs, such as snus, are designed as substitutes for smokers who want to lower their health risks. Their pathogenic potential is still not fully recognized, and their long-term effects vary greatly. PREPs still have health risks, unlike therapeutic nicotine products, hence it is not recommended to use them as cigarette substitutes until they have been thoroughly assessed and regulated. [25]

Chewable tobacco products

The following ingredients can make up the majority of a chewing substance:

•**Areca nut only:** Used in place of tobacco, slaked lime, or betel leaf.

•**Tobacco chewing:** Done without areca nut.

• **Areca nut mixed with betel vine** components and additional substances, but without tobacco, is known as betel quid.

• **Betel quid with tobacco:** Areca nut mixed with tobacco and other additives, such as parts of the betel vine.

Constituents and Their Origins/Preparation:

• **Areca Nut**: Whole or sliced, ripe or unripe. Raw, roasted, sun-dried, cooked, steeped in water, or fermented in mud are some methods of preparation.

 Piper Betel L. (Betel Vine): o Ingredients: Stem, inflorescence, or fresh leaf.

 Slaked Lime: o Origins: Quarried limestone, coral, or shellfish. Fourth, tobacco can be sun-dried, fermented, boiled in molasses, scented, or condensed into an extract (kimam/qiwam).

• **Catechu**: Derived from: o Acacia catechu or A. suma heartwood. o Uncaria gambier leaves.

o Lithocarpus polystachya, commonly referred to as nang ko, the ark.

 Spices: o Typical spices include cardamom, cloves, and anise (sometimes covered with honey).

 Sweeteners: o Dried dates and coconut are two examples.

 Essences: Examples include mint, menthol, rose petals, and rose essence.

• The Areca nut, which is a vital component of many popular chewed items, is the seed of the fruit from the oriental palm Areca catechu. Avoid using the name "betel nut" because it is botanically wrong and has caused a great deal of confusion in the scientific literature.

• Areca nuts are a major agricultural product that are grown extensively around the world. The Food and Agriculture Organization (FAO) predicts that the world's largest producers of areca nuts are continuously growing their global production (FAO, 2003).

• Over the past forty years, areca nut production has increased significantly in the majority of South Asian nations for which data is available. For instance, manufacturing in India has almost tripled, most likely as a result of areca-based goods becoming more widely available since the early 1980s. Interestingly, Bangladesh produces a lot of areca nuts, but nothing is known about how they are consumed there.

• The Pacific Islands and South and Southeast Asia are home to a number of palm species in the Areca genus. The palm known as Areca catechu, which yields areca nuts for chewing, is said to be indigenous to West Malaysia, Sri Lanka, and Melanesia. This tropical palm yields ovoid or oblong fruits that are green while unripe and turn orange-yellow when ripe. The fruits are 3–5 cm in length and 2–4 cm in diameter. After being freed from the fibrous pericarp, the seed (endosperm) is spherical, has a truncated base, and is buff in color with dark wavy lines.

Depending on personal inclination, it is drunk at varying stages of maturation and has a distinctively astringent and slightly bitter taste. The nut can be eaten whole or in thin slices, either raw or processed into different preparations. Areca nuts can be eaten raw or dried and cured using techniques including roasting, baking, or sun-drying. In other areas, the nuts are fermented and boiled, frequently by burying them in mud to soften them. This technique is popular in Sri Lanka and eastern India. The nut's flavour and astringency are

changed by these processes. Similar to a tiny olive, areca nuts are usually utilized in Taiwan and China while still green.

In Hindi and other languages, areca nut is frequently called supari in India. It is referred to as daka in Papua New Guinea, puwak in Sri Lanka, gua in Sylheti (Bangladesh), mak in Thailand, pinang in Malaysia, and kun-ywet in Myanmar.

Elemental composition: It contains concentrations of several elements including sodium, magnesium, chlorine, calcium, vanadium, manganese, copper, and bromine.

Figure 5: Areca nut [29]

Betel Leaf: Piper betel leaves are the most widely consumed companion to areca nut chewing in the globe. As a result, areca nut is now referred to as "betel nut" in the English language, even though the Working Group does not advise using this name. Vitamin C (1.9 mg/g) and carotenes (80.5 mg/g) are found in betel leaves, along with betel oil, a volatile liquid that contains phenols such as hydroxychavicol, eugenol, betel phenol, and chavicol.

Slaked Lime:

Slaked Lime: Areca nuts are commonly mixed with slaked lime, which is calcium hydroxide. It is extracted from limestone quarries in central regions and heated seashell or coral coatings in coastal areas. Slaked lime is usually offered in Asian marketplaces as a white or pink paste that has been combined with water. It is sold in powdered form and kept in airtight containers in Papua New Guinea. Research has revealed notable differences in the levels of iron (II), magnesium (II), and free calcium hydroxide in slaked lime samples from Papua New Guinea.

Figure 5: Betel leaf, Slaked lime	Figure 6: Powdered Tobacco

Tobacco: A common addition to areca nut combinations is tobacco. Nicotiana rustica and Nicotiana tabacum leaves that have been sun-dried and partially fermented, then finely chopped without any additional processing, are commonly used to make chewing tobacco in the Indian subcontinent. Tobacco is occasionally cooked before usage or ground into a powder and combined with molasses.

The prevalence of tobacco and areca-nut use among villagers in Kolar District, Karnataka, India is shown

Habit	Dibbur	Malur	Gudiband
Men			
No.	5464	5369	4893
Tobacco smoking	17.7%	21.0%	21.7%
Tobacco chewing	16.4%	7.7%	8.4%
Women			
No.	5236	4905	4677
Tobacco smoking	0%	0%	0%
Tobacco chewing	38.5%	28.7%	30.4%

Betel quid is frequently utilized without giving enough thought to its varied uses and contents in various geographical areas. Betel leaf, areca nut, slaked lime, and tobacco are the usual ingredients of a betel quid, which is often used interchangeably with pan or paan. Depending on local tastes, extra ingredients are frequently added, such as sugars or spices (such as cardamom, saffron,

cloves, aniseed, turmeric, and mustard). Additionally, essential components like tobacco and areca nut can be utilized alone or in different ways without betel leaf. Around the world, a variety of commercially manufactured mixes that contain some or all of these substances are likewise easily accessible.

"A substance, or mixture of substances, placed in the mouth usually containing at least one of the two basic ingredients, tobacco or areca nut, in raw, manufactured, or processed form," was the definition put forth by a consensus workshop in 1996.[30]

Figure 7: Betel quid[31]

➤ **Preparation Method for Chewing Tobacco**

➤ There are multiple steps in the process:

1. Immersion and Drying: Tobacco leaves are submerged in liquid for a while before being dried.

2. Slicing and Stem Removal: The leaves are thinly sliced after the stems are taken off.

3. Roasting: The first step involves roasting the cut leaves.

4. Second Roasting: To improve flavour and texture, the leaves are roasted one more.

5. Resting and Packaging: Before being packaged in the appropriate shape, the roasted leaves are allowed to rest at room temperature for one to two days.

• Benefits of this approach This method of preparation has the following advantages:

• It improves the flavour by giving the chewing tobacco a taste similar to cocoa or coffee.

• The procedure is easy to use, economical, straightforward, and efficient.

• Users find the finished product more appealing since it has a more pleasant scent.

• It considerably lessens the abrasive, sharp flavour and discomfort that raw tobacco leaves are often known for.

• The prepared tobacco improves the user experience by offering a level of enjoyment similar to smoking .[30]

FACTORS IN INITIATION OF TOBACCO USE
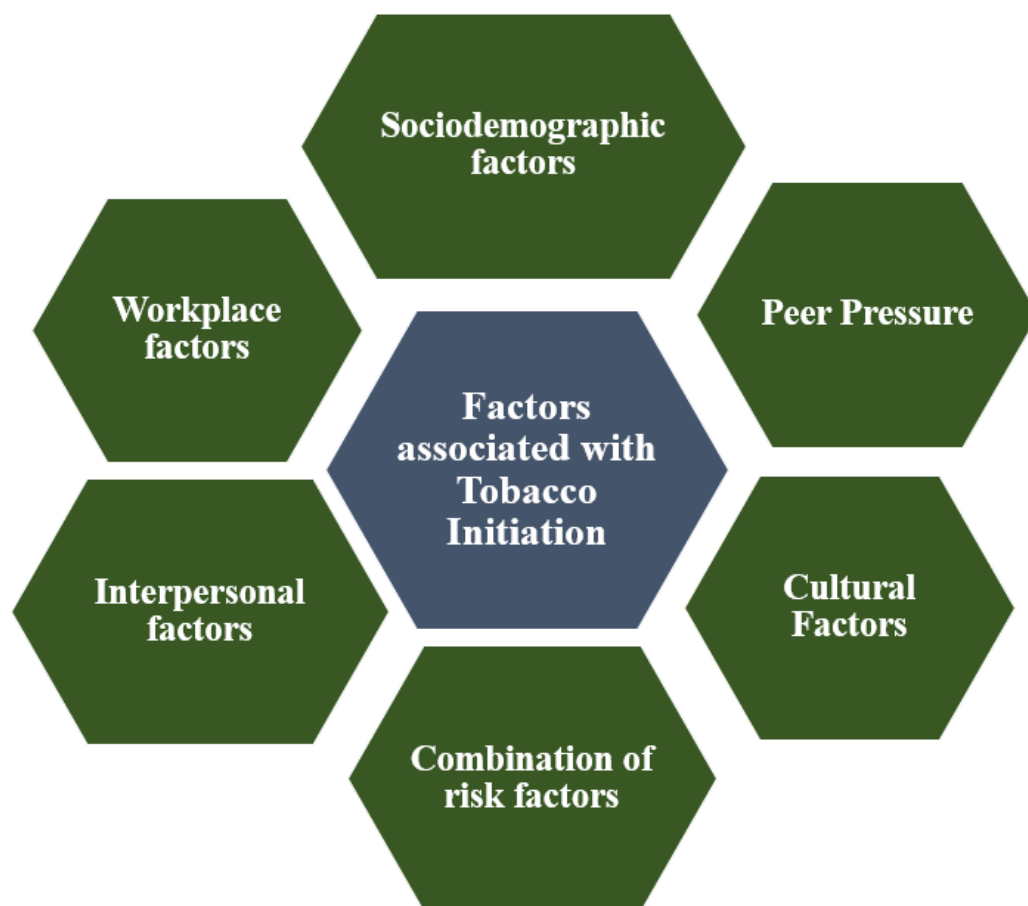
➢ **Sociodemographic factors:**

➢ Age: With an adjusted odds ratio (AOR) of 5.8, which shows a high association between age and tobacco use, older women in rural regions are more likely to use SLT. Compared to women 51 and older, younger women—especially those between the ages of 18 and 30 and 31 and 50—have much higher likelihood of currently smoking. These younger age groups have a significantly higher prevalence of smoking.[1]

Religion: It was shown that among rural women, being Hindu was associated with nicotine dependence, suggesting that religious affiliation may have an impact on smoking behaviours. This may be due to cultural practices and social norms surrounding tobacco smoking in the community. socioeconomic status, with a higher prevalence seen among Christians in particular and those in the lowest quintiles of wealth.[30]

➢ Family Influence on Smoking Habits: The study found that people are far more likely to smoke if they have family members who smoke, indicating that family members have a greater influence on smoking behaviours than friends. However, having non-smoking or former-smoking family members increases the likelihood that an individual would be a non-smoker or former smoker, suggesting that family environments can also encourage non-smoking behaviours.

➢ **Socioeconomic Status**: Adult women who are in a lower socioeconomic position are far more likely to smoke, and this is due in part to variables including a lack of health insurance, a lower salary, and a lack of education. Compared to women from higher socioeconomic backgrounds, these women smoke more than three times as frequently.

➢ **Social networks and norms** are important influencers of interpersonal factors. Those with more social connections who smoke are less likely to be

former or never smokers, and women who believe smoking is socially acceptable are less likely to quit. On the other hand, greater social interaction and activity participation improve the likelihood of stopping smoking. **Factors related to the workplace:** Policies that prohibit smoking may have an effect on smoking behaviour. However, workplace characteristics played a less significant role because there were fewer employed respondents in the study. Long-term exposure to unburned tobacco dust during beedi rolling poses serious occupational health concerns for rural women in Telangana's northern districts, including headaches, body aches, and hypertension.[8]

➤ **Factors related to the neighbourhood**: Smoking status is linked to neighbourhood cohesion, which is defined by trust and a feeling of community among neighbours. In contrast to data from more affluent groups, where cohesiveness frequently encourages smoking cessation, more neighbourhood cohesion is associated with a higher risk of current smoking. **Cultural factors**: The Appalachian region's distinct cultural and economic traits, such as greater rates of poverty and lower levels of education, lead to a higher incidence of smoking among women. These elements significantly impede attempts to quit smoking. [32] These factors play a pivotal role in shaping smoking behaviours among rural women in India. Societal acceptance of tobacco use, misconceptions about its benefits for relieving tension and controlling appetite, and deeply ingrained beliefs contribute to its widespread prevalence and normalization, especially when compared to alcohol consumption[33]

➤ **Language and ethnic differences**: SLT usage differs among various linguistic and ethnic groupings. The highest frequency is among Mizo-speaking women, who are followed by Manipuri, Odiya, and Khasi-speaking women, indicating that language and ethnicity have a big impact on tobacco use in rural areas. [23]

➢ In places like Mysore, Karnataka, India, rural women commonly utilize "natural" tobacco ways like kaddipudi, a type of chewing tobacco, and paan, which typically blends tobacco and areca nut. These practices are highly valued and well accepted in the society. They are also ingrained in the customs and social fabric of the area.[34]

➢ **Peer pressure** is a major factor in smoking initiation; according to 80% of participants, peer pressure was the reason they began smoking. This emphasizes how smoking has a social component, especially for teenagers who may start smoking to blend in with their peer groups or because friends directly push them to do so.[35] Women actively involved in community organizations are more likely to consume tobacco, highlighting the significant influence of social capital on their smoking behaviors [36] In rural areas with strong **interpersonal connections**, the perceived social acceptability of smoking and the influence of social networks can either facilitate or impede smoking cessation efforts[37]

➢ 57.2% of women who use SLT take it within 30 minutes of waking up, which is a noteworthy figure that suggests substantial reliance and frequent use, especially among rural women. There is a clear trend of quick tobacco use after waking up, as evidenced by the noteworthy 57.2% of smokeless tobacco users who reported using it within 30 minutes of waking up, with a higher frequency among women in rural areas.[38]

➢ Women who score 16 or higher on the Centre for Epidemiologic Studies Depression Scale (CES-D) are almost twice as likely to smoke, indicating a clear correlation between smoking behaviour and depressive symptoms. Pregnancy at an early age: Women who become pregnant for the first time before the age of 20 are more likely to smoke as adults. There is a clear correlation between higher smoking prevalence and early maternal experiences.

Combination of risk factors: Smoking is significantly more likely when several risk factors are present. The prevalence of smoking among women with four or

more risk factors is 50%, while the prevalence among those without risk factors is only 10%.

➢ Social and maternal circumstances: Smoking behaviour is strongly linked to situations like being a single mother and experiencing socioeconomic problems as a child. These elements frequently coexist, increasing the risk of smoking.[39]

Factors influencing cessation of tobacco use: Numerous factors, such as socioeconomic position, education, societal norms, and health consciousness, affect rural women's decision to quit chewing tobacco. Understanding these consequences is essential to creating targeted and effective quitting programs.

Socioeconomic factors

Factors associated with Tobacco Cessation

Awareness of health hazards

Medication

Counselling Methods
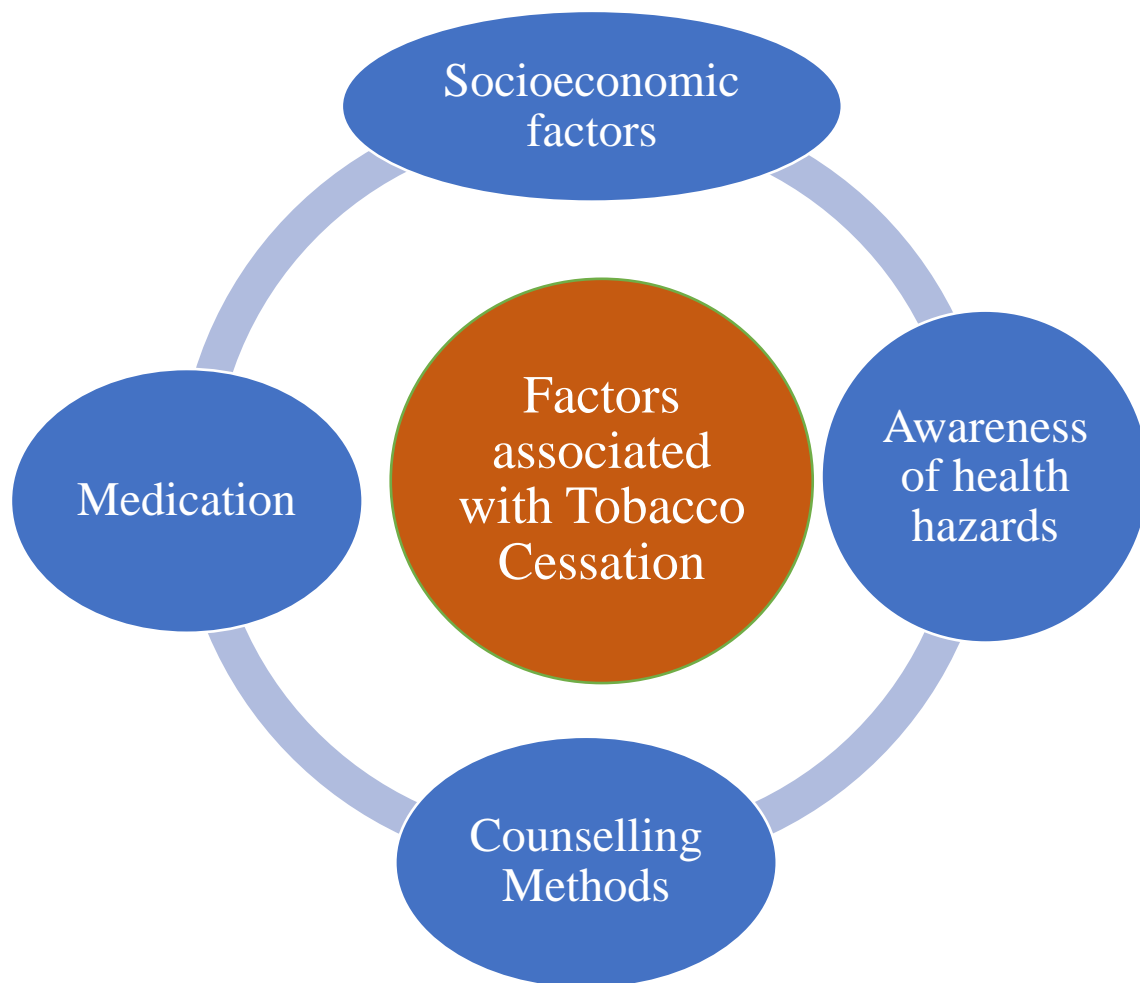
Socioeconomic Factors The social stigma attached to tobacco use has a significant influence on women's decision to quit, and two important factors influencing quitting among rural women are a strong desire to quit despite having little knowledge of cessation procedures and heightened awareness of the health hazards associated with pregnancy. These factors are crucial for the success of tobacco cessation programs in rural areas and education-focused regions.[1],[15]

Knowledge of health risks

The likelihood that rural women will stop chewing tobacco is greatly increased by regular doctor visits, a thorough grasp of health risks, and successful cessation techniques including counselling and medicines. 7. Furthermore, in order to encourage rural women who participate in beedi rolling, awareness campaigns that lower health hazards are crucial.[40]

Visits to medical facilities

Effective cessation techniques, such counselling, and routine visits to medical professionals are important factors in rural women's attempts to stop smoking. But there are still surprisingly few real inquiry and counselling methods used by healthcare professionals. In order to provide the resources and support required for successful cessation, increased participation from medical experts is essential.[41]

➢ By reducing cravings and withdrawal symptoms, medications such as varenicline and nicotine replacement therapy (NRT) can help rural women quit chewing tobacco. However, their poor success rate in maintaining long-term abstinence highlights the need for additional research on treatments tailored to this population.

It has been demonstrated that nicotine replacement treatment (NRT), such as

gums and patches, improves short-term abstinence rates by reducing cravings and withdrawal symptoms among smokeless tobacco (SLT) users attempting to quit.

Bupropion: This medication helps manage cravings and reduce weight gain after discontinuing SLT, but it has minimal influence on long-term abstinence rates.

The only drug that has been demonstrated to considerably increase SLT users' long-term abstinence rates (6 months or longer) is Varenicline. [42]

➢ PAPs, or pharmaceutical assistance programs, are critical for increasing access to necessary pharmaceuticals. Because of the significant assistance these programs offer, low-income smokers without prescription insurance can get effective smoking cessation drugs.[43]

➢ By providing individualized guidance and instruction on the health concerns associated with tobacco use, counselling plays a crucial role in helping rural women stop chewing tobacco. Particularly in remote locations with limited access to healthcare, effective counselling techniques can significantly increase quitting rates. The main ways that counselling aids in this process are described in the sections that follow.

The value of customized counselling

A smoking cessation program tailored to smokers in rural locations takes into account their unique situation and challenges. These include limited access to healthcare resources, societal and cultural barriers, and economical constraints. Understanding these unique challenges and focusing on the actual experiences of smokers in rural locations can help develop more effective and practical quitting methods.

➢ By addressing these issues, smoking cessation success rates in rural areas can be considerably raised.[44]

➢ Personal communication, movies, posters, newspaper articles, folk dramas, radio shows, and presentations are examples of intervention techniques that are

frequently assessed and modified for efficacy.

The most successful strategy for educating people about the risks of tobacco use is human communication, which is followed by movies and Burrakatha, a traditional storytelling technique.[45]

Innovative Methods in Counselling

Real-time video therapy is a creative solution that provides timely, tailored help, which is crucial for those trying to quit smoking in areas with limited access to healthcare services.[46]

Individual Counselling: Specialized strategies and tailored care are provided to clients in one-on-one sessions with counsellors to address specific tobacco cessation challenges. This tactic is crucial for offering individualized support and encouragement.

Group Counselling: Group sessions bring together people trying to quit smoking tobacco under the guidance of a counsellor. In this setting, which promotes peer support and shared experiences, participants can discover inspiration and comfort. It helps people realize they are not going alone and allows them to learn from the strategies and successes of others.

Telephone therapy: Often used as a supplement to traditional therapy methods, telephone counselling is convenient and accessible. It enables users to receive assistance without physically meeting someone, which is particularly beneficial for those with time or location constraints.

Counselling Based on Protocol (5A's and 5R's): It is stressed that structured protocols are necessary for counselling to be effective. The 5A's procedure consists of the following steps and is designed for those who are ready to stop: Ask, Advise, Assess, Assist, and Arrange. People that are hesitant to give up are the target audience for the 5R's protocol, which places an emphasis on Relevance, Risks, Rewards, Roadblocks, and Repetition. These systematic

approaches ensure comprehensive and effective counselling. These counselling methods, when applied appropriately, can help people kick their tobacco habit and reduce their risk of oral cancer and other tobacco-related diseases.[47]

All-inclusive Intervention Methods

Multiple-Modal Methods: One-on-one discussions combined with visual aids like films and posters effectively increase awareness and understanding of the health risks of tobacco use.

Follow-up and Assistance: Regular follow-up sessions are necessary to ensure regular engagement, sustain motivation, and prevent relapse.

Health Hazards Linked to Tobacco Use: Both tobacco smoke and smokeless tobacco (ST) pose significant health risks and are leading sources of illness and mortality worldwide. These include heart issues, respiratory conditions, and various cancers. Despite what many people think, smokeless tobacco is not a safer option. It is essential to raise awareness of the health dangers connected with both forms of tobacco in order to support effective public health initiatives and promote better lifestyles.

AWARENESS REGARDING HEALTH HAZARDS OF TOBACCO AND SMOKELESS TOBACCO USAGE.

The health risks associated with tobacco chewing are not well understood by rural women. Despite its widespread use, many women are unaware of the potential health hazards. This highlights the pressing need for focused educational initiatives in these communities to raise awareness and promote healthy lifestyle choices.

Women who knew more about the health risks associated with tobacco use were shown to be more likely to use tobacco, with an adjusted odds ratio (AOR) of 1.22. This implies that even when people are aware of the potential health

concerns, knowledge alone may not always serve as a deterrent to tobacco use.[48]

The study found that there are definite gender differences in tobacco use patterns, with women preferring smokeless tobacco and men smoking more frequently. These findings highlight the need for gender-specific awareness campaigns that consider the different tobacco use habits of men and women in order to deliver more effective education on the associated health risks.[49]
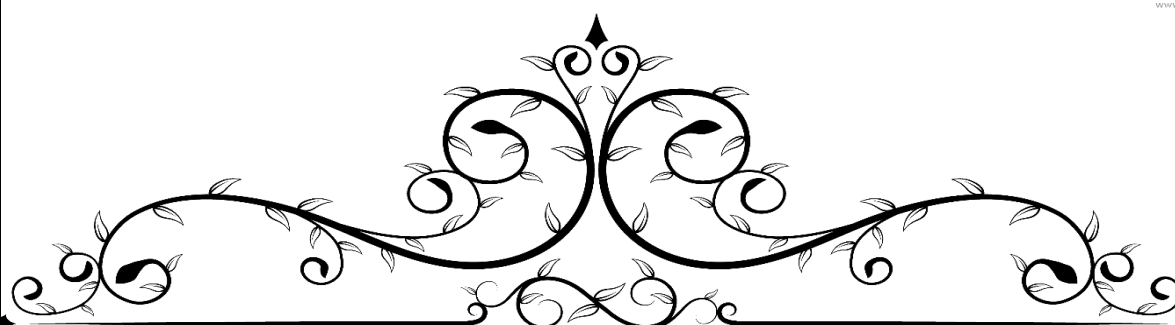
MATERIALS AND METHODS
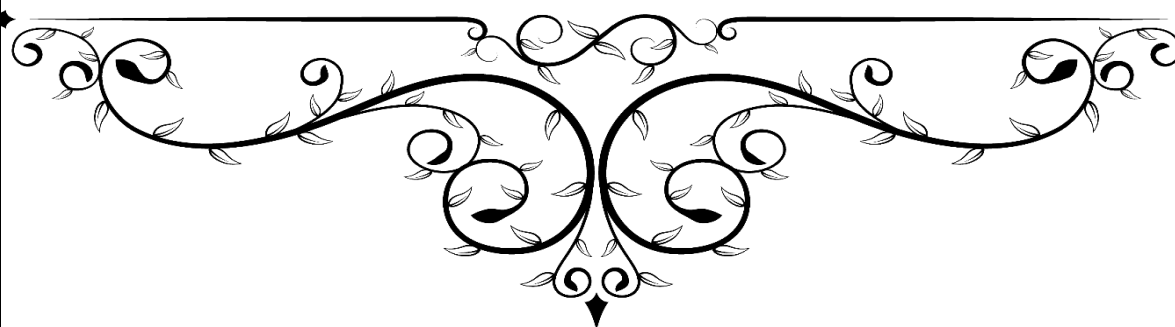
5. <u>MATERIALS AND METHODS</u>:

Topography of Kolar district

FIG.NO.1

Map of Kolar district[50]
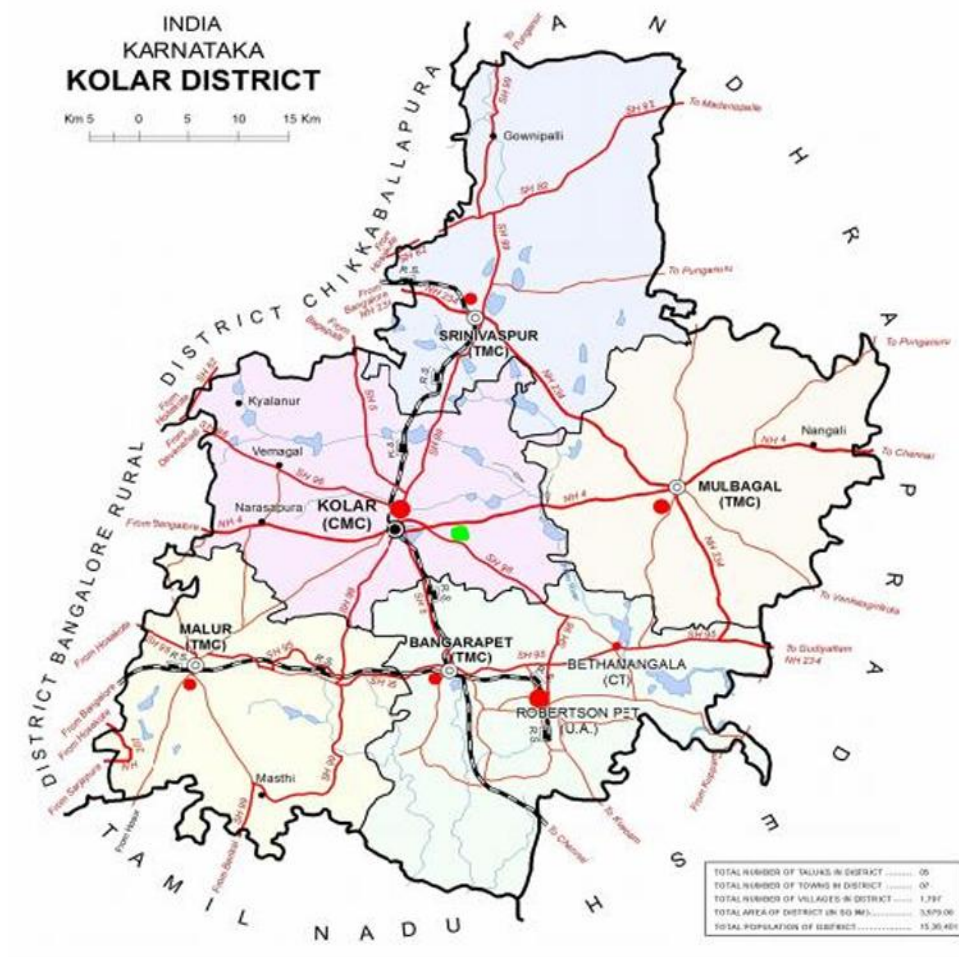
Southern Karnataka is home to the Kolar district.

The available data indicates that there are 1536401 people living in Kolar, with 776396 men and 760005 women.

Malur, Srinivaspura, Bangarapet, Kolar, Mulbagal, and KGF are the six taluks that make up the district.

The Indian state of Karnataka's Kolar district is home to Mulbagal Taluk. A total of 258,935 people live there, with 130,488 men and 128,447 women, according to the 2011 Census.

There is one town and 343 villages in the taluk.

A significant portion of the population is employed in agriculture and related fields, which reflects the area's rural character. Among other farming chores, women in Mulbagal Taluk usually assist with planting, weeding, and harvesting. They may also be involved in housework, livestock husbandry, and regional crafts.

A normal day for women in this region would begin with morning home duties, then field work or animal care. The afternoons could be used for meal preparation, childcare, and involvement in local markets or activities. The evenings are often spent with family and completing any last-minute cleaning.

MAP OF RURAL HEALTH TRAINING CENTRE - DEVARAYASAMUDRA[51]
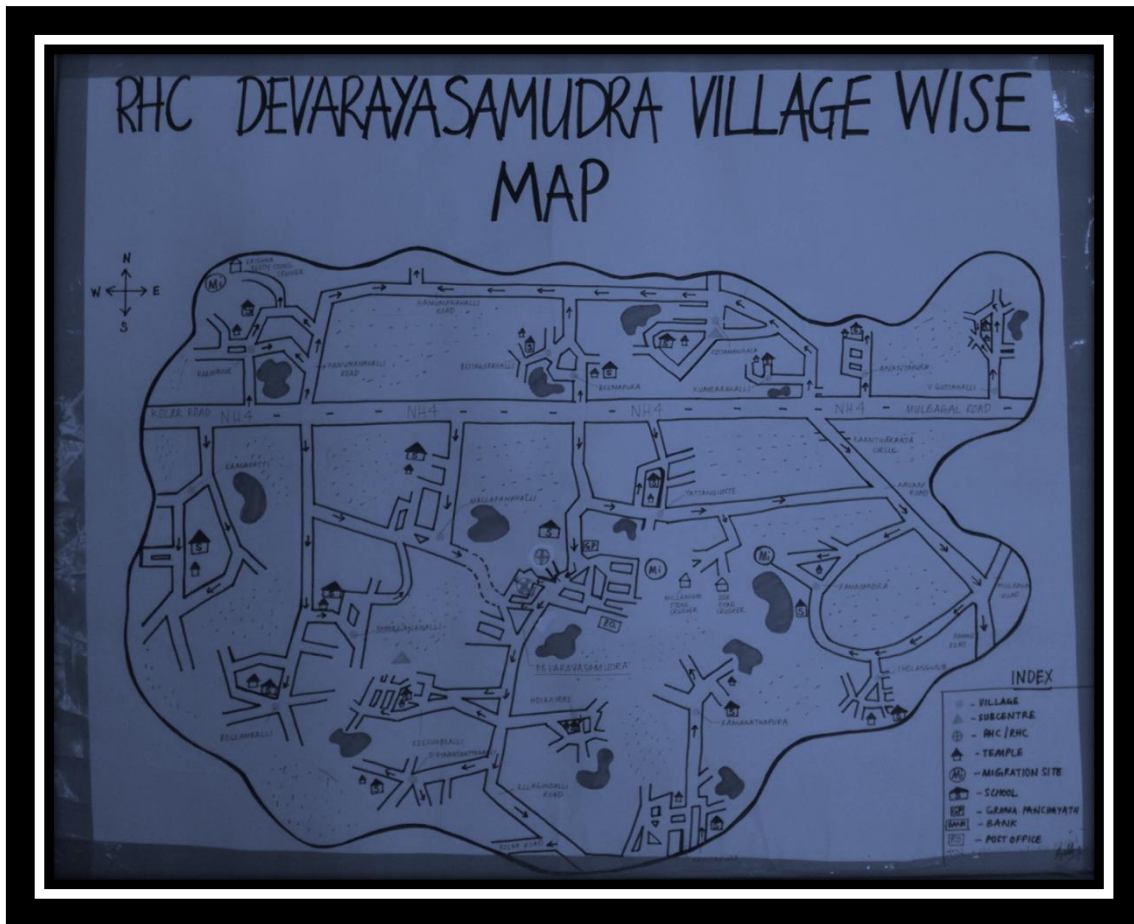
Devarayasamudra village is situated in Mulbagal Taluk, Kolar district, Karnataka with a population of 11,636 individuals.

It consists of 20 villages under which 6 villages are enrolled for the study.

VILLAGES	HOUSES	POPULATION	WOMEN
Devarayasamudra	174	810	690
Mallapanahalli	210	951	464
Keelulohalli	203	1193	620
Kempapura	154	722	350
V Guttahalli	317	1437	720
Kothmangala	170	682	374

Study design: community-based, cross-sectional study

Study setting: Primary Health Center (PHC) Devarayasamudra, Mulbagal Taluk, Kolar District, field practice area.

Study population: Women living in rural Devarayasamudra, Mulbagal Taluk, Kolar, who are above 18 years old

Study Duration: The study is conducted for one year and six months, from June 1, 2023, to December 30, 2024.

SAMPLE SIZE CALCULATION

• Sample size estimated based on prevalence of tobacco usage among rural women in the study by Saurabh Shrivastava and Prateek Shrivastava in 2020.

• Considering the prevalence of 15.2% tobacco usage among rural women, an absolute error of 4% with a design effect of 1.5, 95% confidence level. Estimated sample size is 465 rural women, expecting a 10% non-respond rate, the final sample size is 511

• Zα at 95% confidence interval is 1.96

• Zα-Standard normal variant.

• Prevalence P=15.2%

• q =(1-p) = 84.8

• d- Absolute error 4%

• DE-Design effect 1.5

• Sample Size

Calculation: $\dfrac{Z_\alpha^2\ (p)\ (1-p)(DE)}{d^2}$

$$= \frac{(1.96)^2\ (15.2)\ (84.8)\ (1.5)}{(4)^2}$$

n = 465 households. (sample size)

• Assuming the 10% of non-response rate, the final sample size was calculated to be 511.

• **Sampling**:
  Cluster sampling technique was used for sample selection.

• All the 20 villages in the field practice area of PHC, Devarayasamudra were considered as clusters, and 6 such clusters were selected by Simple Random sampling. Villages were randomly selected using a random number generator.

In each of the selected villages, I have allocated samples by probability proportional size accordingly to meet my estimated sample size of 511

• If the house is locked during the initial visit, one more visit will be done next day before excluding that house from the study.

• If the selected house does not have an eligible participant, then the subsequent house will be included in the study.

Inclusion criteria:

•Women of 18 years age and above.

Exclusion criteria:

• Women not found in the house at the time of visit.

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                    ┌──────────────────────────────┐
                    │  PHC Rural field practice area │
                    │      Devarayasamudra           │
                    └──────────────────────────────┘
                                  │
          ┌───────────────────────┼───────────────────────┐
          ▼                       ▼                        ▼
  ┌──────────────────┐   ┌──────────────────┐      ┌──────────────┐
  │  Devarayasamudra │   │   Keeluholalli   │      │ Kothamangala │
  └──────────────────┘   └──────────────────┘      └──────────────┘
          │                       │                        │
          └───────────────────────┼────────────────────────┘
                                  ▼
          ┌──────────────────────────────────────────────┐
          │   20 villages (total population 11,638)       │
          └──────────────────────────────────────────────┘

          ┌──────────────────────────────────────────────┐
          │            6 villages selected                │
          └──────────────────────────────────────────────┘
```

| Devarayasamudra | Keeluholalli | Kothamangala | V.Gutahalli | Malapanahalli | Kemapura |

All women ≥ 18 years of age in the house were selected

N=511
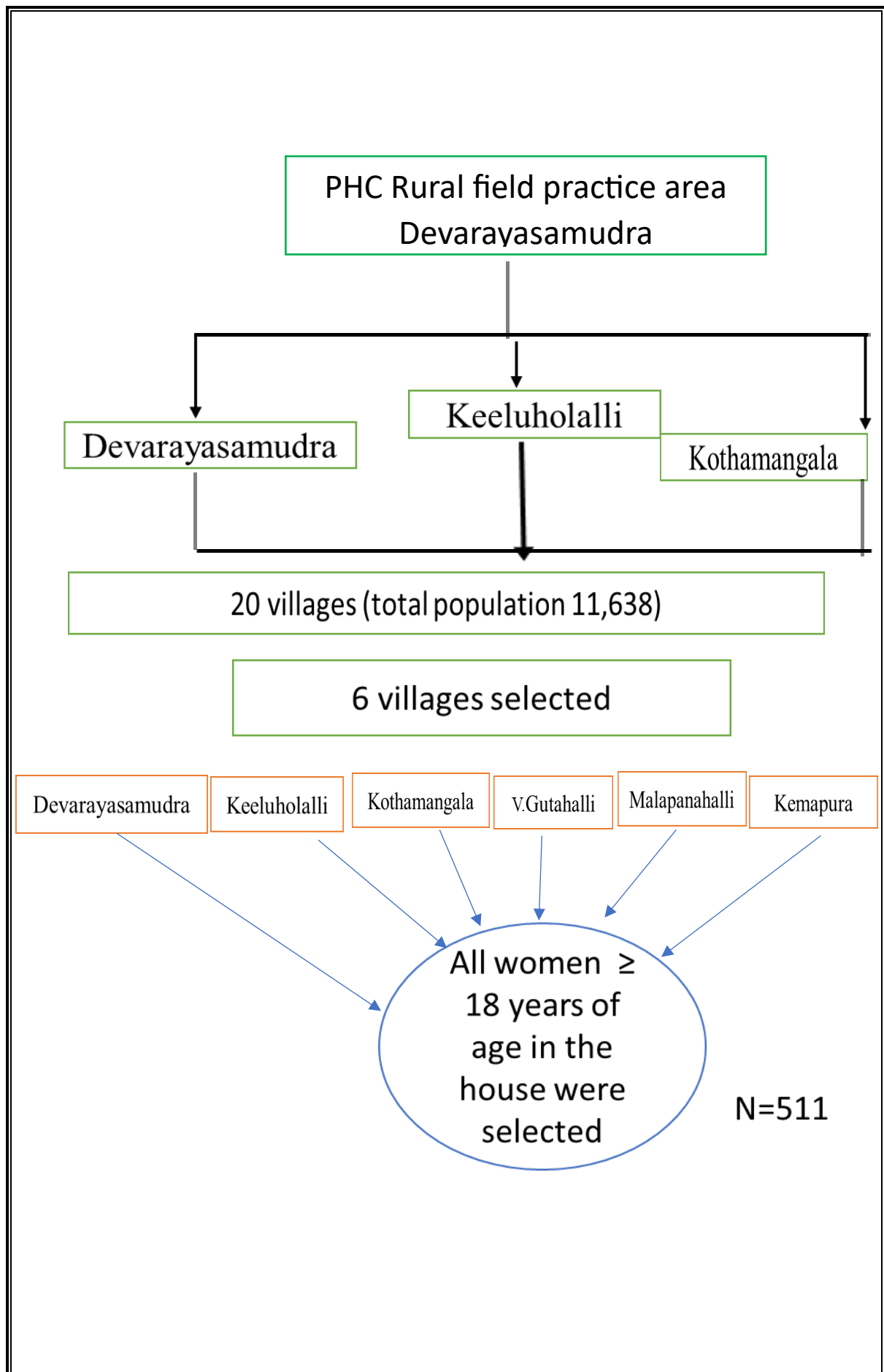
<u>**Study Tool**</u>

Written informed consent will be obtained from the participants.

• A semi-structured questionnaire was prepared by modifying the Global Adult Tobacco Survey Questionnaire which is used to collect the information on socio-demographic data such as such as age, religion, social status, education, type of family, socioeconomic status, use of tobacco, alcohol.

• Tobacco consumption was assessed by using the (GATS)Global Adult Tobacco Survey questionnaire.

• **About GATS (Global Adult Tobacco Survey)**

• Objective and Scope: The Global Adult Tobacco Survey (GATS) is a thorough global standard for monitoring key tobacco control indicators and systematically tracking tobacco use among adults. Its objective is to improve countries' capacity to organize, implement, and evaluate tobacco control programs.

• Target Population: GATS offers data on tobacco use and related attitudes, behaviours, and perceptions among adults who are 15 years of age or older. This demographic is important because it encompasses the age group when tobacco use is most prevalent and where interventions can have the biggest effect.

• Survey methodology: GATS employs a specific methodology to ensure data comparability across participating countries. This includes a standard questionnaire, sampling design, and data collection techniques. The survey is typically administered in homes through in-person interviews.

- Key Indicators: Data on various indicators, including the prevalence of tobacco use, both smoking and smokeless forms, are gathered by the survey. Exposure to second hand smoke, tobacco usage knowledge, attitudes, and perceptions, efforts and plans to quit, and exposure to tobacco advertising and promotion.

Utilization and Impact: Governments and public health organizations use the data from GATS to:

➤ Track tobacco use trends and assess the effectiveness of tobacco control policies

➤ Create and carry out focused tobacco control strategies

➤ Comply with international reporting requirements, including those imposed by the World Health Organization Framework Convention on Tobacco Control (WHO FCTC).

The Household and Individual questionnaires were the two forms of questionnaires utilized in GATS 2. The GATS core questionnaire, which was created for use in nations implementing GATS, served as the basis for both surveys.

The 27 questions in the GATS used in my study are divided into two parts: Part A includes 9 questions on sociodemographic profile, and Part B includes 18 questions about tobacco and smokeless tobacco product usage. The four sections that make up Part B are on tobacco and smokeless tobacco use, prior history, quitting, and awareness of the risks associated with both tobacco and

smokeless tobacco products. After being informed of the study's objectives, informed permission was acquired.

- **Core Survey Sections**: The GATS questionnaire consists of six primary components, each of which focuses on a different aspect of tobacco use and control:

- **Use of Tobacco**: This site collects data on the prevalence of smoking and use of smokeless tobacco. It asks about the kinds of tobacco products used, how often they are used, and how long they have been used.

- **Quitting Tobacco**: This section's questions centre on efforts to stop using tobacco, strategies for doing so, and reasons for doing so. Evaluations are also conducted on the availability and use of cessation assistance programs.

- **Second-hand Smoke:** Information on second-hand smoke exposure is gathered in this survey segment from a range of settings, such as residences, workplaces, and public spaces.

- **Economic factors of tobacco use:** This section inquires about tobacco spending in households, the cost of tobacco products, and the financial burden that tobacco use places on families and individuals.

- **Media and Advertising**: Questions in this part measure media coverage of anti-tobacco campaigns and tobacco sponsorship, promotion, and advertising.

- **Knowledge, Perceptions, and Attitudes**: This section looks at how respondents feel about tobacco-related social norms, how they feel about

legislation that restrict tobacco use, and how well-informed they are about the health risks of tobacco use.[63]

- **Pilot Study**: Before beginning the main research project, a pilot study was done involving 15 women residing in Mulbagal taluk, Kolar district. The replies were analysed, and depending on what was learned, appropriate modifications were made to the questionnaire.
- **Statistical analysis**:
- The data was collected using a self-administered questionnaire
 and entered into a Microsoft Excel spreadsheet and coded.
- All quantitative measures like age, income will be presented by Standard Deviation/Mean and Interquartile range and categorical data like occupation, socioeconomic status will be represented by frequency and percentages.
- Independent t test, Chi square test and logistic regression will be used to test the association. P value <0.05 will be considered as statistically significant.

➢ **Ethical Consideration.**

This study is approved by the institutional ethical review committee of Sri Devaraj Ur Academy of Higher education and Research, Kolar. (No. SDUMC)

Autonomy

- Participants in the study were given a participant information sheet that explained the study and invited them to participate willingly.
- The participants were requested to provide a written informed consent form if they were willing to participate in the study.

Confidentiality

- The data was collected from the participants using a self-administered questionnaire, which was kept confidential.

- The collected data was accessible only to the study team. The data was entered and stored in a password-protected Excel sheet for analysis.

Benevolence

The participants who were found to be using Smokeless tobacco were informed regarding the various health hazards and advised to seek medical support.
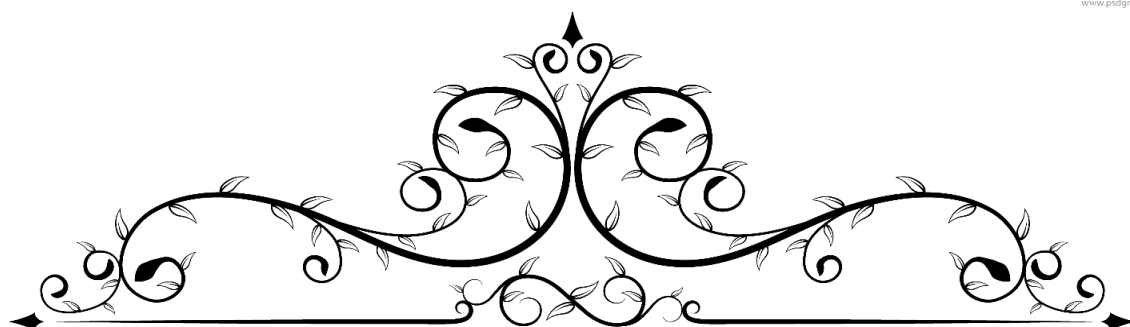
RESULTS
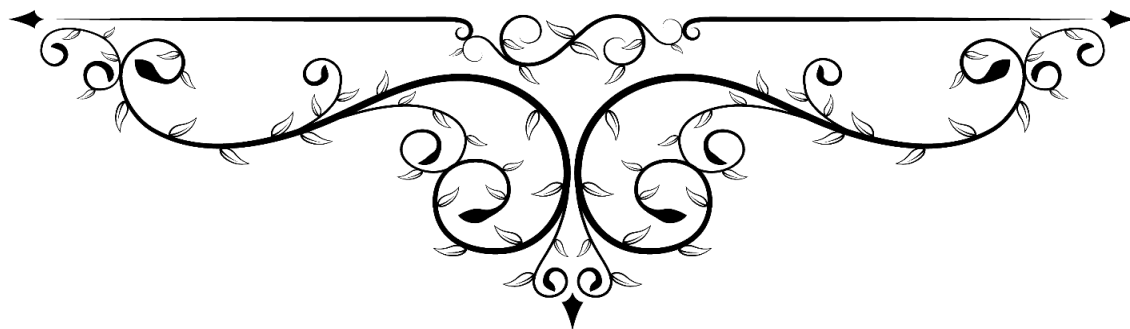
6. RESULTS

The study was conducted among rural women in Devarayasamudra, Mulbagal taluk Kolar district to find out the prevalence and various factors associated with Tobacco and Smokeless tobacco use.

The study included 511 participants from Devarayasamudra

Various variables related to the prevalence of Smokeless tobacco use were studied. The following findings were made

Figure 1: Distribution of Study participants according to Age(n=511)

Figure 1:Distribution of Study participants according to Age groups (n=511)
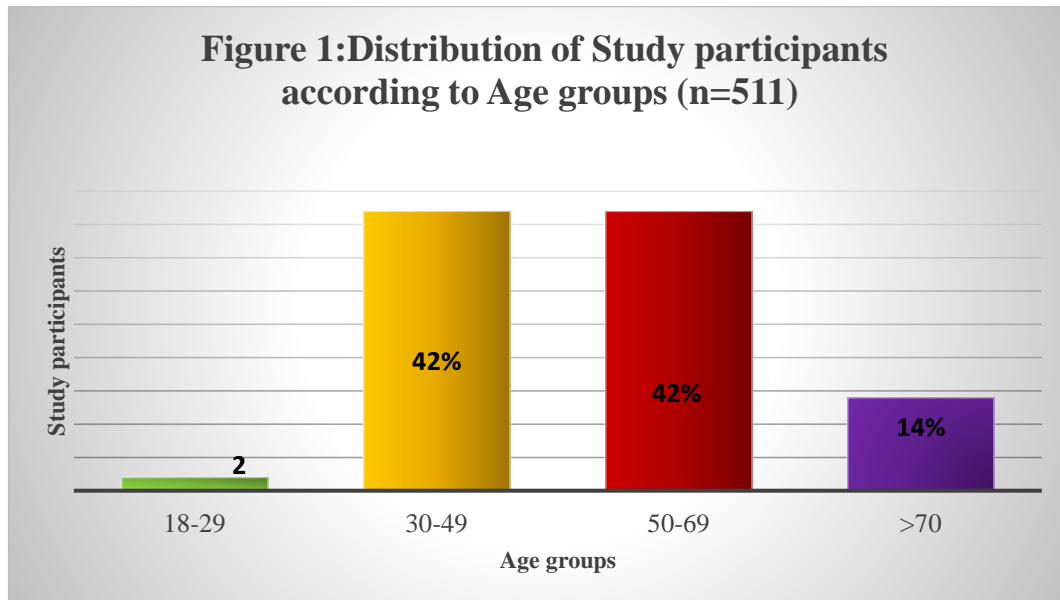
From the above figure, it is observed that among the 511study participants, majority (42%), were aged 30 to 69 years, followed by 14% in more than 70 years, and 2% around the age of 18 to 29 years.

Table 1: Distribution of Study participants according to Caste(n=511)

Caste	Frequency	Percentage (%)
General	13	2.5
Scheduled Caste	470	92
Scheduled Tribe	22	4.3
Other Backward Class	5	1.0
Others	1	0.2
Total	511	100

From the above table it is observed that among the study participants, majority of them belonged to Scheduled caste (92%), followed by Scheduled tribe (4.3%). Other participants belong to General (2.5%), Other Backward class (1.0%) and others (0.2%)

Figure 2: Distribution of study participants according to the living status n=511)

Figure 2: Distribution of study participants according to the living status
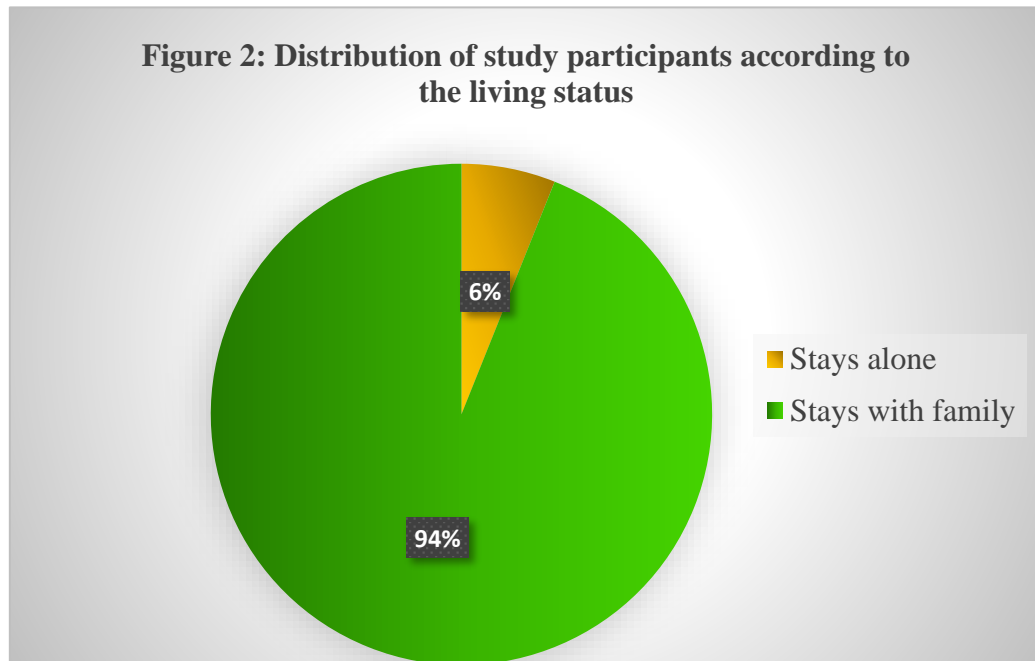
Most participants (94%) live with family which may influence their social and health behaviours, including tobacco use. A small proportion of those living alone (6%) may have different lifestyle factors, potentially affecting their health decisions differently from those in family setups.

Figure 3: Distribution of study participants according to Education (n=511)

Figure 3:Distribution of study participants according to Education
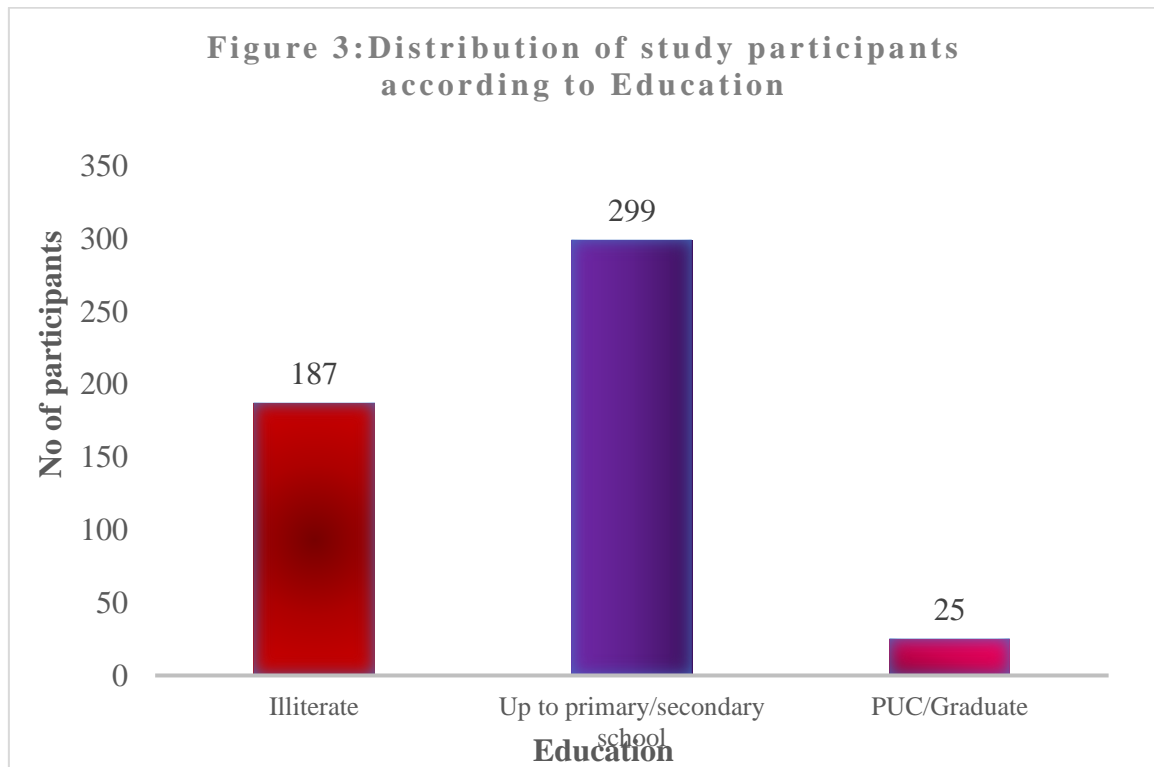
The vast majority of research participants (299 out of 511) had completed primary or secondary education. There is a sizable percentage of the population without any formal education, as seen by the large number of illiterate people (187). Only a small percentage (25) have sought further education, indicating that access to or continuation of education beyond school levels may be restricted.

Figure 4: Distribution of study participants according to Occupation(n=511)

Figure 4:Distribution of study participants according to Occupation
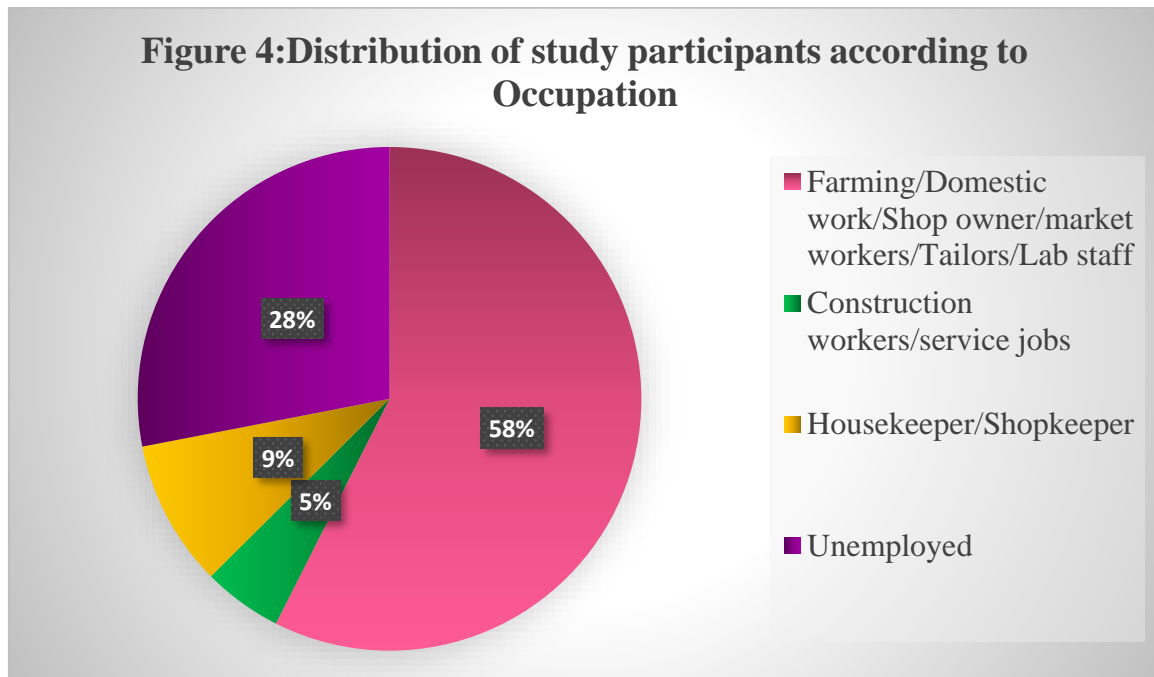
The majority of participants (58%) work in household work, farming, small business (market workers, shop owners), tailoring, or as lab employees, according to the above data. (28%) are not working. Just 5% of individuals work in construction or customer service, while a smaller percentage (9%) do housework or shopkeeping.

Figure 5: Distribution of study participants according to Socioeconomic status as per Modified BG Prasad classification. (n=511)

Figure 5:Distribution of study participants according to Socioeconomic status

- Upper middle class
- Middle class
- Lower middle class
- Lower class
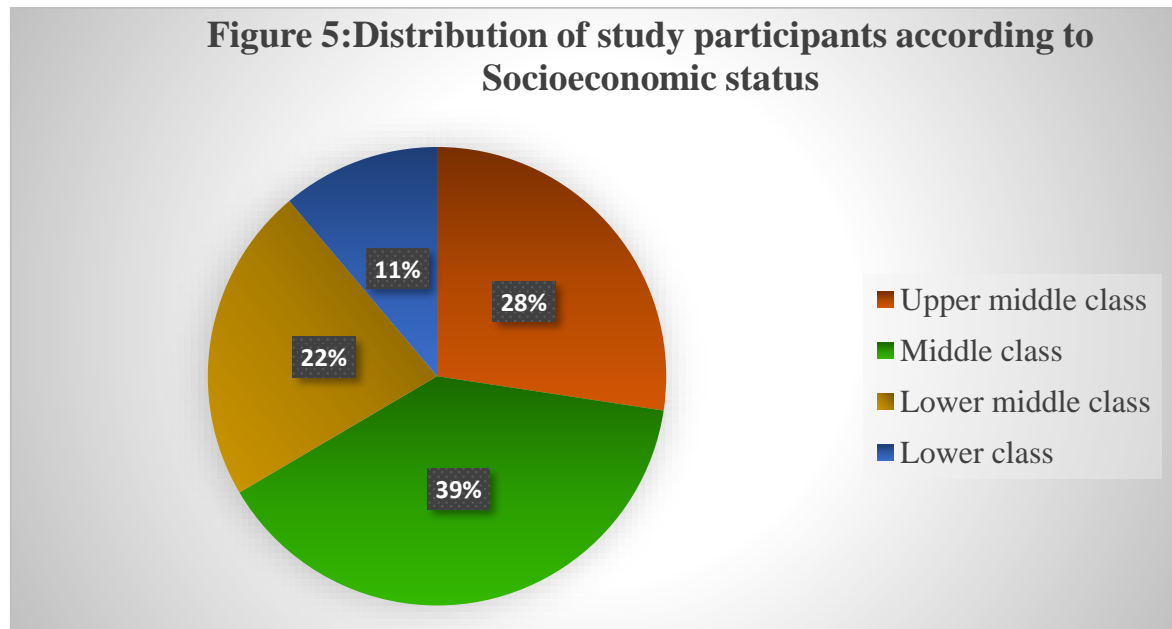
The majority of participants (61%), as shown in the above table, belong to the middle-class and lower-middle-class groups, suggesting a population with reasonable but not very stable economic standing. The upper-middle class comprises about 28% of the participants. The fact that a sizable fraction (11%) is lower class suggests that economic vulnerability may have an impact on tobacco smoking and other health-related behaviours.

Table 2: Distribution of study participants who ever used Smokeless tobacco (n=511)

No of users ever smoked	Frequency	Percentage
Current users	442	86.5
Previous users	55	10.8
Never users	14	2.7
Total	511	100

A very small percentage of participants are past users (10.8%), but a notably large percentage of participants who have ever used smokeless tobacco are current users (86.5%).

Figure   6: Distribution of participants who use different patterns of Smokeless tobacco users (n=511)

Figure 6: Distribution of participants who use different patterns of Smokeless tobacco users (n=511)
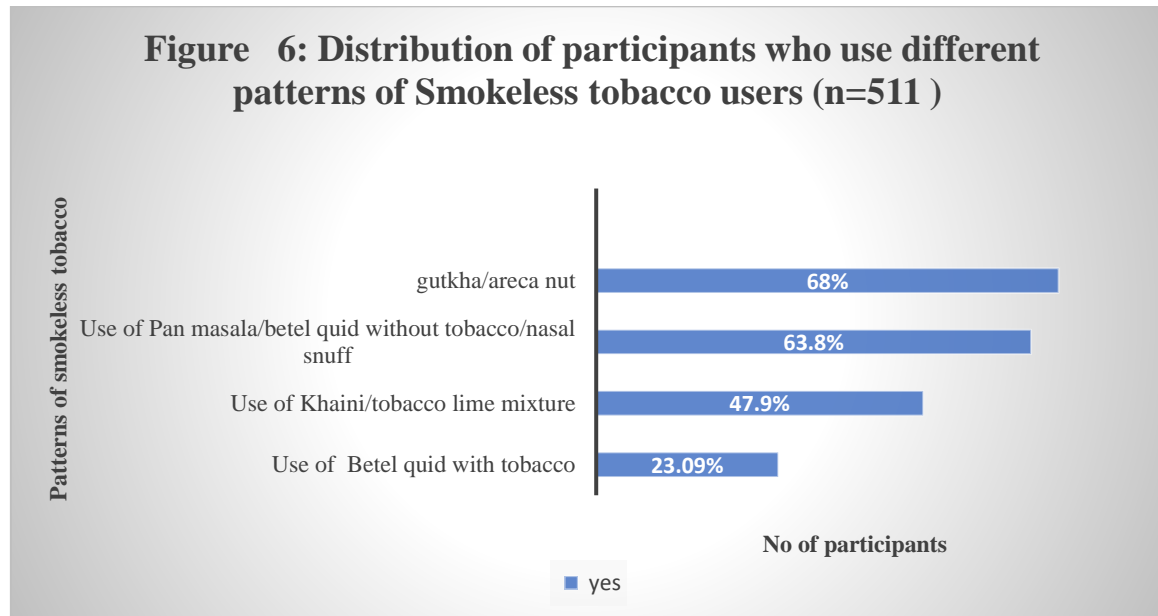
47.9% of the study participants who are currently users utilized khaini, while 23.09% used betel quid with tobacco. Furthermore, the most widely used SLT product was gutkha/areca nut, with a prevalence of 68%, while 63.8% of respondents reported using pan/betel quid without tobacco.

Table 3: Distribution of participants with respect to Age of initiation of smokeless tobacco use

Age of Initiation of Smokeless tobacco	Frequency	Percentage
18 years above	344	67.3
18 years below	167	32.7
Total	511	100

From the above table, most of the participants (67.3%) started using SLT after adulthood, 32.7% initiated use before 18 years

Figure 7: Distribution of participants with respect to Frequency of smokeless tobacco use

Figure 7: Frequency of Smokeless tobacco use
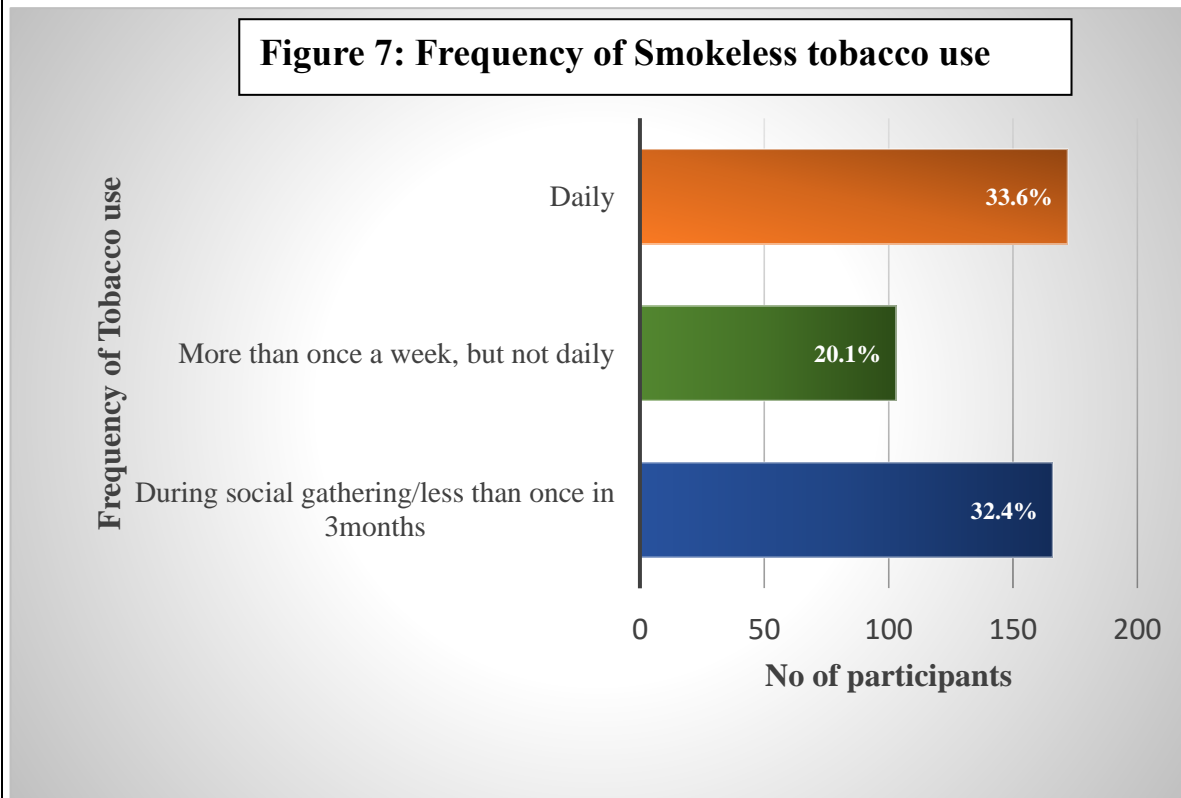
From the above figure, it is observed that 172 participants report daily use of smokeless tobacco. 103 participants consume smokeless tobacco more than once a week but not daily.166 participants use smokeless tobacco only during social gatherings or less than once in 3 months.

Figure 8: Distribution of participants with respect to Duration of Smokeless tobacco use after wake up.

Figure 8
Distribution of participants with respect to Duration of Smokeless tobacco use after wake up

[Horizontal bar chart showing distribution of participants by duration of smokeless tobacco use after wake up. Y-axis labeled "Duration of smokeless tobacco" with categories: More than 1 hour (24.8%), Within 1 hour (32.4%), 30 min (23.8%), Within 5 min (5.08%). X-axis labeled "No of participants" ranging from 0 to 180.]
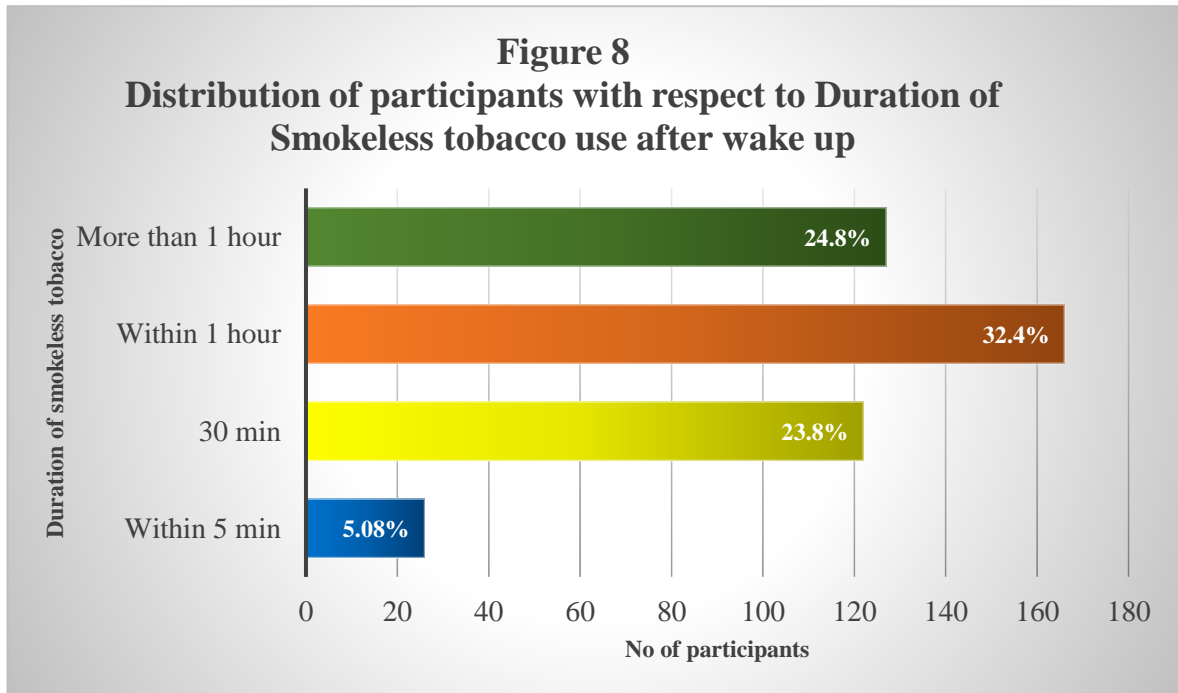
From the above table,26 participants use smokeless tobacco within 5 minutes of waking up, 122 participants consume tobacco within 30 minutes of waking up. 166 participants use tobacco within an hour after waking.

Figure 9: Distribution of study participants on methods of cessation of Smokeless tobacco use (n=511)
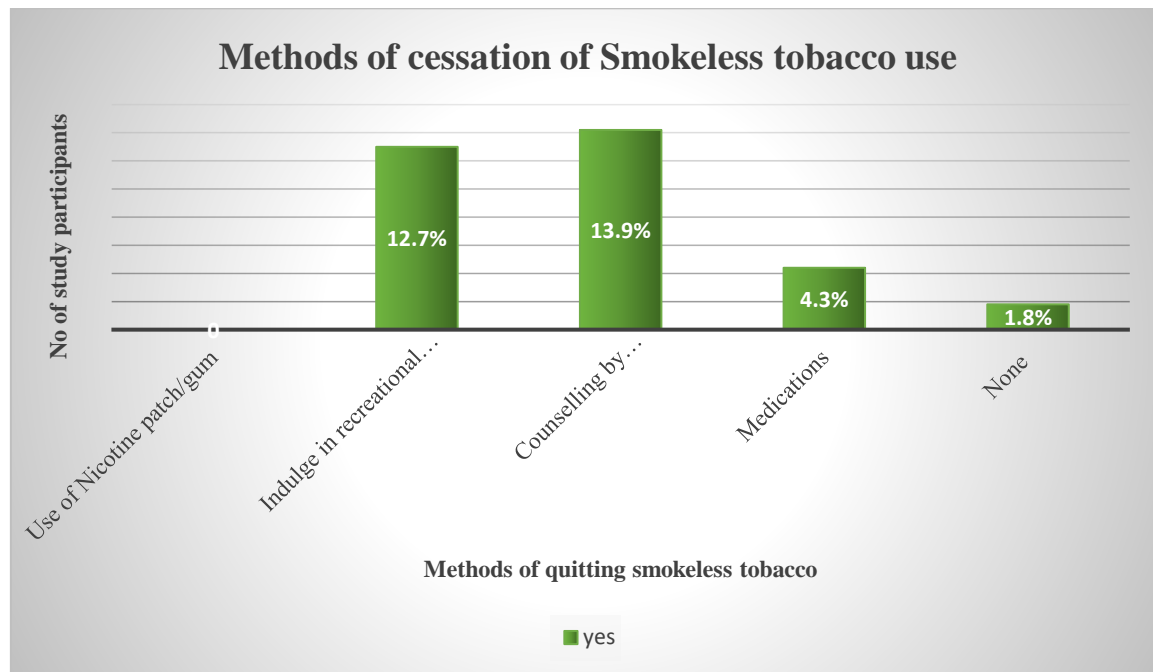
The majority (84.1%) of participants did not respond to questions about cessation methods, among those who did respond, counselling by family/relatives/doctors (13.9%) and engagement in recreational activities (12.7%) were the most commonly reported strategies. Nicotine replacement therapy (patches/gum) was not used at all, suggesting low awareness or accessibility. Use of medications (4.3%) was minimal. 1.8% explicitly stated they did not use any method, while 14% reported using at least one cessation approach.

Figure 10: Distribution of study participants on methods of motivation of quitting Smokeless tobacco use (n=511)

Figure 12:Distribution of Study participants on methods of motivation of quitting Smokeless tobacco use
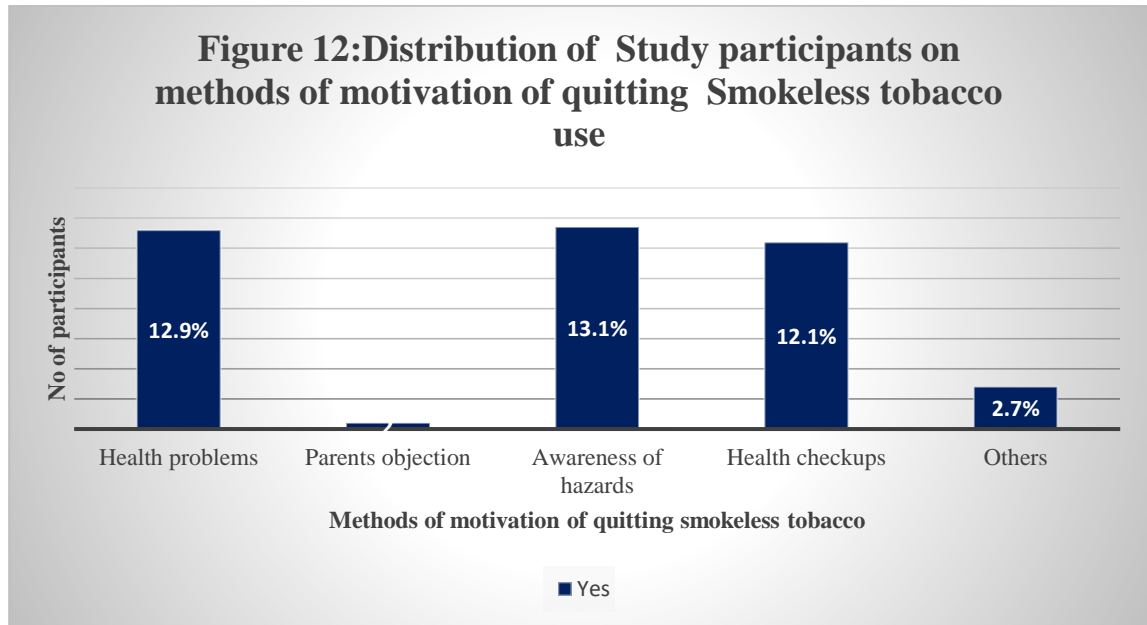
From the above figure,509 participants (99.6%) reported that parental objection was NOT a motivation for quitting, 66 participants (12.9%) cited health problems as a reason for quitting. Only 67 participants (13.1%) said that awareness of health hazards motivated them to quit. 62 participants (12.1%) were motivated by health checkups to consider quitting.

Figure 11: Distribution of study participants on success in quitting Smokeless tobacco use (n=511)

Figure 11 :Distribution of Study participants on success in quitting Smokeless tobacco use
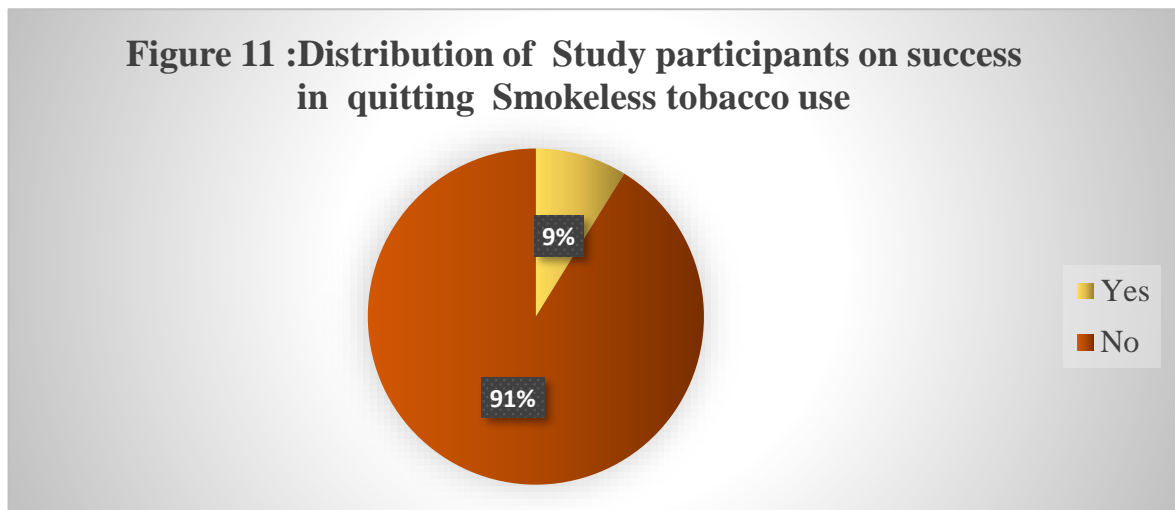
Only 9% of participants successfully quit SLT use. A significant 91% of participants reported being unable to quit SLT.

Figure 12: Distribution of Study participants on reasons for not quitting Smokeless tobacco use (n=511)

Figure 12 :Distribution of Study participants on reasons for not quitting Smokeless tobacco use
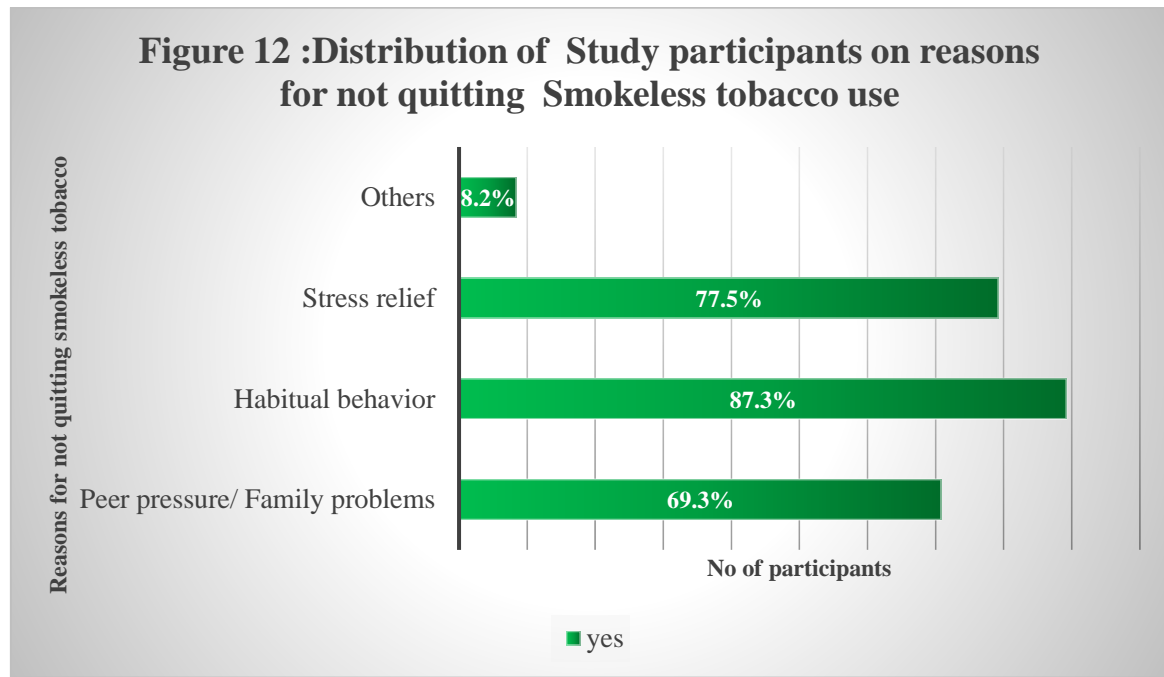
The most commonly cited reason for not quitting was habitual behavior, with 446 (87.3%) participants indicating that tobacco use had become a routine habit. 396 (77.5%) participants used smokeless tobacco as a way to relieve stress, 354 (69.3%) participants cited peer pressure and family-related stress as reasons for continuing use. 469 (91.8%) participants had unspecified or additional reasons for not quitting.

Table 4: Distribution of study participants on duration of abstinence from Smokeless tobacco use (n=511)

Duration of Abstinence from Smokeless tobacco use	Frequency	Percentage
< 6 months	1	0.2
6 months to 1 year	6	1.2
> 1 year	36	7.0
Not abstained	468	91.6
Total	511	100

Just 7% of the women have abstained for more than a year, 1.2% for six months to a year, and 0.2% for less than six months, according to the above table. On the other hand, 91.6% of respondents have never stopped using SLT.

Figure 13:   Distribution of study participants on Awareness regarding the hazards of Tobacco and Smokeless tobacco use(n=511)

Figure 15:Distribution of Study participants on Awareness regarding the hazards of Tobacco and Smokeless tobacco use

Category	Value
Do not know	184
Tuberculosis	78
Heart attack	97
Lung cancer	308
Oral Cancer	327

■ Yes
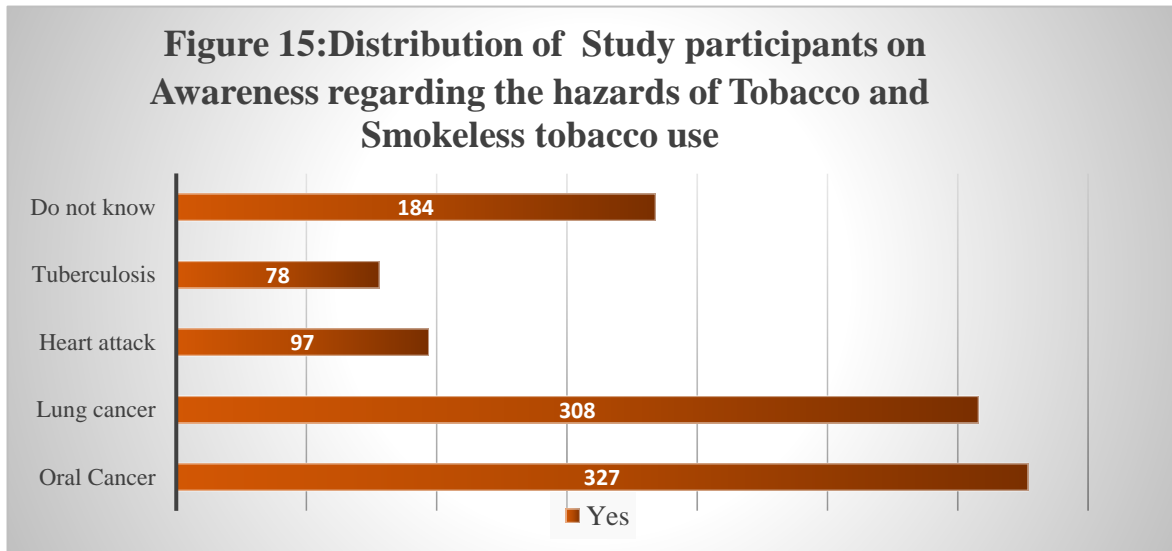
Awareness is highest for oral cancer (64%) and lung cancer (60.3%), but it is significantly lower for heart attacks (19%) and tuberculosis (15.3%). The majority of participants (84.7%) are unaware of the link between smokeless tobacco and tuberculosis, 36% of respondents admitted they do not know the hazards of smokeless tobacco

Figure 14:   Distribution of study participants on influence of Tobacco related advertisements on Smokeless tobacco use

Figure 14:Distribution of Study participants on Awareness regarding the hazards of Tobacco and Smokeless tobacco use

28%

72%

■ Yes
■ No
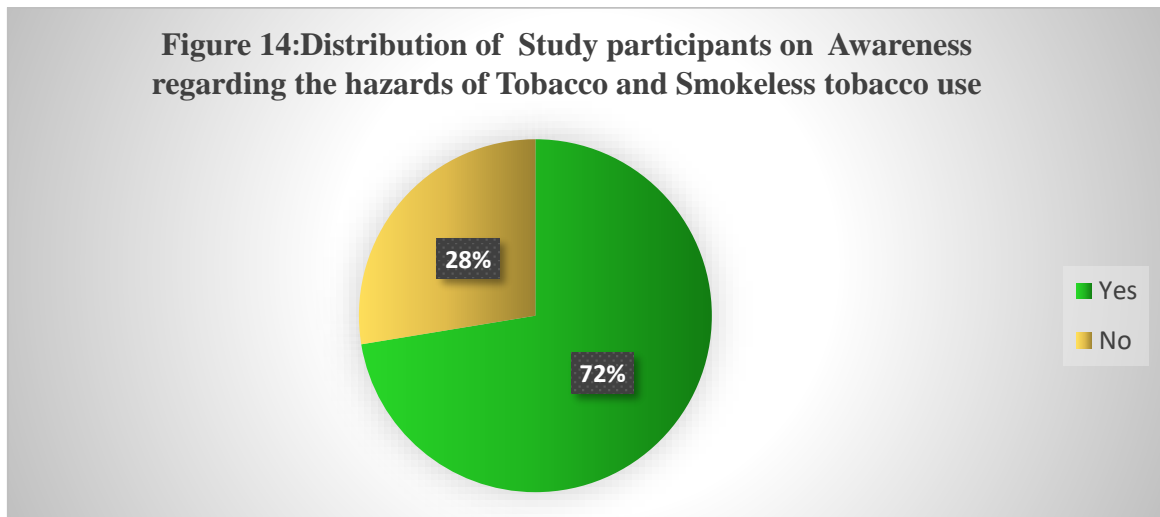
Nearly three-fourths of participants influenced by advertisements, 27.6% stated that tobacco advertisements did not influence their smokeless tobacco use.

Figure 15: Distribution of study participants on sources of information regarding Ill effects of Smokeless tobacco

Figure 17:Distribution of Study participants on Sources of information regarding Ill effects of Smokeless tobacco
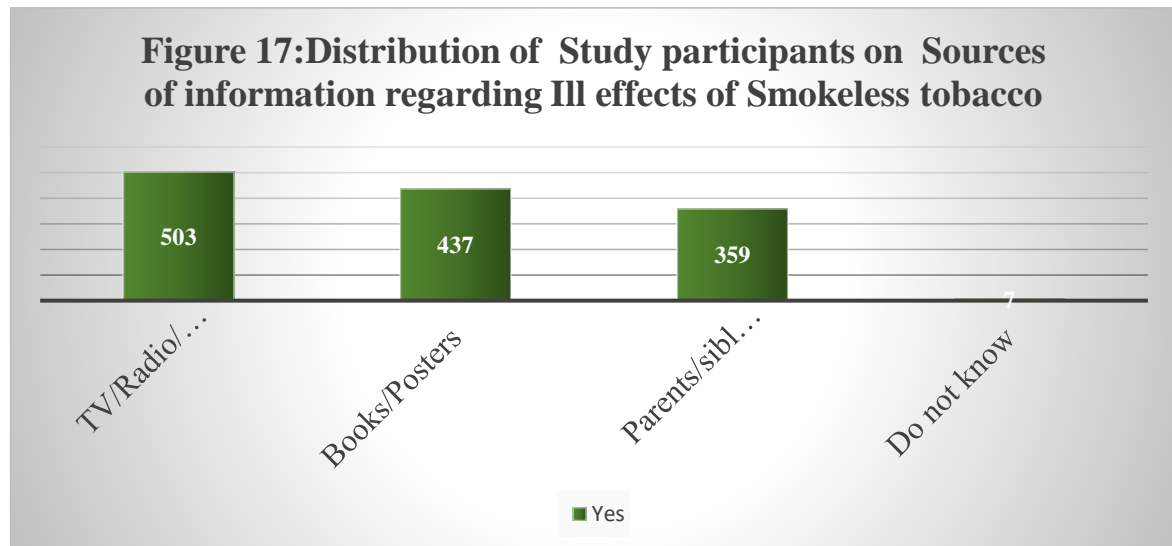
Vast majority of participants (98.4%, 503 individuals) reported getting information on the 14.5% (74 individuals' ill effects of smokeless tobacco from TV, radio, or cinema. Only 1.6% (8 individuals) stated they did not receive information from these sources. 85.5% (437 individuals) acknowledged books and posters as sources of information on the harmful effects of smokeless tobacco. 14.5% (74 individuals) did not receive information from these sources. 70.2% (359 individuals) learned about the dangers of smokeless tobacco through family and friends.

Figure 16: **Distribution of study participants on advice given by Health care specialist on the hazards of Smokeless tobacco use**

Figure 16 :Distribution of Study participants on Advice given by Health care specialist on the hazards of Smokeless tobacco use
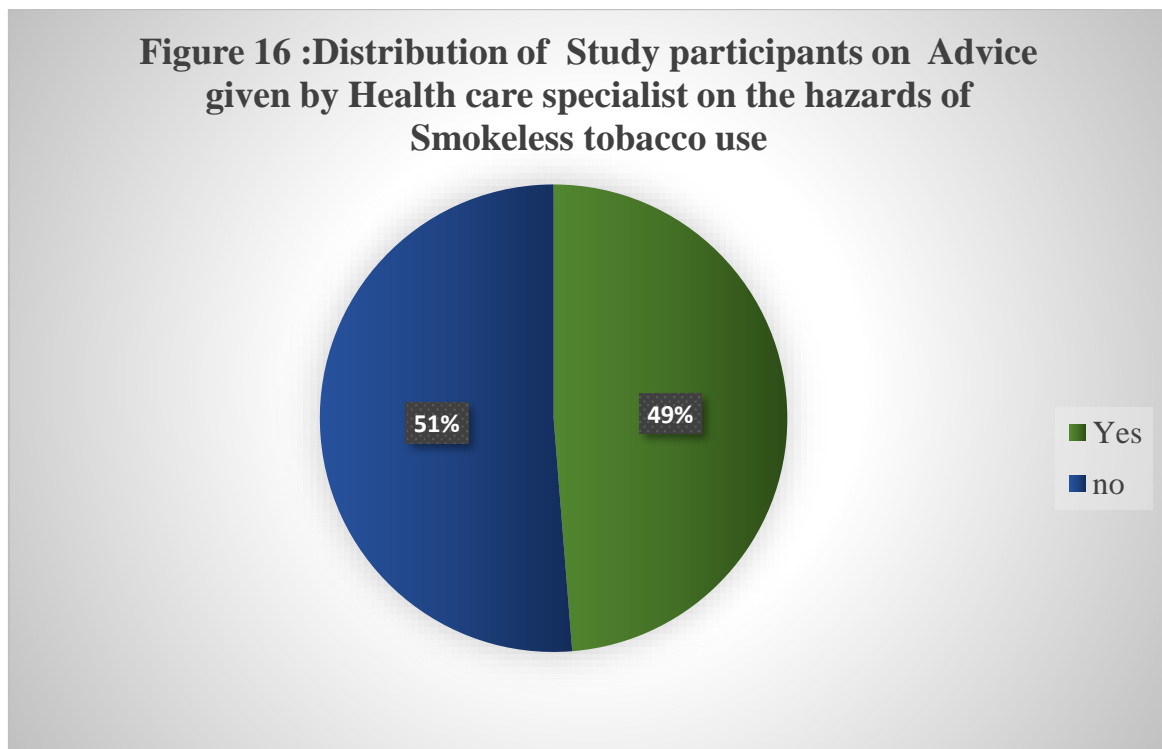
48.7% (249 individuals) reported that they had received advice from a health care specialist about the hazards of smokeless tobacco use. 51.3% (262 individuals) stated that they had not been given advice by any health care specialist.

Figure 17: **Distribution of study participants on favour in banning smokeless tobacco products in public**

Figure 19:Distribution of Study participants on Favour in banning Smokeless tobacco products in public
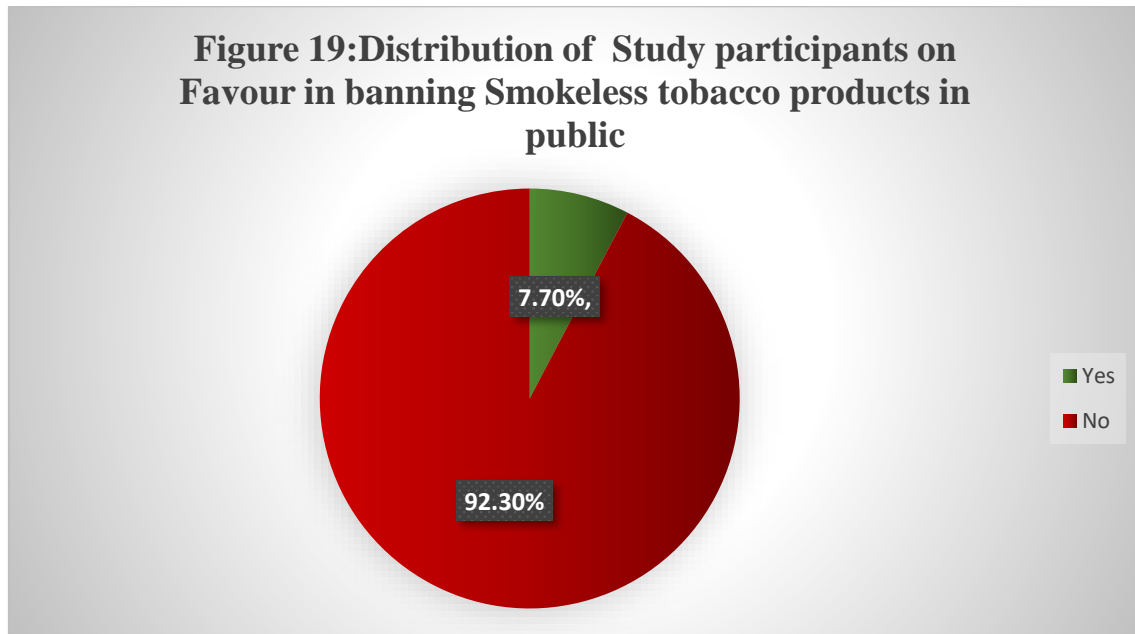
The vast majority of participants oppose a public ban on smokeless tobacco, only 7.6% (39 participants) are in favour of banning smokeless tobacco products in public places.

Table 5: Association between Sociodemographic variables and Use of Betel quid with tobacco

		Betel Quid with Tobacco		
		yes	no	Chi square (p value, df)
Age group	18-29	0(0.0%)	7(100.0)	
	30-49	53(24.7)	162(75.3)	
	50-69	49(22.7)	167(77.3)	2.47(0.480,3)
	>70	16(21.9)	57(78.1)	
Occupation	Private company	1(100)	0(0.0)	
	Farmer/tailor/domestic worker/shop trader	65(22.2)	228(77.8)	
	Construction worker	8(30.8)	18(69.2)	8.33(0.080,4)
	Housekeeper	18(37.5)	30(62.5)	
	Unemployed	27(18.9)	116(81.1)	
Socioeconomic class	Upper middle class	24(17.3)	115(82.7)	
	Middle class	45(22.6)	154(77.4)	
	Lower middle class	35(31)	78(69)	6.64(0.084,3)
	Lower class	13(22.8)	44(77.2)	
Education	Illiterate	59(31.6)	128(68.4)	
	Up to primary school	28(17.8)	129(82.2)	
	Secondary school	30(21.1)	112(78.9)	15.44(0.004,4)
	PUC	1(4.5)	21(95.5)	
	Graduate	0	3(100.0)	
Living status	Stays alone	17(54.8)	14(45.2)	
	Stays with family	101(23.1)	379(79)	18.72(<0.001,1)

From the above table, among the study participants, education and living status are significantly associated with betel quid use (p value <0.05) and they are significant predictors of betel quid use. Occupation and socioeconomic class show trends but are not statistically significant.

Table 6: Association between Sociodemographic variables and use of Khaini/Tobacco Lime Mixture

		Khaini/Tobacco Lime Mixture		
		yes	no	Chi square (p value, df)
Age group	18-29	3(42.9)	4(57.1)	
	30-49	146(67.9)	69(32.1)	
	50-69	149(69)	67(31.0)	2.44(0.486,3)
	>70	52(71.2)	21(28.8)	
Occupation	Private company	1	0	
	Farmer/tailor/domestic worker/shop trader	192(65.5)	101(34.5)	
	Construction worker	15(57.7)	11(42.3)	6.10(0.192,4)
	Housekeeper	36(75)	12(25.0)	
	Unemployed	106(74.1)	37(25.9)	
Socioeconomic class	Upper middle class	71(51.1)	68(48.9)	
	Middle class	138(69.3)	61(30.7)	
	Lower middle class	94(83.2)	19(16.8)	32.79(<0.001,3)
	Lower class	44(77.2)	13(22.8)	
Education	Illiterate	127(67.9)	60(32.1)	
	Up to primary school	123(78.3)	34(21.7)	
	Secondary school	91(64.1)	51(35.9)	20.61(<0.001,4)
	PUC	8(36.4)	14(63.6)	
	Graduate	1(33.3)	2(66.7)	
	Total	420(82.2)	91(17.8)	
Living status	Stays alone	27(87.1)	4(12.9)	
	Stays with family	157(31.5)	350(68.5)	5.29(0.02,1)

This table shows that among the study participants socioeconomic class and education are significantly associated with khaini use($p<0.05$). They significantly predict khaini use. Khaini use is extremely high across all socioeconomic classes (~80%). Illiterate and primary school-educated individuals are the most vulnerable.

Table 7: Association between Sociodemographic variables and use of Gutkha/Areca Nut Mixture

		Gutkha/Areca Nut Mixture		
		yes	no	Chi square (p value, df)
Age group	18-29	5(71.4)	2(28.6)	1.58(0.663,3)
	30-49	186(86.5)	29(13.5)	
	50-69	186(86.1)	30(13.1)	
	>70	61(83.6)	12(16.4)	
Occupation	Private company	1	0	12.68(0.013.4)
	Farmer/tailor/domestic worker/shop trader	245(83.6)	48(16.4)	
	Construction worker	18(69.2)	8(30.8)	
	Housekeeper	46(95.8)	2(4.2)	
	Unemployed	128(89.5)	15(10.5)	
Socioeconomic class	Upper middle class	119(85.6)	20(14.4)	1.83(0.607,3)
	Middle class	166(83.4)	33(16.6)	
	Lower middle class	99(87.6)	14(12.4)	
	Lower class	51(89.5)	6(10.5)	
Education	Illiterate	161(86.1)	26(13.9)	13.30(0.010,4)
	Up to primary school	143(91.1)	14(8.9)	
	Secondary school	115(81.0)	27(19.0)	
	PUC	18(81.8)	4(18.2)	
	Graduate	1(33.3)	1(33.3)	
Living status	Stays alone	28(90.3)	2(66.7)	0.57(0.449,1)
	Stays with family	70(14.6)	410(85.4)	

This table shows occupation and education significantly influence gutkha use (p<0.05). All socioeconomic classes exhibit high prevalence (~85%). Illiterate and primary school-educated individuals are the most vulnerable. Living status does not affect gutkha use.

Table 8: Association between Sociodemographic variables and use of Pan Masala/Betel Quid Without Tobacco/Nasal Snuff

		Pan Masala/Betel Quid Without Tobacco/Nasal Snuff		
		yes	no	Chi square (p value, df)
Age group	18-29	5(71.4)	(100)	
	30-49	186(86.5)	29(13.5)	
	50-69	179(82.9)	37(17.1)	9.46(0.024,3)
	>70	52(71.2)	21(28.8)	
Occupation	Private company	1	0	
	Farmer/tailor/domestic worker/shop trader	242(82.6)	51(17.4)	
	Construction worker	14(53.8)	12(46.2)	19.47(0.001,4)
	Housekeeper	45(93.8)	3(6.3)	
	Unemployed(reference)	120(83.9)	23(16.1)	
Socioeconomic class	Upper middle class	112(80.6)	27(19.4)	
	Middle class	160(80.4)	39(19.6)	
	Lower middle class	96(85.0)	17(15.0)	3.35(0.340,3)
	Lower class	51(89.5)	6(10.5)	
Education	Illiterate	151(80.7)	36(19.3)	
	Up to primary school	140(89.2)	17(10.8)	
	Secondary school	111(78.2)	31(21.8)	12.37(0.015,4)
	PUC	19(86.4)	3(13.6)	
	Graduate	1(33.3)	2(66.7)	
Living status	Stays alone	27(87.1)	4(12.9)	
	Stays with family	395(82.3)	85(17.7)	0.46(0.494,1)
	Total	422(82.6)	89(17.4)	

The above table shows that age, occupation, and education significantly influence pan masala/betel quid use ($p<0.05$). Socioeconomic class and living status do not significantly impact use. Illiterate and primary school-educated individuals are the most vulnerable. Family influence does not reduce use of smokeless tobacco.

Table 9: Association between sociodemographic variables and health problems as motivation for Quitting Smokeless Tobacco

		Health Problems		
		yes	no	Chi square (p value, df)
Age group	18-29	0(0.0%)	7(100.0)	3.98(0.263,3)
	30-49	22(10.2)	193(89.8)	
	50-69	34(15.7)	182(84.3)	
	>70	10(13.7)	63(86.3)	
Occupation	Private company	0(0.0%)	1(100.0)	4.48(0.344,4)
	Farmer/tailor/domestic worker/shop trader	35(11.9)	258(88.1)	
	Construction worker	5(19.2)	21(80.8)	
	Housekeeper	3(6.3)	45(93.8)	
	Unemployed(reference)	23(16.1)	120(83.9)	
Education	Illiterate	27(14.4%)	160(85.6)	3.25(0.517,4)
	Up to primary school	17(10.8)	140(89.2)	
	Secondary school	21(14.8)	121(85.2)	
	PUC	1(4.5)	21(95.5)	
	Graduate	0(0.0)	3(100)	

This table shows age, occupation, and education do not show a significant association with quitting due to health problems(p>0.05). Older individuals (50-69 years) and construction workers report slightly higher health-related problems as motivation to quit. Illiterate individuals have higher motivation to quite due to health problems compared to graduates.

Table 10: Association between sociodemographic variables and parents objection as motivation for Quitting Smokeless Tobacco

		Parents' Objection		
		yes	no	Chi square (p value, df)
Age group	18-29	0(0.0%)	7(100.0)	2.69(0.440,3)
	30-49	1(0.5)	214(99.5)	
	50-69	0(0.0)	216(100)	
	>70	1(1.4)	72(98.6)	
Occupation	Private company	0(0.0)	1(100.0)	0.66(0.956,4)
	Farmer/tailor/domestic worker/shop trader	1(0.3)	292(99.7)	
	Construction worker	0(0.0)	26(100)	
	Housekeeper	0(0.0)	48(100)	
	Unemployed	1(0.7)	142(99.3)	
Education	Illiterate	0(0.0)	187(100.0)	1.432(0.839,4)
	Up to primary school	1(0.6)	156(99.4)	
	Secondary school	1(0.7)	141(99.3)	
	PUC	0(0.0)	22(100)	
	Graduate	0(0.0)	3(100)	

This table shows parental objection is not a significant motivation for quitting smokeless tobacco in any sociodemographic group (p>0.05). Age, occupation, and education do not influence quitting behaviour based on parental objection.

Table 11: Association between sociodemographic variables and awareness of hazards as motivation for Quitting Smokeless Tobacco

		Awareness of Hazards		
		yes	no	Chi square (p value, df)
Age group	18-29	0(0.0%)	7(100.0)	
	30-49	28(13)	187(87)	1.09(0.777,3)
	50-69	29(13.4)	187(86.6)	
	>70	10(13.7)	63(86.3)	
Occupation	Private company	0(0.0)	1(100)	
	Farmer/tailor/domestic worker/shop trader	40(13.7)	253(86.3)	4.54(0.337,4)
	Construction worker	5(19.2)	21(80.8)	
	Housekeeper	2(4.2)	46(95.8)	
	Unemployed(reference)	20(14.0)	123(86.0)	
Education	Illiterate	27(14.4)	160(85.6)	
	Up to primary school	17(10.8)	140(89.2)	2.51(0.642,4)
	Secondary school	20(14.1)	122(85.9)	
	PUC	2(9.1)	20(90.9)	
	Graduate	1(33.3)	2(66.7)	

This table shows awareness of health hazards is not a significant motivation for quitting smokeless tobacco in any sociodemographic group (p >0.05). Only 67 out of 511 individuals (13.1%) revealed hazard awareness as a reason to quit. Age, occupation, and education do not significantly influence quitting behaviour based on hazard awareness.

Table 12: Association between sociodemographic variables and health checkups as motivation for Quitting Smokeless Tobacco

		Health Checkups		
		yes	no	Chi square (p value, df)
Age group	18-29	0(0.0%)	7(100.0)	1.00(0.799,3)
	30-49	27(12.6)	188(87.4)	
	50-69	26(12.0)	190(88)	
	>70	9(12.3)	64(87.7)	
Occupation	Private company	0(0.0)	1(100)	4.40(0.353,4)
	Farmer/tailor/domestic worker/shop trader	36(12.3)	257(87.7)	
	Construction worker	5(19.2)	21(80.8)	
	Housekeeper	2(4.2)	46(95.8)	
	Unemployed	19(13.3)	124(86.7)	
Education	Illiterate	25(13.4)	162(86.6)	2.31(0.677,4)
	Up to primary school	16(10.2)	141(89.8)	
	Secondary school	18(12.7)	124(87.3)	
	PUC	2(9.1)	20(90.9)	
	Graduate	1(33.3)	2(66.7)	

This table shows health checkups were not a significant motivation for quitting smokeless tobacco in any sociodemographic group (p>0.05). Only 62 out of 511 individuals (12.1%) cited health checkups as a reason to quit. Age, occupation, and education do not significantly influence quitting behaviour based on health checkups.

Table 13: Association between sociodemographic variables and peer pressure/family problems as reason for not quitting Smokeless Tobacco

		Peer Pressure/Family Problems		
		yes	no	Chi square (p value, df)
Age group	18-29	0(0.0%)	7(100.0)	0.55(0.906,3)
	30-49	7(3.3)	208(96.7)	
	50-69	5(2.3)	211(97.7)	
	>70	2(2.7)	71(97.3)	
Occupation	Private company	0(0.0%)	1(100.0)	7.50(0.111,4)
	Farmer/tailor/domestic worker/shop trader	233(79.5)	60(20.5)	
	Construction worker	19(73.1)	7(26.9)	
	Housekeeper	40(85.1)	7(14.9)	
	Unemployed(reference)	104(73.2)	38(26.8)	
Education	Illiterate	146(78.1%)	41(21.9)	22.76(<0.001),4)
	Up to primary school	99(63.1)	58(36.9)	
	Secondary school	100(70.4)	42(29.6)	
	PUC	8(36.4)	14(63.6)	
	Graduate	1(33.3)	2(66.7)	
Living status	Stays alone	22(71.0%)	9(29.0)	0.04(0.833,1)
	Stays with family	332(69.2)	148(30.8)	
	Total	354(69.3)	157(30.7)	

This table shows education level is the only significant factor influencing this barrier (p <0.001). Peer pressure and family problems are a major barrier to quitting smokeless tobacco (reported by 69.3% of respondents). Illiterate individuals are most likely to cite peer/family influence as a reason for not quitting. Age, occupation, and living status do not significantly affect this barrier.

Table 14: Association between sociodemographic variables and habitual behaviour as reason for not quitting Smokeless Tobacco

		Habitual Behaviour		
		yes	no	Chi square (p value, df)
Age group	18-29	1(14.3)	6(85.7)	
	30-49	186(86.5)	29(13.5)	
	50-69	195(90.3)	21(9.7)	
	>70	64(87.7)	9(12.3)	35.46(<0.001,3)
Occupation	Private company	0(0.0)	1(100.0)	
	Farmer/tailor/domestic worker/shop trader	272(92.8)	21(7.2)	
	Construction worker	21(80.8)	5(19.2)	26.47(<0.001,4)
	Housekeeper	41(85.4)	7(14.6)	
	Unemployed	112(78.3)	31(21.7)	
Education	Illiterate	168(89.8)	19(10.2)	
	Up to primary school	145(92.4)	12(7.6)	
	Secondary school	117(82.4)	25(17.6)	
	PUC	15(68.2)	7(31.8)	22.89(<0.001,4)
	Graduate	1(33.3)	2(66.7)	
Living status	Stays alone	27(87.1)	4(12.9)	
	Stays with family	419(87.3)	61(12.7)	
	Total	446(87.3)	65(12.7)	0.00(0.975,1)

The above table shows habitual behaviour is a major barrier to quitting smokeless tobacco (reported by 87.3% of respondents). Age, occupation, and education significantly influence habitual behaviour as a reason for not quitting (p <0.05). Older individuals, farmers/labourers, and illiterate individuals are the most affected. Living status does not significantly impact habitual behaviour.

Table 15: Association between sociodemographic variables and stress relief as reason for not quitting Smokeless Tobacco

		Stress Relief		
		yes	no	Chi square (p value, df)
Age group	18-29	1(16.7)	5(83.3)	
	30-49	47(22)	167(78)	
	50-69	40(18.5)	176(81.5)	16.50(<0.001,3)
	>70	21(28.8)	52(71.2)	
Occupation	Private company	0(0.0)	7(100)	
	Farmer/tailor/domestic worker/shop trader	183(85.1)	32(14.9)	44.43(<0.001,3)
	Construction worker	193(89.4)	23(10.6)	
	Housekeeper	62(84.9)	11(15.1)	
	Unemployed	438(85.7)	73(14.3)	
Education	Illiterate	147(78.6)	40(21.4)	
	Up to primary school	132(84.1)	25(15.9)	
	Secondary school	105(73.9)	37(26.1)	19.05(<0.001,4)
	PUC	12(60.0)	8(40.0)	
	Graduate	0(0.0)	3(100.0)	
Living status	Stays alone	25(80.6)	6(19.4)	
	Stays with family	371(77.6)	107(22.4)	
	Total	396(77.8)	113(22.2)	0.15(0.694,1)

The above table shows stress relief is a major reason for not quitting smokeless tobacco (77.8% of respondents). Age, occupation, and education significantly influence stress relief dependence (p<0.05). Living status does not significantly impact stress relief dependence

Table 16: Association between sociodemographic variables and others as reason for not quitting Smokeless Tobacco

		*Others		
		yes	no	Chi square (p value, df)
Age group	18-29	0(0.0)	7(100)	
	30-49	21(9.8)	194(90.2)	
	50-69	17(7.9)	199(92.1)	2.07(0.558,3)
	>70	4(5.5)	69(94.5)	
Occupation	Private company	0(0.0)	7(100)	
	Farmer/tailor/domestic worker/shop trader	25(8.5)	268(91.5)	0.73(0.948,4)
	Construction worker	2(7.7)	24(92.3)	
	Housekeeper	5(10.4)	43(89.6)	
	Unemployed(reference)	10(7.0)	133(93.0)	
Education	Illiterate	18(9.6)	169(90.4)	
	Up to primary school	3(1.9)	154(98.1)	
	Secondary school	20(14.1)	122(85.9)	15.91(0.003,4)
	PUC	0(0.0)	3(100.0)	
	Graduate	42(8.2)	469(91.8)	
Living status	Stays alone	4(12.9)	27(87.1)	
	Stays with family	38(7.9)	442(92.1)	
	Total	42(8.2)	469(91.8)	0.96(0.327,1)

Note: **Others***: home remedies, tradition or cultural beliefs, family influences Only 8.2% of participants cited "other reasons" as a barrier to quitting smokeless tobacco Education level is significantly associated (p = 0.003), with illiterate and secondary school-educated individuals most likely to cite "other reasons." Age, occupation, and living status are not significantly associated with "other reasons."

Table 17: Association between sociodemographic variables and Awareness on oral cancer affected by Smokeless Tobacco Use by Binary logistic regression.

		Awareness on Oral cancer (Yes, No)				
		B	Sig	Adjusted OR	95% CI	
Age Group	18-29	1.644	0.154	5.174	0.540	49.544
	30-49	0.280	0.390	1.324	0.699	2.507
	50-69	-0.132	0.689	0.877	0.460	1.670
	>70(Reference)		0.128			
Occupation	Private company	20.132	1.000		0.000	
	Farmer/tailor/domestic worker/shop trader	0.528	0.036	**1.695**	**1.036**	**2.773**
	Construction worker	1.176	0.035	**3.242**	**1.084**	**9.694**
	Housekeeper	0.027	0.943	1.027	0.493	2.142
	Unemployed(reference)		0.094			
Socioeconomic status	Upper middle class	1.102	0.002	**3.009**	**1.505**	**6.019**
	Middle class	0.226	0.476	1.254	0.672	2.339
	Lower middle class	-0.497	0.144	0.608	0.312	1.186
	Lower class(reference)		0.000			

The above table shows that age is not a significant predictor of awareness regarding oral cancer risks associated with tobacco. Younger individuals have highest odds of 5.1 times but not statistically significant. Construction workers and farmers have high odds of 3 times more aware than unemployed individuals and is statistically significant. Upper middle class also have highest awareness of odds of 3 times compared to lower class.

Table 18: Association between sociodemographic variables and Awareness on lung cancer affected by Smokeless Tobacco Use by Binary logistic regression

		Awareness on Lung cancer (Yes and No)				
		B	Sig	Adjusted OR	95% CI	
Age Group	18-29	0.633	0.499	1.884	0.301	11.784
	30-49	0.293	0.369	1.340	0.707	2.540
	50-69	-0.529	0.108	0.589	0.310	1.122
	>70(Reference)		0.001			
	Private company		1.000		0.000	
Occupation	Farmer/tailor/domestic worker/shop trader	20.929	0.224	1.355	0.830	2.212
	Construction worker	0.304	0.139	2.137	0.782	5.845
	Housekeeper	0.760	0.904	0.956	0.457	1.997
	Unemployed(reference)	-0.045	0.482			
Socioeconomic status	Upper middle class	1.297	<0.001	**3.658**	**1.862**	**7.186**
	Middle class	0.609	0.054	1.838	0.989	3.417
	Lower middle class	-0.142	0.676	0.868	0.446	1.687
	Lower class(reference)		<0.001			

The above table shows that upper middle-class individuals have odds of 3.7 times higher awareness of lung cancer compared to lower-class individuals and is statistically significant. Age group and occupation are not significantly associated with awareness.

Table 19: Association between sociodemographic variables and Awareness on tuberculosis affected by Smokeless Tobacco Use by Binary logistic regression

		Awareness on Tuberculosis (Yes and No)				
		B	Sig	Adjusted OR	95% CI	
Age Group	18-29	1.753	0.079	5.771	0.817	40.755
	30-49	0.909	0.050	**2.482**	**1.002**	**6.149**
	50-69	0.063	0.898	1.065	0.405	2.802
	>70(Reference)		0.007			
Occupation	Private company	22.078	1.000		0.000	
	Farmer/tailor/domestic worker/shop trader	-0.489	0.136	0.613	0.322	1.167
	Construction worker	0.584	0.264	1.794	0.644	5.001
	Housekeeper	0.000	0.999	1.000	0.396	2.525
	Unemployed(reference)		0.164			
Socioeconomic status	Upper middle class	0.990	0.044	**2.691**	**1.025**	**7.062**
	Middle class	0.488	0.322	1.629	0.621	4.273
	Lower middle class	-0.136	0.808	0.873	0.292	2.610
	Lower class(reference)		0.019			

The above table shows that middle age groups show an association of 2.4 times higher odds of awareness of tuberculosis compared to more than 70 years and is statistically significant. Upper middle-class individuals have higher odds of 2.6 times of awareness of tuberculosis compared to lower class and is significant.

Table 20: Association between sociodemographic variables and Awareness on heart attack affected by Smokeless Tobacco Use by Binary logistic regression

		Awareness on Heart attack (Yes and No)				
		B	Sig	Adjusted OR	95% CI	
Age Group	18-29	2.161	0.021	**8.682**	**1.381**	**54.571**
	30-49	-0.133	0.728	0.875	0.413	1.856
	50-69	-0.493	0.218	0.611	0.279	1.338
	>70(Reference)		0.021			
	Private company	20.647	1.000		0.000	
Occupation	Farmer/tailor/domestic worker/shop trader	0.162	0.598	1.175	0.644	2.145
	Construction worker	0.130	0.821	1.138	0.369	3.508
	Housekeeper	-0.315	0.537	0.730	0.269	1.983
	Unemployed(reference)		0.883			
Socioeconomic status	Upper middle class	0.270	0.491	1.309	0.608	2.820
	Middle class	-0.262	0.503	0.769	0.357	1.658
	Lower middle class	-0.381	0.380	0.683	0.292	1.600
	Lower class(reference)		0.156			

The above table shows that young age group have significantly higher odds-on awareness of heart attack (OR 8.68, p <0.05). Farmers, tailors and domestic workers have slightly higher odds of 1.17 times awareness than the unemployed group but are not statistically significant. Similarly, upper middle-class group have slightly higher odds of 1.3 times awareness on heart attack as compared to lower class.

Table 21: Association between age   and use of betel quid with tobacco by Binary logistic regression

		Betel Quid with Tobacco (Yes, No)				
		B	Sig	Adjusted *OR	95% CI	
Age group	18-29	-20.427	0.999	0.000	0.000	-
	30-49	-0.098	0.794	0.907	0.436	1.888
	50-69	-0.260	0.497	0.771	0.365	1.631
	>70(Reference)		0.872			
Occupation	Professional	0.141	1.000	1.151	0.000	-
	Farmer/tailor/domestic worker/shop trader	0.288	0.332	1.334	0.745	2.388
	Construction worker	0.746	0.141	2.108	0.782	5.686
	Housekeeper		0.023	**2.512**	**1.137**	**5.552**
	Unemployed(reference)		0.185			
Socioeconomic status	Upper middle class	-0.371	0.349	0.690	0.317	1.502
	Middle class	-0.037	0.921	0.964	0.468	1.987
	Lower middle class	0.0419	0.278	1.521	0.713	3.246
	Lower class(reference)		0.082			

*OR: Odds ratio

This table shows that when use of betel quid with tobacco is studied with different types of occupation, housekeepers are 2.5 times more likely to use betel quid with tobacco (p = 0.023, OR = 2.512) and is statistically significant. Other variables like age, occupation and socioeconomic class are not significantly associated with betel quid use.

Table 22: Association between age and use of Khaini/Tobacco Lime Mixture by Binomial logistic regression

		Khaini/Tobacco Lime Mixture (Yes, No)				
		B	Sig	Adjusted OR	95% CI	
Age group	18-29	-1.921	0.045	0.146	0.022	0.955
	30-49	0.211	0.551	1.235	0.617	2.470
	50-69	0.181	0.613	1.198	0.594	2.418
	>70(Reference)		0.141			
Occupation	Professional	21.28	1.000		0.000	
	Farmer/tailor/domestic worker/shop trader	-0.488	0.074	0.614	0.359	1.049
	Construction worker	-0.792	0.100	0.453	0.176	1.165
	Housekeeper	-0.118	0.784	0.889	0.383	2.062
	Unemployed(reference)		0.329			
Socioeconomic class	Upper middle class	-1.130	0.002	0.323	0.157	0.665
	Middle class	-0.346	0.340	0.708	0.348	1.440
	Lower middle class	0.474	0.255	1.606	0.711	3.631
	Lower class(reference)		<0.001			

The above table shows that younger individuals (18-29) are significantly less likely to use khaini compared to those above 70 years of age. (p-<0.05).Farmers, domestic workers and construction workers tend to have lower odds of using khaini compared to unemployed individuals. The strongest predictor of khaini use appears to be socioeconomic class. Individuals from upper middle class are significantly less likely to use khaini compared to those in lower class. (p<0.05).

Table 23: Association between age and use of Gutkha/Areca Nut Mixture by Binomial logistic regression

		Gutkha/Areca Nut Mixture (Yes, No)				
		B	Sig	Adjusted OR	95% CI	
Age group	18-29	-1.013	0.312	0.363	0.051	2.594
	30-49	0.819	0.071	2.269	0.933	5.517
	50-69	0.845	0.065	2.327	0.948	5.710
	>70(Reference)		0.083			
Occupation	Professional	20.328	1.000		0.000	
	Farmer/tailor/domestic worker/shop trader	-0.867	0.026	0.420	0.196	0.900
	Construction worker	-1.746	0.002	0.175	0.058	0.529
	Housekeeper	0.731	0.369	2.076	0.422	10.209
	Unemployed(reference)		0.008			
Socioeconomic status	Upper middle class	-0.260	0.610	0.771	0.284	2.092
	Middle class	-0.459	0.348	0.632	0.242	1.647
	Lower middle class	-0.134	0.803	0.875	0.306	2.499
	Lower class(reference)		0.694			

The above table shows that middle aged individuals (30-69 years) are more likely to use gutkha compared to older adults (>70 years). The significant negative association between employment and gutkha use suggests that working individuals might have lower consumption rates compared to unemployed individuals which shows higher odds of use(OR 2).Socioeconomic class does not appear to significantly impact gutkha use.

Table 24: Association between age and use of Pan Masala/Betel Quid Without Tobacco/Nasal Snuff by Binomial logistic regression

		Pan Masala/Betel Quid Without Tobacco/Nasal Snuff (Yes, No)				
		B	Sig	Adjusted OR	95% CI	
Age group	18-29	-0.228	0.814	0.796	0.119	5.318
	30-49	1.616	<0.001	**5.034**	**2.236**	**11.332**
	50-69	1.350	0.001	**3.858**	**1.733**	**8.589**
	>70(Reference)		0.001			
Occupation	Professional	20.338	1.000		0.000	
	Farmer/tailor/domestic worker/shop trader	-0.716	0.047	0.489	0.241	0.991
	Construction worker	-2.241	<0.001	0.106	0.038	0.298
	Housekeeper	0.450	0.511	1.568	0.410	6.001
	Unemployed(reference)		<0.001			
Socioeconomic status	Upper middle class	-0.817	0.105	0.442	0.165	1.186
	Middle class	-0.868	0.077	0.420	0.160	1.099
	Lower middle class	-0.534	0.314	0.586	0.207	1.657
	Lower class(reference)		0.287			

The given table shows middle aged groups are significantly more likely to consume pan/betel quid without tobacco compared to those above 70 years. The significantly lower odds of use among farmers, tailors and especially construction workers compared to unemployed individuals suggest that employment might serve as a protective factor. Unlike other forms of smokeless tobacco, socioeconomic class does not appear to significantly impact this use

Table 25: Association between sociodemographic variables and Awareness on Sources of Information like tv/radio/cinema on Ill Effects of Smokeless Tobacco

		TV/radio/cinema (Yes, No)			
		Sig	Adjusted OR	95% CI	
Occupation	Professional	1.000	4.902	0.000	
	Farmer/tailor/domestic worker/shop trader	0.141	3.233	0.678	15.431
	Construction worker	0.878	0.837	0.087	8.076
	Housekeeper	0.998	4.962	0.000	
	Unemployed(reference)	0.627			
Education	Illiterate	0.999	0.000	0.000	
	Up to primary	0.999	0.000	0.000	
	secondary school	0.999	0.000	0.000	
	PUC	1.000	1.168	0.000	
	Graduate(reference)	0.988			

The given table shows that professionals have the highest odds of awareness about ill effects of smokeless tobacco through tv/radio/cinema. In contrast farmers, labourers and unemployed individuals have significantly lower awareness levels. Illiterate and those with only primary or secondary education have extremely lower awareness levels.

Table 26: Association between sociodemographic variables and Awareness on Sources of Information like books/posters on Ill Effects of Smokeless Tobacco

		Books/Posters (Yes, No)			
		Sig	Adjusted OR	95% CI	
Occupation	Professional	1.000	1.228	0.000	
	Farmer/tailor/domestic worker/shop trader	0.477	0.801	0.435	
	Construction worker	0.472	0.662	0.216	2.034
	Housekeeper	0.192	2.345	0.652	8.438
	Unemployed(reference)	0.474			
Education	Illiterate	0.999	0.000	0.000	
	Up to primary	0.999	0.000	0.000	
	secondary school	0.999	0.000	0.000	
	PUC	0.999	0.000	0.000	
	Graduate(reference)	0.025			

The given table indicate that professionals have highest likelihood of awareness about ill effects of smokeless tobacco through books and posters. Housekeepers also exhibit relatively higher awareness with odds of 2.3 times more compared to unemployed groups. Graduates are significantly more likely to be aware of the ill effects of smokeless tobacco from books/posters (p = 0.025).

Table 27: Association between sociodemographic variables and Awareness on Sources of Information like parents/siblings/friends on Ill Effects of Smokeless Tobacco

		Parents/Siblings/Friends			
		Sig	Adjusted OR	95% CI	
Occupation	Professional	1.000	6.140	0.000	
	Farmer/tailor/domestic worker/shop trader	0.072	1.533	0.963	2.440
	Construction worker	0.265	1.751	0.654	4.689
	Housekeeper	0.108	1.911	0.867	4.212
	Unemployed(reference)	0.347			
Education	Illiterate	0.999	0.000	0.000	
	Up to primary	0.999	0.000	0.000	
	secondary school	0.999	0.000	0.000	
	PUC	0.999	0.000	0.000	
	Graduate(reference)	0.000			

The above table indicates that professionals are significantly more likely to be informed about ill effects of tobacco through their family, siblings or friends. Graduates are significantly more likely to be aware of smokeless tobacco effects through parents, siblings, or friends (p = 0.000).

Table 28: Association between sociodemographic variables and peer pressure as reason for not quitting Smokeless tobacco

		Peer pressure (Yes, No)			
		Sig	Adjusted OR	95% CI	
Socioeconomic status	Upper middle class	0.123	1.714	0.865	3.398
	Middle class	0.654	1.159	0.608	2.209
	Lower middle class	0.994	1.002	0.505	1.991
	Lower class(reference)	0.219			
Occupation	Professional	1.000	0.000	0.000	
	Farmer/tailor/domestic worker/shop trader	0.015	**1.715**	**1.110**	**2.650**
	Construction worker	0.507	1.360	0.548	3.373
	Housekeeper	0.348	1.403	0.691	2.847
	Unemployed(reference)	0.205		0.489	2.672

The above table shows that although the upper middle class shows slightly higher odds of 1.71 times being influenced by peer pressure, the association is not statistically significant. Farmers/tailors/domestic workers/shop traders are significantly 1.71 times to report peer pressure as a reason for not quitting. Other occupational groups (construction workers, housekeepers, unemployed) do not show significant associations (p > 0.05).

Table 29: Association between sociodemographic variables and Habitual behaviour as reason for not quitting Smokeless tobacco

		Habitual behaviour (Yes, No)			
		Sig	Adjusted OR	95% CI	
Socioeconomic status	Upper middle class	0.173	1.800	0.773	4.190
	Middle class	0.207	1.674	0.752	3.726
	Lower middle class	0.026	**2.982**	**1.143**	**7.779**
	Lower class(reference)	0.169			
Occupation	Professional	1.000	0.000	0.000	
	Farmer/tailor/domestic worker/shop trader	0.000	**3.411**	**1.857**	**6.266**
	Construction worker	0.821	1.131	0.389	3.293
	Housekeeper	0.366	1.521	0.613	3.776
	Unemployed(reference)	0.003	1.411	0.433	4.597

The above table shows that lower middle-class individuals are nearly 3 times more likely to cite habitual use as a barrier to quitting (p= 0.026). Farmers/tailors/domestic workers/shop traders are 3.4 times more highly likely to cite habitual use as a barrier to quitting.

Table 30: Association between sociodemographic variables and stress relief as reason for not quitting Smokeless tobacco

		Stress relief (Yes, No)			
		Sig	Adjusted OR	95% CI	
Socioeconomic status	Upper middle class	0.842	1.079	0.513	2.267
	Middle class	0.912	0.961	0.470	1.962
	Lower middle class	0.119	1.925	0.844	4.391
	Lower class(reference)	0.170			
Occupation	Professional	1.000	0.000	0.000	
	Farmer/tailor/domestic worker/shop trader	0.143	1.430	0.886	2.307
	Construction worker	0.964	1.022	0.394	2.655
	Housekeeper	0.140	1.963	0.802	4.801
	Unemployed(reference)	0.475			

The above table shows that lower middle-class individuals have the highest odds of 1.9 times of using smokeless tobacco for stress relief, but is not statistically significant. Housekeepers and farmers have the highest odds of1.9 times of using tobacco for stress relief.

Table 31: Association between sociodemographic variables and others like home remedies, tradition or cultural beliefs, family influence as reason for not quitting Smokeless tobacco

		*Others (Yes, No)			
		Sig	Adjusted OR	95% CI	
Socioeconomic status	Upper middle class	0.126	2.775	0.751	10.253
	Middle class	0.336	1.909	0.511	7.132
	Lower middle class	0.917	0.923	0.205	4.156
	Lower class(reference)	0.130			
Occupation	Professional	1.000	0.000	0.000	
	Farmer/tailor/domestic worker/shop trader	0.666	1.187	0.545	2.581
	Construction worker	0.935	1.068	0.216	5.275
	Housekeeper	0.304	1.824	0.580	5.734
	Unemployed(reference)	0.897			

*Others: traditional beliefs, family influence or home remedies.

The above table shows that upper middle-class individuals have the highest odds of 2.7 times of citing traditional beliefs, family influence or home remedies as barriers to quitting. Housekeepers and farmers show slightly higher odds of citing others as reasons for continued use.
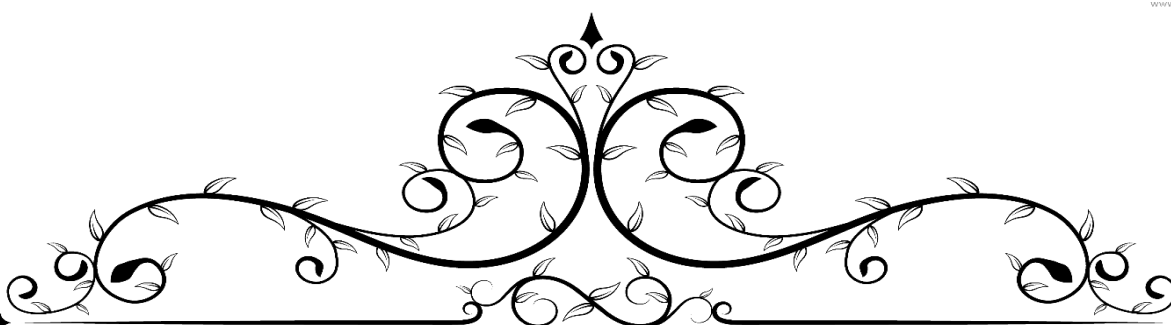
DISCUSSION
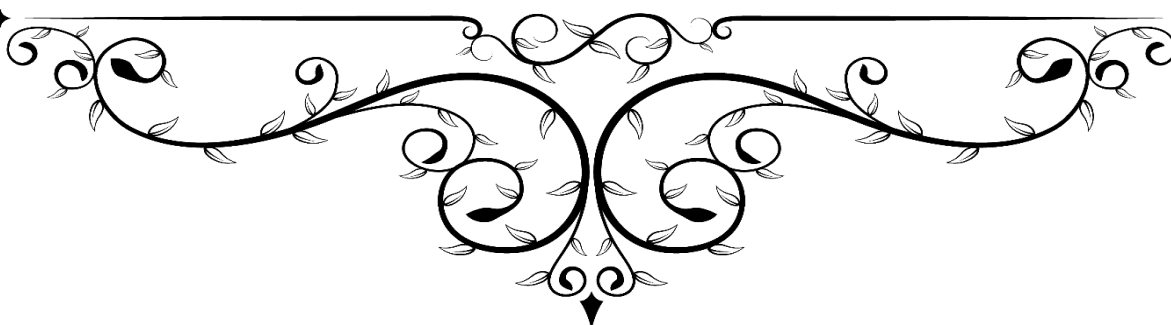
7. DISCUSSION

A cross-sectional study was conducted to determine the prevalence and patterns of Smokeless tobacco use among rural women which was carried out in Mulbagal taluk of Kolar district.

The prevalence of smokeless tobacco users in our study is 70% in which betel quid with tobacco users account for 23.09% and khaini/tobacco lime users 47.9%.

Prevalence of smokeless tobacco among rural women

The present study which involved women in a rural area, discovered that 70% of them used smokeless tobacco (SLT). The higher incidence in our study raises the possibility that SLT usage, which is frequently seen as more acceptable than smoking in rural regions, is more ingrained in cultural and social norms there According to the study by **Poorvitha et al** which was carried out in a rural area of Nanjangud taluk, Mysuru district, 62.4% of the sample population used smokeless tobacco (SLT).[52]

Bhavna Bharati et al conducted a comprehensive population-based study that included both males and females, and found that 14.4% of females used smokeless tobacco (SLT).[53]

The study conducted by **Tushar K. Bandyopadhyay et al**. reported a prevalence of Khaini use at 36% among 155 females aged 18 to 47 years.[54]

On the other hand, our study, which has a bigger sample of rural women, discovered that 47.9% of them utilize Khaini. This might be brought on by variations in geographic location, customs, accessibility, and shared behaviors.

In a large sample of women over 30, **Dinesh Rajaram et al** found that 55% of the women involved in the study used smokeless tobacco (SLT). However, it is

challenging to make direct comparisons on product preferences because the study did not define the pattern or type of SLT used.[55]

15.9% of women reported using smokeless tobacco (SLT), according to a research by **Goyal et al**.[3]

According to a study by **Shishirendu et al,** women's SLT prevalence was 18.4% and 12.8%, respectively, and their use decreased by 5% between GATS 1 and GATS 2, suggesting a downward trend and a desire to stop.[56]

Vandana et al.'s study concentrated solely on Mishri use among 256 rural women, highlighting regional differences in SLT consumption influenced by accessibility and local norms.[57] Our study, on the other hand, offers a more comprehensive viewpoint by looking at other types of SLT, such as pan masala, gutkha, tobacco-lime, and betel quid with tobacco, and highlighting the various usage patterns within our study group. The significance of geographical influences on SLT preferences and the requirement for focused interventions addressing particular forms of SLT consumption are shown by this comparison.

The study conducted by **B. Y. Yuvaraj et al**. found that tobacco with betel quid was the most commonly consumed SLT product (17.85%), indicating a cultural preference for this form of SLT in their study region.[22]

In the study by **Meerjady S. Flora et al**, it was discovered that 31% of the participants used smokeless tobacco. Rural individuals were twice as likely to chew betel quid as their urban counterparts, with a significantly greater frequency of 43.2%. Furthermore, ladies chewed at a somewhat higher rate (31.8%) than the prevalence overall.[58]

Similarly, a study by **Wen et al** in Taiwan's eastern region—which is primarily rural and economically disadvantaged—found that 25.3% of female SLT consumers use it, which is nearly identical to our prevalence figures. This implies that, irrespective of geographic location, women's consumption of betel

quid may be significantly influenced by socioeconomic and rural living situations.[59]

According to a study by **Eva Naznin et al,** smokeless tobacco use (STC) is quite prevalent in Bangladesh (25%), India (22%), and Myanmar (21%). In particular, the frequency among women was 11% in India and 14% in Myanmar.[60]

According to a study by **Raikov et al** carried out in an industrial sector of the Saratov region, 56.5% of women use tobacco. The working population in this study may be more susceptible to tobacco usage due to workplace stress and other factors.[61]

Age and Use of smokeless tobacco

In our study, the highest proportion of users is in the 30-49 age group (24.7%), possibly due to social and occupational exposure and declined slightly in older age groups due to health concerns or quitting behaviour and is not statistically significant(p>0.05).This is comparable to studies done by **Poorvitha et al and Mashru et al**[9,52]

Study done by **Patil et al** found that 35.04% females who consumed smokeless tobacco were aged 51-60years and 28.21% were above 60 years indicating a higher prevalence of smokeless tobacco use in older women .[62]In our study 21.9% were above 70 years who use SLT suggesting that while older age groups remain a key demographic for SLT consumption, the prevalence in our study is slightly lower among the oldest age group.

Occupation and smokeless tobacco usage

The present study reported that the highest prevalence was among housekeepers (37.5%) and construction workers (30.8%), suggesting that these occupational groups are more likely to consume betel quid with tobacco. Other occupation like farmers and domestic workers consumes khaini and pan. Our

results shows that occupation was significantly associated with the use of gutkha and pan(p<0.05). Women engaged in **labour intensive occupations** (such as farming, tailoring, and shopkeeping) have higher usage of smokeless tobacco due to long working hours and physical exhaustion, leading to the use of SLT for stimulation and stress relief and social norms within households where SLT use is common.

The study by **Bharatalekshmi et al** examined both males and females aged 15 years among which 65.5% of the participants who consumes SLT were engaged in occupations such as coolie work, farming, clerical jobs, or shopkeeping, while 26% were homemakers and 6.5% were unemployed.[63]

The study by **Bharati et al** found that 70% of those engaged in agriculture and fishery work used smokeless tobacco, with higher usage among females. Social status, peer influence and environment played key roles in consumption patterns.[53]

Socioeconomic class and smokeless tobacco usage

The present study shows that majority (85%) belonging to lower class have a very high consumption of smokeless tobacco and is statistically significant(p<0.05). This due to easy affordability and accessibility of SLT products than other forms of tobacco and lack of awareness regarding the ill effects .The study by **Saurabh Srivastava et al** and **Poorvitha et al** shows that that almost 30% belonging to lower class have high consumption of smokeless tobacco use.[48],[52]

Education and use of smokeless tobacco usage

The present study reveals that almost 80% were illetrate or have educational qualification upto primary/secondary school having a high consumption of tobacco and is found to be statistically significant (p<0.05).These findings aligns with study done by **Tushar et al** due to the limited awareness of health

risks and the study population which exclusively focus on rural women strengthening the generalisability.[54] The study done by **Sreeramareddy et al** shows that 65% were illetrate or having primary school qualification have high usage of smokeless tobacco which was done among both genders.[64]

Sociodemographic variables and motivation for quitting smokeless tobacco

The present study reported that older individuals (50-69 years) and construction workers were more likely to cite health-related problems as motivation to quit. Illiterate individuals also showed higher motivation to quit due to health concerns compared to graduates. Only 13.1% and 12.1% revealed awareness of hazards and health checkups as a reason to quit. Overall, our study found no significant association between sociodemographic factors and quitting behaviour. This is due to higher rate of illiteracy in our study population and the habitual behaviour in using tobacco as stress relief and other concerns. Compared to study by **Shalini et al** which emphasises the sociodemographic factors and qualitative motivations for quitting such as self-motivation, knowledge regarding harm to child, counselling given by healthcare providers regarding complications in delivery.[15]

**Sociodemographic variables and Initiation of smokeless tobacco**

Our study reported that lower middle-class individuals have a higher odds of citing habitual use as an initiative factor which is statistically significant (OR-3,p-0.026). Farmers/tailors/domestic workers/shop traders are more highly likely to cite both habitual use and peer pressure as an initiative for using smokeless tobacco which is statistically significant. (OR 1.7 $p<0.05$, OR 3.4 $p<0.05$). Similarly, lower middle-class individuals and occupational groups mainly housekeepers and farmers have the highest odds of 1.9 times of using smokeless tobacco for stress relief, but is not statistically significant. Compared

to study by **Shalini singh et al** which is a qualitative approach providing insights into the factors which initiated in using smokeless tobacco.[15]

Another study by **Poorvitha et al** reveals that habitual behaviour is the main reason for initiation of tobacco. Similarly study by **Srivastava et al** highlights affordability as a major reason for initiating tobacco(82%),our study does not specifically assess cost related influences.[48],[52]

Sociodemographic variables and Awareness on Diseases affected by Smokeless Tobacco Use

 Our study found that construction workers, farmers and those belonging to upper middle class have significantly higher odds of awareness on oral cancer (OR 3) compared to unemployed individuals. Middle age groups and upper middle class shows an association of 2.6 times higher odds of awareness of tuberculosis compared to more than 70 years and is statistically significant. Furthermore, younger age group have significantly higher odds on awareness of heart attack (OR 8.68,p <0.05). This is due to the misbeliefs and perceived benefits of tobacco that rural women of older age group stick onto prioritizing family and financial responsibilities over personal health concerns. Whereas younger age individuals have more likely to access information from different platforms like social media/TV/internet. Compared to the study by **Vandana et al** which reported that majority of the participants were aware that tobacco cause oral cancer,2% knew that it cause heart diseases.[57]

SUMMARY & CONCLUSION
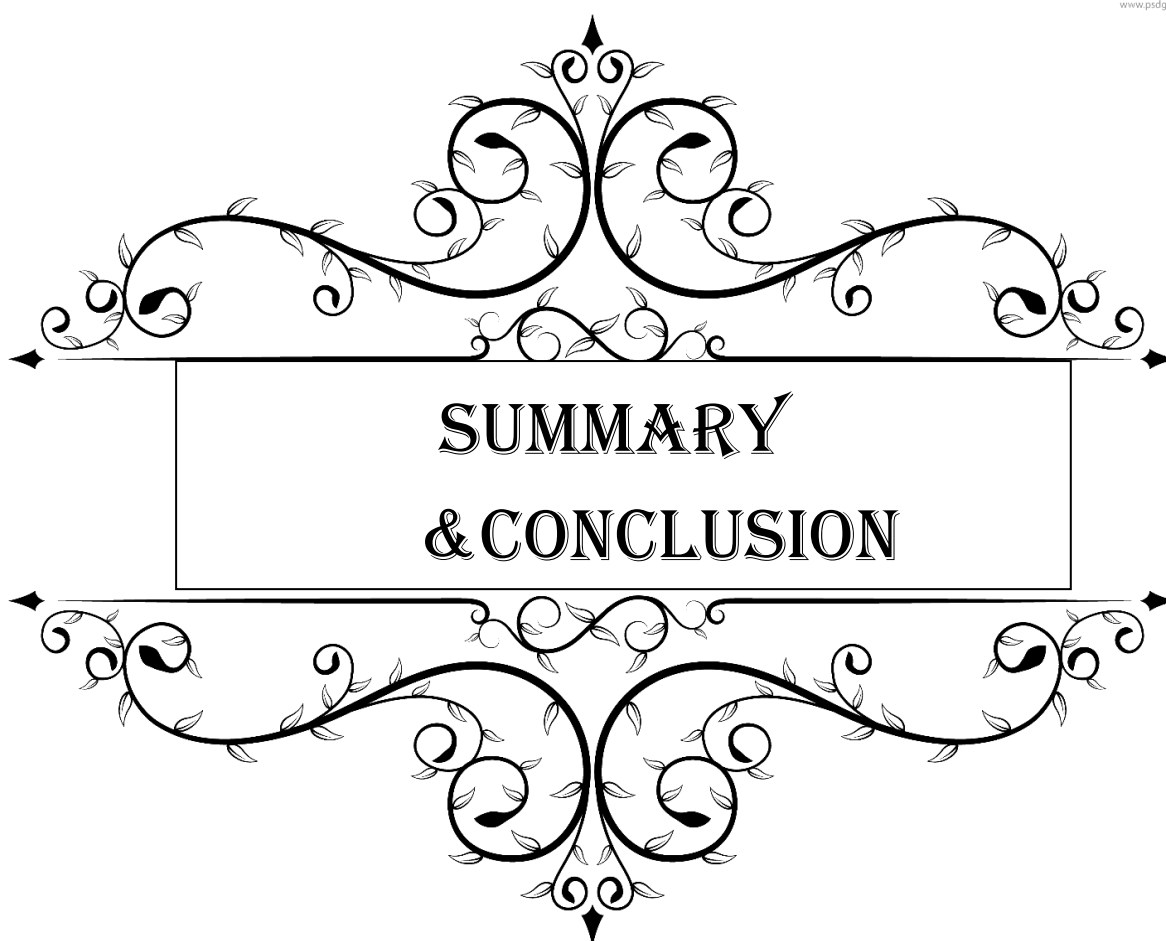
8. Summary

In the Kolar district's Mulbagal taluk, the incidence of tobacco and smokeless tobacco among rural women was investigated. The Global Adult Tobacco Survey was used to study 511 women in total (GATS). The results show that the 30-49 age group has the highest percentage of tobacco users (24.7%), with the highest prevalences seen among housekeepers (37.5%) and construction workers (30.8%).

The bulk of users (85%) are from lower socioeconomic classes, and there is a substantial correlation ($p < 0.05$). Given that 80% of users are illetrate or have only completed basic or secondary school, educational background is important. Farmers and housewives are 1.9 times more likely to use tobacco, primarily as a stress reliever.

Additionally, compared to those without jobs, people in the upper middle class, farmers, and construction workers have a much higher awareness of oral cancer (OR-3).

The survey found that 70% of participants used smokeless tobacco, with 23.09% using betel quid with tobacco and 47.9% using khaini or tobacco lime. These results point to a significant public health issue by showing that smokeless tobacco use is common and deeply ingrained among rural women, underscoring the necessity of focused awareness and intervention initiatives.

9. CONCLUSION

This study emphasizes how many rural women use smokeless tobacco, a high prevalence that is driven by a variety of behavioural and socioeconomic factors. Lower socioeconomic position, occupational type, illiteracy, and cultural norms were all found to have significant correlations. Due to habitual behaviour, peer pressure, and stress reduction, women who worked in physically demanding occupations like farming and daily wage labor were more likely to smoke.

Age, education, and marital status were also significant factors, with older and less educated women using smokeless tobacco at higher rates. The study also emphasizes how accessibility, social acceptance, and ignorance contribute to the continuation of tobacco use.
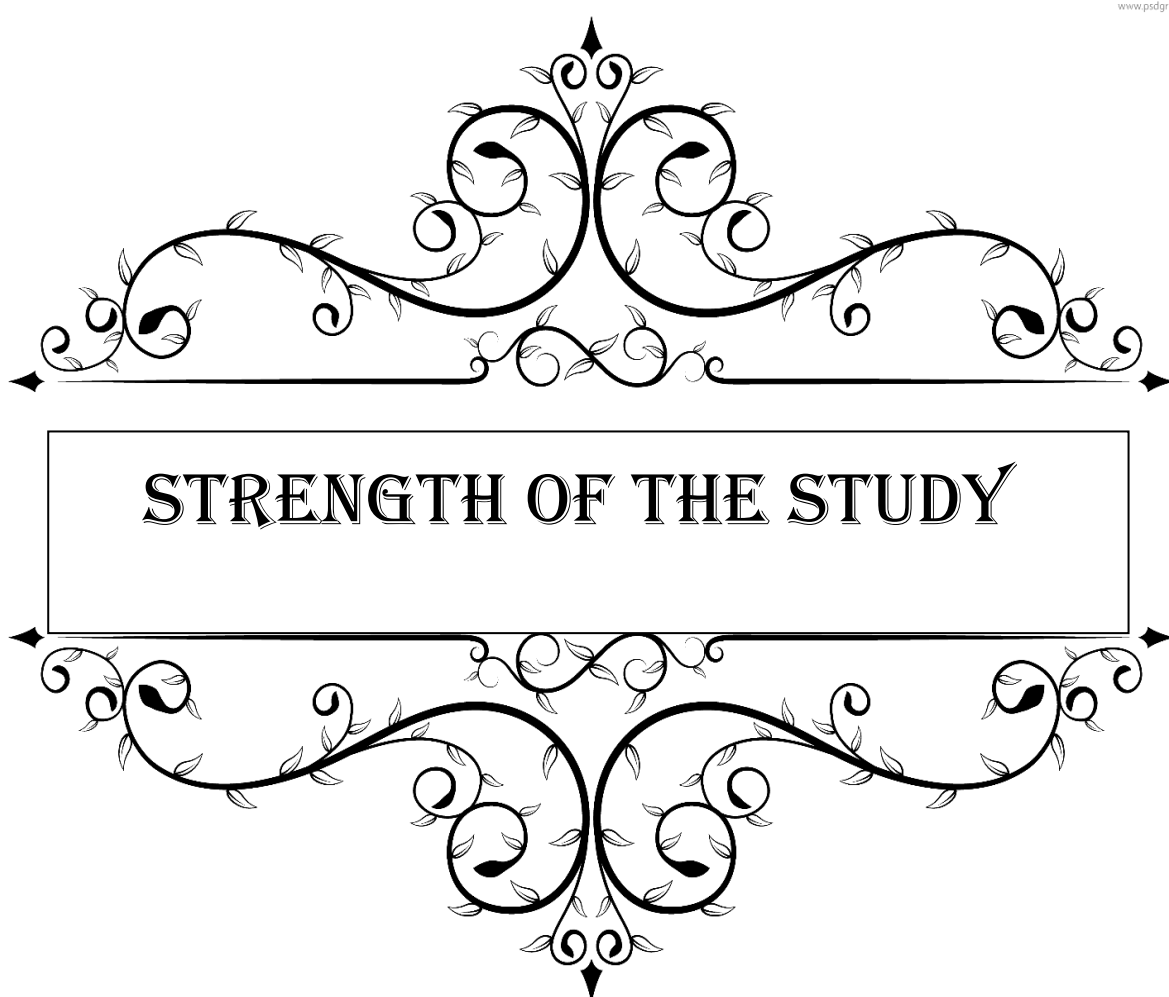
STRENGTH OF THE STUDY
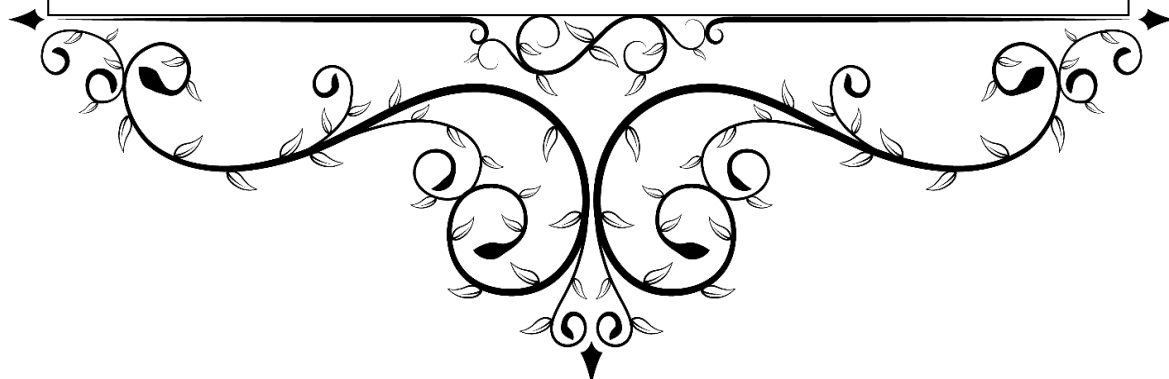
STRENGTH OF THE STUDY

1) Rural women, a demographic that is frequently underrepresented in tobacco research, are the study's specific goal and provide important insights into their smokeless tobacco usage patterns.

2) It provides a comprehensive picture of tobacco usage by covering a number of topics, such as various smokeless tobacco patterns, frequency, commencement, quitting attempts, and awareness, in accordance with a standard questionnaire like the Global Adult Tobacco Survey.

3) Cluster sampling was used in this study, which enables time and cost-effective data gathering from a sizable, scattered rural population. This study looks at how education, occupation, socioeconomic level, and personal behaviours influence tobacco consumption rather than just tobacco use.

4) This research helps us better understand consumption trends by breaking down smokeless tobacco into particular products like betel quid with tobacco, khaini, gutkha, and pan, in contrast to many other studies that consider it as a single category.
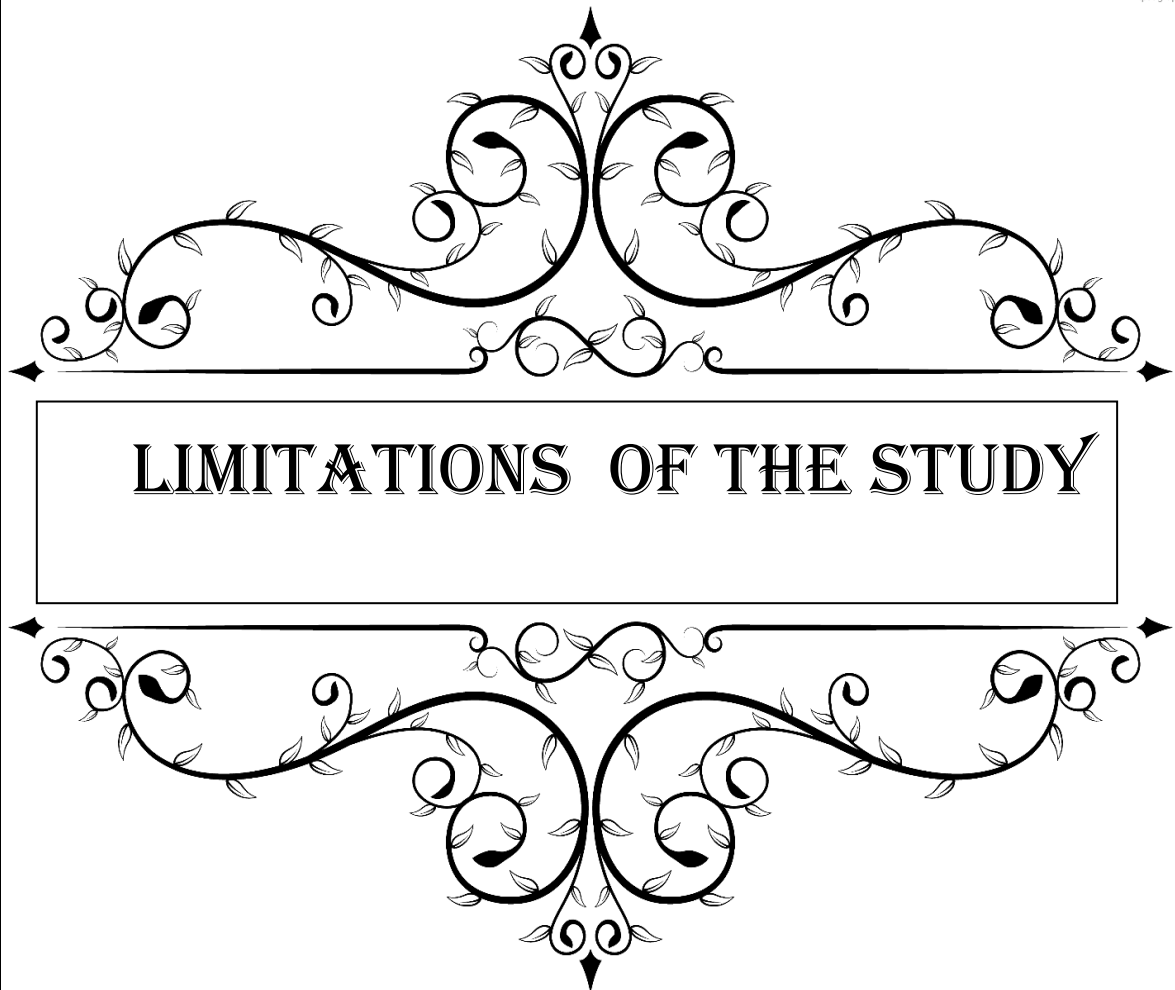
LIMITATIONS OF THE STUDY
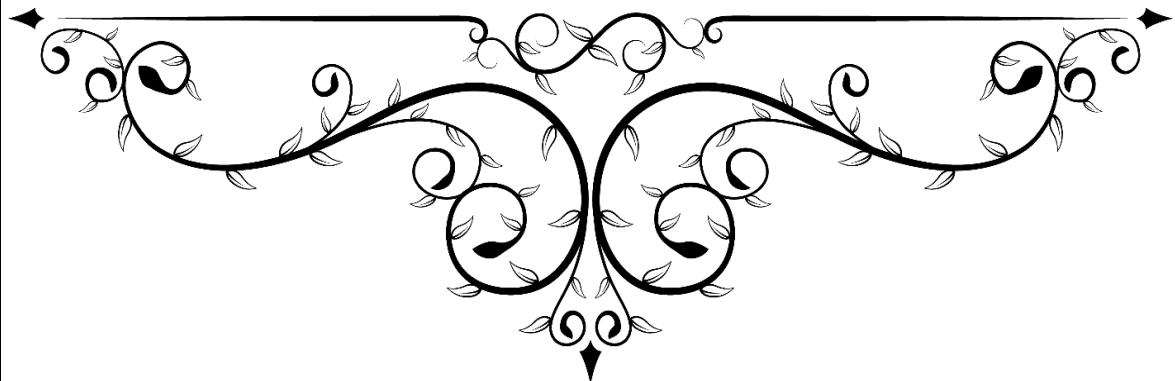
10.LIMITATIONS

• Because the study uses self-reported responses, recall bias could result in either an overreporting or underreporting of tobacco usage.

• The study's exclusive emphasis on rural women restricts the findings' applicability to urban populations or men, whose tobacco use habits may differ.

• The study did not thoroughly examine psychological variables that may affect tobacco use, such as stress and mental health.

RECOMMENDATIONS
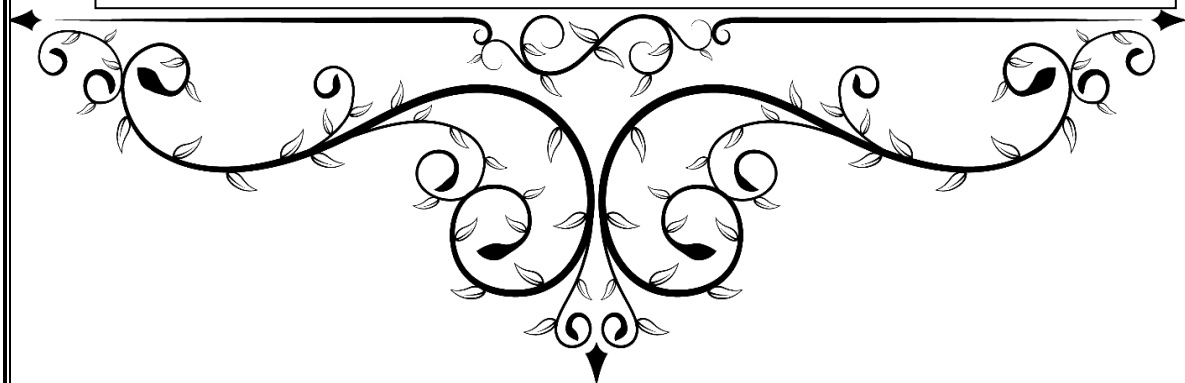
11.RECOMMENDATIONS

• Developing interventions that take into account regional customs, beliefs, and socioeconomic considerations to promote quitting, as well as implementing community-based education campaigns to educate rural women about the health consequences of smokeless tobacco and available cessation support.

• Enforcing stringent laws governing the promotion and sale of tobacco products in rural regions, as well as making sure that counseling and nicotine replacement treatments are offered in rural health facilities, in order to reinforce tobacco control efforts.

• Educating the grass root level workers on how to spot and help women stop smoking during routine checkups, as well as how to run tobacco prevention initiatives in schools to deter young girls from starting to smoke.

Investigate social and psychological factors that contribute to tobacco use and obstacles to quitting by doing qualitative research.
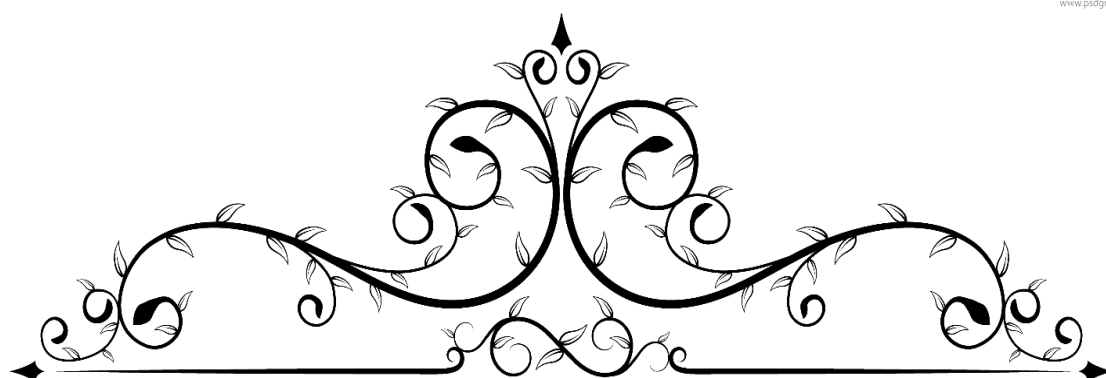
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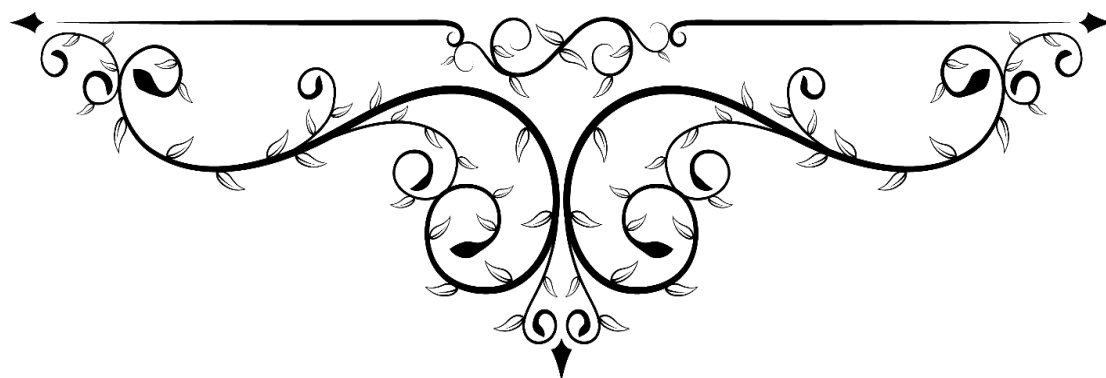
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<u>Annexure 1</u>

<u>Information Sheet:</u>

Title: PREVELANCE OF TOBACCO USAGE AND ASSOCIATED FACTORS AMONG WOMEN IN RURAL KOLAR- A CROSS-SECTIONAL STUDY.

My name is Dr. Aiswarya Lily Ray, A, Post graduate in the department of Community Medicine, Sri Devaraj Urs Medical College, Kolar. I am carrying out a study on Prevalence of tobacco usage and its associated factors among women in rural Kolar, the study has been reviewed by the local ethical review board and has been started only after their formal approval.

Tobacco usage is a major preventable cause of premature death and disease worldwide Globally, smoking causes lung cancer, chronic respiratory diseases and cardiovascular disease. In this regard I will help you to find out the associated factors of tobacco usage by giving a simple questionnaire, you need not have to answer any questions that you do not want to answer. However, your honest answer to these questions will help us to understand the associated factors of tobacco usage. We would greatly appreciate your help in responding to the questionnaire.

Participation in this study doesn't involve any cost for you. This study is not only beneficial to you but also to the community at large. The results gathered from this study will be beneficial in estimating the prevalence.

All the information collected from you will be strictly confidential and will not be disclosed to any outsider unless compelled by law. This information collected will be used only for research.

There is no compulsion to participate in this study. You will be no way affected if you don't wish to participate in this study. You are required to sign only if you voluntarily agree to participate in this study. Further, you are at a liberty to withdraw from the study at any time, if you wish to do so.. It is up to you to decide whether to participate. This document will be stored in the safe locker in the department of Community Medicine in the college and a copy is given to you for information.

For any further clarification you are free to contact the principal investigator,

Dr. Aiswarya Lily Ray

Mob No: **9526144303**

ನನ್ನ ಹೆಸರು ಡಾ. ಐಶ್ವರ್ಯ ಲಿಲಿ ರೇ, ಎ, ಕಮ್ಯುನಿಟಿ ಮೆಡಿಸಿನ್ ವಿಭಾಗದಲ್ಲಿ ಸ್ನಾತಕೋತ್ತರ ಪದವಿ, ಶ್ರೀ ದೇವರಾಜ್ ಅರ್ಸ್ ವೈದ್ಯಕೀಯ ಕಾಲೇಜು, ಕೋಲಾರ. ಕೋಲಾರದ ಗ್ರಾಮೀಣ ಮಹಿಳೆಯರಲ್ಲಿ ತಂಬಾಕು ಸೇವನೆಯ ಪ್ರಮಾಣ ಮತ್ತು ಅದಕ್ಕೆ ಸಂಬಂಧಿಸಿದ ಅಂಶಗಳ ಕುರಿತು ನಾನು ಅಧ್ಯಯನವನ್ನು ನಡೆಸುತ್ತಿದ್ದೇನೆ, ಸ್ಥಳೀಯ ನೈತಿಕ ಪರಿಶೀಲನಾ ಮಂಡಳಿಯಿಂದ ಅಧ್ಯಯನವನ್ನು ಪರಿಶೀಲಿಸಲಾಗಿದೆ ಮತ್ತು ಅವರ ಔಪಚಾರಿಕ ಅನುಮೋದನೆಯ ನಂತರವೇ ಪ್ರಾರಂಭಿಸಲಾಗಿದೆ.

ತಂಬಾಕು ಸೇವನೆಯು ಜಾಗತಿಕವಾಗಿ ಅಕಾಲಿಕ ಮರಣ ಮತ್ತು ರೋಗಗಳ ಪ್ರಮುಖ ತಡೆಗಟ್ಟುವ ಕಾರಣವಾಗಿದೆ, ಧೂಮಪಾನವು ಶ್ವಾಸಕೋಶದ ಕ್ಯಾನ್ಸರ್, ದೀರ್ಘಕಾಲದ ಉಸಿರಾಟದ ಕಾಯಿಲೆಗಳು ಮತ್ತು ಹೃದಯರಕ್ತನಾಳದ ಕಾಯಿಲೆಗಳಿಗೆ ಕಾರಣವಾಗುತ್ತದೆ. ಈ ನಿಟ್ಟಿನಲ್ಲಿ ನಾನು ಸರಳ ಪ್ರಶ್ನಾವಳಿಯನ್ನು ನೀಡುವ ಮೂಲಕ ತಂಬಾಕು ಬಳಕೆಯ ಸಂಬಂಧಿತ ಅಂಶಗಳನ್ನು ಕಂಡುಹಿಡಿಯಲು ನಿಮಗೆ ಸಹಾಯ ಮಾಡುತ್ತೇನೆ, ನೀವು ಉತ್ತರಿಸಲು ಬಯಸದ ಯಾವುದೇ ಪ್ರಶ್ನೆಗಳಿಗೆ ನೀವು ಉತ್ತರಿಸಬೇಕಾಗಿಲ್ಲ. ಆದಾಗ್ಯೂ, ಈ ಪ್ರಶ್ನೆಗಳಿಗೆ ನಿಮ್ಮ ಪ್ರಾಮಾಣಿಕ ಉತ್ತರವು ತಂಬಾಕು ಬಳಕೆಯ ಸಂಬಂಧಿತ ಅಂಶಗಳನ್ನು ಅರ್ಥಮಾಡಿಕೊಳ್ಳಲು ನಮಗೆ ಸಹಾಯ ಮಾಡುತ್ತದೆ. ಪ್ರಶ್ನಾವಳಿಗೆ ಪ್ರತಿಕ್ರಿಯಿಸುವಲ್ಲಿ ನಿಮ್ಮ ಸಹಾಯವನ್ನು ನಾವು ಬಹಳವಾಗಿ ಪ್ರಶಂಸಿಸುತ್ತೇವೆ.

ಈ ಅಧ್ಯಯನದಲ್ಲಿ ಭಾಗವಹಿಸುವಿಕೆಯು ನಿಮಗೆ ಯಾವುದೇ ವೆಚ್ಚವನ್ನು ಒಳಗೊಂಡಿರುವುದಿಲ್ಲ. ಈ ಅಧ್ಯಯನವು ನಿಮಗೆ ಮಾತ್ರವಲ್ಲದೆ ದೊಡ್ಡ ಸಮುದಾಯಕ್ಕೂ ಪ್ರಯೋಜನಕಾರಿಯಾಗಿದೆ. ಈ ಅಧ್ಯಯನದಿಂದ ಸಂಗ್ರಹಿಸಿದ ಫಲಿತಾಂಶಗಳು ಹರಡುವಿಕೆಯನ್ನು ಅಂದಾಜು ಮಾಡಲು ಪ್ರಯೋಜನಕಾರಿಯಾಗಿದೆ.

ನಿಮ್ಮಿಂದ ಸಂಗ್ರಹಿಸಿದ ಎಲ್ಲಾ ಮಾಹಿತಿಯು ಕಟ್ಟುನಿಟ್ಟಾಗಿ ಗೌಪ್ಯವಾಗಿರುತ್ತದೆ ಮತ್ತು ಕಾನೂನಿನಿಂದ ಒತ್ತಾಯಿಸದ ಹೊರತು ಯಾವುದೇ ಹೊರಗಿನವರಿಗೆ ಬಹಿರಂಗಪಡಿಸಲಾಗುವುದಿಲ್ಲ. ಸಂಗ್ರಹಿಸಿದ ಈ ಮಾಹಿತಿಯನ್ನು ಸಂಶೋಧನೆಗೆ ಮಾತ್ರ ಬಳಸಲಾಗುತ್ತದೆ.

ಈ ಅಧ್ಯಯನದಲ್ಲಿ ಭಾಗವಹಿಸಲು ಯಾವುದೇ ಒತ್ತಾಯವಿಲ್ಲ. ನೀವು ಈ ಅಧ್ಯಯನದಲ್ಲಿ ಭಾಗವಹಿಸಲು ಬಯಸದಿದ್ದರೆ ನೀವು ಯಾವುದೇ ರೀತಿಯಲ್ಲಿ ಪರಿಣಾಮ ಬೀರುವುದಿಲ್ಲ. ಈ ಅಧ್ಯಯನದಲ್ಲಿ ಭಾಗವಹಿಸಲು ನೀವು ಸ್ವಯಂಪ್ರೇರಣೆಯಿಂದ ಒಪ್ಪಿಕೊಂಡರೆ ಮಾತ್ರ ನೀವು ಸಹಿ ಮಾಡಬೇಕಾಗುತ್ತದೆ. ಇದಲ್ಲದೆ, ನೀವು ಯಾವುದೇ ಸಮಯದಲ್ಲಿ ಅಧ್ಯಯನದಿಂದ ಹಿಂದೆ ಸರಿಯಲು ಸ್ವತಂತ್ರರಾಗಿರುವಿರಿ, ನೀವು ಹಾಗೆ ಮಾಡಲು ಬಯಸಿದರೆ.. ಭಾಗವಹಿಸಬೇಕೆ ಎಂದು ನಿರ್ಧರಿಸಲು ನಿಮಗೆ ಬಿಟ್ಟದ್ದು. ಈ ಡಾಕ್ಯುಮೆಂಟ್ ಅನ್ನು ಕಾಲೇಜಿನ ಕಮ್ಯುನಿಟಿ ಮೆಡಿಸಿನ್ ವಿಭಾಗದಲ್ಲಿ ಸುರಕ್ಷಿತ ಲಾಕರ್‌ನಲ್ಲಿ ಸಂಗ್ರಹಿಸಲಾಗುತ್ತದೆ ಮತ್ತು ಮಾಹಿತಿಗಾಗಿ ಪ್ರತಿಯನ್ನು ನಿಮಗೆ ನೀಡಲಾಗುತ್ತದೆ.

ಯಾವುದೇ ಹೆಚ್ಚಿನ ಸ್ಪಷ್ಟೀಕರಣಕ್ಕಾಗಿ ನೀವು ಪ್ರಧಾನ ತನಿಖಾಧಿಕಾರಿಯನ್ನು ಸಂಪರ್ಕಿಸಲು ಮುಕ್ತರಾಗಿದ್ದೀರಿ,

ಡಾ.ಐಶ್ವರ್ಯ ಲಿಲಿ ರೇ

ANNEXURE II

<u>INFORMED CONSENT-WOMEN IN KOLAR</u>

SL No:

TITLE OF THE STUDY: PREVELANCE OF TOBACCO USAGE AND ASSOCIATED FACTORS AMONG WOMEN IN RURAL KOLAR-A CROSS-SECTIONAL STUDY.

   I, the undersigned, agree to participate in this study and to undergo counselling and disclosure of my personal information and as outlined in this consent form.

 I have been read out/ explained in my local language i.e. in kannada and understand the purpose of this study and the confidential nature of the information that will be collected and disclosed during the study.

  I have had the opportunity to ask questions regarding the various aspects of this study and my questions have been answered to my full satisfaction. The information collected will be used only for research.

  I understand that I remain free to withdraw from this study at any time. Participation in this study is under my sole discretion and does not involve any cost to me.

 Subject's name and signature /thumb impression

Name and signature of witness

1.   Date:

2.

Name and signature of interviewer

Name and signature of Principal Investigator: Dr. Aiswarya Lily Ray

ನಾನು, ಕೆಳಗೆ ಸಹಿ ಮಾಡಿದ್ದೇನೆ, ಈ ಅಧ್ಯಯನದಲ್ಲಿ ಭಾಗವಹಿಸಲು ಮತ್ತು ನನ್ನ ವೈಯಕ್ತಿಕ ಮಾಹಿತಿಯ ಸಮಾಲೋಚನೆ ಮತ್ತು ಬಹಿರಂಗಪಡಿಸುವಿಕೆಗೆ ಒಳಗಾಗಲು ಮತ್ತು ಈ ಒಪ್ಪಿಗೆ ನಮೂನೆಯಲ್ಲಿ ವಿವರಿಸಿರುವಂತೆ ಒಪ್ಪಿಕೊಳ್ಳುತ್ತೇನೆ.

ನಾನು ನನ್ನ ಸ್ಥಳೀಯ ಭಾಷೆಯಲ್ಲಿ ಅಂದರೆ ಕನ್ನಡದಲ್ಲಿ ಓದಿದ್ದೇನೆ/ ವಿವರಿಸಿದ್ದೇನೆ ಮತ್ತು ಈ ಅಧ್ಯಯನದ ಉದ್ದೇಶ ಮತ್ತು ಅಧ್ಯಯನದ ಸಮಯದಲ್ಲಿ ಸಂಗ್ರಹಿಸಿದ ಮತ್ತು ಬಹಿರಂಗಪಡಿಸುವ ಮಾಹಿತಿಯ ಗೌಪ್ಯ ಸ್ವರೂಪವನ್ನು ಅರ್ಥಮಾಡಿಕೊಂಡಿದ್ದೇನೆ.

ಈ ಅಧ್ಯಯನದ ವಿವಿಧ ಅಂಶಗಳ ಬಗ್ಗೆ ಪ್ರಶ್ನೆಗಳನ್ನು ಕೇಳಲು ನನಗೆ ಅವಕಾಶವಿದೆ ಮತ್ತು ನನ್ನ ಪ್ರಶ್ನೆಗಳಿಗೆ ನನ್ನ ಪೂರ್ಣ ತೃಪ್ತಿಗೆ ಉತ್ತರಿಸಲಾಗಿದೆ. ಸಂಗ್ರಹಿಸಿದ ಮಾಹಿತಿಯನ್ನು ಸಂಶೋಧನೆಗೆ ಮಾತ್ರ ಬಳಸಲಾಗುತ್ತದೆ.

ನಾನು ಯಾವುದೇ ಸಮಯದಲ್ಲಿ ಈ ಅಧ್ಯಯನದಿಂದ ಹಿಂದೆ ಸರಿಯಲು ಮುಕ್ತನಾಗಿರುತ್ತೇನೆ ಎಂದು ನಾನು ಅರ್ಥಮಾಡಿಕೊಂಡಿದ್ದೇನೆ. ಈ ಅಧ್ಯಯನದಲ್ಲಿ ಭಾಗವಹಿಸುವಿಕೆಯು ನನ್ನ ಸ್ವಂತ ವಿವೇಚನೆಗೆ ಒಳಪಟ್ಟಿರುತ್ತದೆ ಮತ್ತು ನನಗೆ ಯಾವುದೇ ವೆಚ್ಚವನ್ನು ಒಳಗೊಂಡಿರುವುದಿಲ್ಲ.

ವಿಷಯದ ಹೆಸರು ಮತ್ತು ಸಹಿ / ಹೆಬ್ಬೆರಳಿನ ಗುರುತು

ಸಾಕ್ಷಿಯ ಹೆಸರು ಮತ್ತು ಸಹಿ

1. ದಿನಾಂಕ:

2.

ಸಂದರ್ಶಕರ ಹೆಸರು ಮತ್ತು ಸಹಿ:

ಪ್ರಧಾನ ತನಿಖಾಧಿಕಾರಿಯ ಹೆಸರು ಮತ್ತು ಸಹಿ: ಡಾ. ಐಶ್ವರ್ಯ ಲಿಲಿ ರೇ

ANNEXURE III

Proforma NO:

Village name: **Date:**

PREVALENCE OF TOBACCO and SMOKELESS TOBACCO USAGE AND ASSOCIATED FACTORS AMONG WOMEN IN RURAL KOLAR: A CROSS-SECTIONAL STUDY

Part 1: SOCIODEMOGRAPHIC PROFILE

SI NO	PARAMETERS	RESPONSE
1.	Name	
2.	Age	
3.	Religion	a) Hindu
		b) Christian
		c)Muslim
		d)Others
4	Caste	
5	Education	a) Illiterate
		b) Primary school
		c)Secondary school
		d)PUC
		e) Graduate
		f) Post graduate
6	Occupation	
7	Marital status	a) Single
		b) Married
		c)Divorced
		d)Widow
		e) Separated
		f) Stays alone
8	No of family members	
9	Monthly income in rupees	

ಪರಿವರ್ತಿತ ಕನ್ನಡ ರೂಪಾಂತರ		
SI no	ಮಾನದಂಡಗಳು	ಪ್ರತಿಕ್ರಿಯೆ
1.	ಹೆಸರು	
2.	ವಯಸ್ಸು	
3.	ಧರ್ಮ	a) ಹಿಂದೂ b) ಕ್ರೈಸ್ತ c) ಮುಸ್ಲಿಂ d) ಇತರರು
4	ಜಾತಿ	
5	ವಿದ್ಯಾಭ್ಯಾಸ	a) ಅಕ್ಷರ ಶಿ ಽ ತೆ b) ಪ್ರಾಥಮಿಕ ಶಾಲೆ c) ಮಾಧ್ಯಮಿಕ ಶಾಲೆ d) ಪಿಯುಸಿ e) ಪದವಿ f) ಸ್ನಾತಕೋತ್ತರ ಪದವಿ
6	ಉದ್ಯೋಗ	
7	ವೈವಾಹಿಕ ಸ್ಥಿತಿ	a) ಅವಿವಾಹಿತ b) ವಿವಾಹಿತ c) ವಿಚ್ಛಿದ್ರ d) ವಿಧವೆ e) ಬೇರ್ಪಟ್ಟವರು f) ಒಂಟಿಯಾಗಿ ವಾಸಿಸುವವರು
8	ಕುಟುಂಬ ಸದಸ್ಯರ ಸಂಖ್ಯೆ	
9	ಮಾಸಿಕ ಆದಾಯ (ರೂಪಾಯಿಯಲ್ಲಿ)	

ANNEXURE IV

Part 2: TOBACCO USAGE

SL NO	PARAMETERS	RESPONSE
10	Do you currently smoke tobacco?	Yes If Yes, go to Section A
		No If No, go to Section B
	SECTION A: TOBACCO USAGE	
10.1	What are the different forms of tobacco that you use?	Cigarette
		Beedi
		Chutta
		Hookah
10.2	What age did you start smoking?	18 years above
		18 years below
10.3	How often do you smoke tobacco?	a) during social gathering/less than once in 3 months
		b) more than once a week, but not daily
		c)Daily
10.4	How soon after you wake up do you usually smoke tobacco?	a) Within 5 min
		b)30 min
		c)Within 1 hour.
		d)More than 1 hour
	SECTION B: PAST HISTORY OF SMOKING	
10.5	Have You previously smoked Tobacco?	a) Yes
		b) No
	If Yes, Go to Questions below	
10.6	What are the different forms of tobacco that you have used?	a) Cigarette
		b) Beedi
		c)Chutta
		d)Hookah
10.7	How often did you start smoking tobacco?	a) during social gathering/less than once in 3 months
		b) more than once a week, but not daily
		c)Daily
10.8	How soon after you wake up did you usually smoke tobacco?	a) Within 5 min
		b)30 min
		c)Within 1 hour.
		d)More than 1 hour

	SECTION C: CESSATION OF SMOKING	
11	Have you ever tried to quit smoking?	a) Yes
		b) No
	If yes, Go to Q 11.1 and 11.2	If No,go to Q 13.1
11.1	Did you use any of the following to stop smoking?	a)Switch to Chewable form of tobacco
		b)Counselling by family members/relatives/Doctor
		d)Medications
		e)None/others
11.2	What made you think of quitting smoking?	a) Health problems
		b) Parents objection
		c)Awareness of hazards
		d)Health checkups
		e) Others
12	Were you successful in quitting tobacco?	a) Yes
		b) No
	If No, go to Q 13.1	If Yes, go to Q 13.2
13.1	What are the reasons?	a) Peer pressure/ Family problems
		b)Habitual behavior
		c)Stress relief
		d)Others
13.2	How long did you abstain from smoking tobacco?	a) < 1 week
		b) 1 week to 1 month
		c)1month to 6 months
		d)Upto 1 year
		e)> 1 year
	SECTION D: AWARENESS ON HAZARDS OF TOBACCO SMOKING	
14	What are the diseases you may be affected by Tobacco smoking?	a) Lung Cancer
		b) Heart attack
		c)Tuberculosis
		d)Asthma
		e) Stroke
		f) Do not know
15	Do you think tobacco related advertisements influence tobacco consumption?	a) Yes b) No
16	What are the sources of information that you have	a) TV/Radio/Cinema b) Books/Posters c)Parents/siblings/Friends

	regarding the ill effects of tobacco?	d)Do not know
17	Have you ever been explained about the ill effects of tobacco by any healthcare specialist?	a) Yes
		b) No
18	Are you in favor of banning tobacco smoking in public places?	a) Yes
		b) No

ಭಾಗ - 2: ತಂಬಾಕು ಉಪಯೋಗ	
ವಿವರ	ಉತ್ತರ
ನೀವು ತಂಬಾಕು ಉಪಯೋಗಿಸುತ್ತೀರಾ?	ಹೌದು / ಇಲ್ಲ
ವಿಭಾಗ ಎ: ತಂಬಾಕು ಬಳಕೆ	
ಯಾವ ರೂಪದಲ್ಲಿ ತಂಬಾಕು ಉಪಯೋಗಿಸುತ್ತೀರಾ?	) ಗುಟ್ಕಾ 2) ಪಾನ್ ತಂಬಾಕು 3) ಖೈನಿ 4) ಜರ್ದಾ 5) ಸುಣ್ಣ + ತಂಬಾಕು 6) ಇತರರು (ವಿವರಿಸಿ
ತಂಬಾಕು ಉಪಯೋಗ ಮಾಡುವ ಗಾತ್ರ	1) ದಿನಕ್ಕೆ ___ ಬಾರಿ 2) ವಾರಕ್ಕೆ ___ ಬಾರಿ 3) ತಿಂಗಳಲ್ಲಿ ___ ಬಾರಿ
ನೀವು ಏಕೆ ತಂಬಾಕು ಉಪಯೋಗ ಪ್ರಾರಂಭಿಸಿದಿರಿ?	1) ಕುತೂಹಲ 2) ಸ್ನೇಹಿತರ ಒತ್ತಾಯ 3) ಮನೆಯ ಸದಸ್ಯರ ಪ್ರತಿರೂಪ 4) ಒತ್ತಡ ನಿವಾರಣೆ 5) ಇತರರು (ವಿವರಿಸಿ) _____
ಧೂಮಪಾನ ನಿಲುಗಡೆ	
ನೀವು ತಂಬಾಕು ನಿಲ್ಲಿಸಲು ಪ್ರಯತ್ನಿಸಿದ್ದೀರಾ?	ಹೌದು / ಇಲ್ಲ
ಹೌದು / ಇಲ್ಲ	1) ಅಗಿಯಬಹುದಾದ ತಂಬಾಕಿಗೆ ಬದಲಿಸಿ
	2)ಕುಟುಂಬ ಸದಸ್ಯರು/ಸಂಬಂಧಿಕರು/ವೈದ್ಯರಿಂದ ಸಮಾಲೋಚನೆ
	ಡ3)ಔಷಧಿಗಳು
	4)ಯಾವುದೂ ಇಲ್ಲ/ಇತರರು
ತಂಬಾಕು ನಿಲ್ಲಿಸಲು ಕಾರಣ	1) ಆರೋಗ್ಯ ಸಮಸ್ಯೆಗಳು 2) ಕುಟುಂಬದ ಒತ್ತಡ 3) ಹಣದ ಕೊರತೆ 4) ಇತರರು (ವಿವರಿಸಿ)__
ನೀವು ಈಗ ತಂಬಾಕು ನಿಲ್ಲಿಸಿದ್ದೀರಾ?	ಹೌದು / ಇಲ್ಲ
If No, go to Q 13.1	If Yes, go to Q 13.2

ಕಾರಣಗಳೇನು?	1) ಗೆಳೆಯರ ಒತ್ತಡ/ ಕೌಟುಂಬಿಕ ಸಮಸ್ಯೆಗಳು
	2) ಅಭ್ಯಾಸದ ನಡವಳಿಕೆ
	3) ಒತ್ತಡ ನಿವಾರಣೆ
	4)ಇತರೆ
ನೀವು ಎಷ್ಟು ದಿನ ತಂಬಾಕು ಸೇವನೆಯಿಂದ ದೂರವಿದ್ದಿರಿ?	a) < 1 ವಾರ
	b) 1 ವಾರದಿಂದ 1 ತಿಂಗಳು
	c) 1 ತಿಂಗಳಿನಿಂದ 6 ತಿಂಗಳು
	d) 1 ವರ್ಷದವರೆಗೆ
	e)> 1 ವರ್ಷ
ತಂಬಾಕು ಕುರಿತು ಜಾಗೃತಿ	
ಯಾವ ಆರೋಗ್ಯ ಸಮಸ್ಯೆಗಳ ಬಗ್ಗೆ ನಿಮಗೆ ತಿಳಿದಿದೆ?	1) ಮೌಖಿಕ ಕ್ಯಾನ್ಸರ್ 2) ಹೃದಯ ಸಂಬಂಧಿ ಕಾಯಿಲೆಗಳು 3) ಉಸಿರಾಟದ ಸಮಸ್ಯೆಗಳು 4) ಇತರರು
ತಂಬಾಕು ಉಪಯೋಗದಿಂದ ಆರೋಗ್ಯ ಸಮಸ್ಯೆಗಳು ಉಂಟಾಗುತ್ತವೆ ಎಂದು ನಿಮಗೆ ತಿಳಿದಿದೆಯೇ	ಹೌದು / ಇಲ್ಲ
ತಂಬಾಕಿನ ದುಷ್ಪರಿಣಾಮಗಳ ಕುರಿತು ನಿಮ್ಮ ಬಳಿ ಯಾವ ಮಾಹಿತಿಯ ಮೂಲಗಳು ಇವೆ?	a)ಟಿವಿ/ರೇಡಿಯೋ/ಸಿನೆಮಾ b)ಪುಸ್ತಕಗಳು/ಪೋಸ್ಟರ್‌ಗಳು c)ಪೋಷಕರು/ಒಡಹುಟ್ಟಿದವರು/ಸ್ನೇಹಿತರು d)ಗೊತ್ತಿಲ್ಲ
ತಂಬಾಕಿನ ದುಷ್ಪರಿಣಾಮಗಳ ಬಗ್ಗೆ ಯಾವುದೇ ಆರೋಗ್ಯ ತಜ್ಞರು ನಿಮಗೆ ವಿವರಿಸಿದ್ದಾರೆಯೇ?	ಎ) ಹೌದು
	ಬಿ) ಇಲ್ಲ
ಸಾರ್ವಜನಿಕ ಸ್ಥಳಗಳಲ್ಲಿ ತಂಬಾಕು ಸೇವನೆಯನ್ನು ನಿಷೇಧಿಸುವುದರ ಪರವಾಗಿ ನೀವು ಇದ್ದೀರಾ?	ಎ) ಹೌದು
	ಬಿ) ಇಲ್ಲ

ANNEXURE V

Part 3: SMOKELESS TOBACCO USAGE

	PARAMETERS	RESPONSE
19	Do you currently use smokeless tobacco? - Yes/ No If Yes, go to Section E If No, go to Section F	
	SECTION E: SMOKELESS TOBACCO USAGE	
20.1	What are the different forms of smokeless tobacco that you use?	a) Betel quid with tobacco
		b) Khaini/tobacco lime mixture
		c)Gutkha/areca nut mixture
		d)Pan masala/betel quid without tobacco/nasal snuff
20.2	What age did you start using smokeless tobacco?	a)18 years above
		b)18 years below
20.3	How often do you use smokeless tobacco?	a) during social gathering/less than once in 3months
		b) more than once a week, but not daily
		c)Daily
20.4	How soon after you wake up do you usually use smokeless tobacco?	a)Within 5 min
		b)30 min
		c)Within 1 hour
		d)More than 1 hour
	SECTION F: PAST HISTORY OF SMOKELESS TOBACCO	
20.5	Have you previously used smokeless Tobacco?	a) Yes
		b) No
20.6	If yes, what are the different forms of smokeless tobacco that you have used?	a) Betel quid with tobacco
		b) Khaini/tobacco lime mixture
		c)Gutkha/areca nut mixture
		d)Pan masala/betel quid without tobacco/nasal snuff
20.7	How often did you use smokeless tobacco?	a) during social gathering/less than once in 3months
		b) more than once a week, but not daily
		c)Daily
20.8		a) Within 5 min
		b)30 min

	How soon after you wake up did you usually use smokeless tobacco?	c)Within 1 hour
		d)More than 1 hour
SECTION G: CESSATION OF SMOKELESS TOBACCO	

No.	Question	Response
21	Have you ever tried to quit smokeless tobacco?	a) Yes
		b) No
	If yes, go to Q 21.1 and 21.2	If no, go to Q 22.1
21.1	Did you use any of the following to stop smokeless tobacco?	a) Nicotine patch/gum
		b) Indulge in recreational activities
		c)Counselling by family/relatives/doctor
		d)Medications
		e) None
21.2	What made you think of quitting smokeless tobacco?	a) Health problems
		b) Parents objection
		c)Awareness of hazards
		d)Health checkups
		e) Others
22	Were you successful in quitting smokeless tobacco?	a) Yes
		b) No
	If no, go to Q 22.1	If yes, go to Q 22.2
22.1	What are the reasons?	a) Peer pressure/ Family problems
		b) Habitual behavior
		c)Stress relief
		d)Others
22.2	How long did you abstain from smokeless tobacco?	a) < 1 week
		b) 1 week to 1 month
		c) 1 month to 6 months
		d)Upto 1 year
		e)> 1 year
SECTION H: AWARENESS ON HAZARDS OF SMOKELESS TOBACCO	
23	What are the diseases you may be affected by using Smokeless Tobacco?	a) Oral Cancer
		b) Heart attack
		c)Stillbirth/preterm
		e) Nicotine poisoning
		f) Stroke
		g) Do not know

24	Do you think tobacco related advertisements influence smokeless tobacco consumption?	a) Yes
		b) No
25	What are the sources of information that you have regarding the ill effects of smokeless tobacco?	a) TV/Radio/Cinema
		b) Books/Posters
		c)Parents/siblings/Friends
		d)Do not know
26	Have you ever been explained about the ill effects of tobacco by any healthcare specialist?	a) Yes
		b) No
27	Are you in favour of banning smokeless tobacco in public places?	a) Yes
		b) No

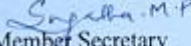|	ನಿಯತಾಂಕಗಳು	RESPONSE
19	ನೀವು ಪ್ರಸ್ತುತ ಹೊಗೆರಹಿತ ತಂಬಾಕು ಬಳಸುತ್ತೀರಾ? - ಹೌದು/ಇಲ್ಲ ಹೌದು ಎಂದಾದರೆ, ವಿಭಾಗ E ಗೆ ಹೋಗಿ ಇಲ್ಲ ಎಂದಾದರೆ, ವಿಭಾಗ F ಗೆ ಹೋಗಿ	
SECTION E: SMOKELESS TOBACCO USAGE		
20.1	ನೀವು ಬಳಸುವ ಹೊಗೆರಹಿತ ತಂಬಾಕಿನ ವಿವಿಧ ರೂಪಗಳು ಯಾವುವು?	a) ತಂಬಾಕಿನೊಂದಿಗೆ ವೀಳ್ಯದೆಲೆ ರಸ
		b) ಖೈನಿ/ತಂಬಾಕು ಸುಣ್ಣದ ಮಿಶ್ರಣ
		c)ಗುಟ್ಕಾ/ಅಡಿಕೆ ಮಿಶ್ರಣ
		d)ತಂಬಾಕು/ಮೂಗಿನ ನಶ್ಯವಿಲ್ಲದ ಪಾನ್ ಮಸಾಲ/ವೀಳ್ಯದೆಲೆ ರಸ
20.2	ನೀವು ಯಾವ ವಯಸ್ಸಿನಲ್ಲಿ ಹೊಗೆರಹಿತ ತಂಬಾಕನ್ನು ಬಳಸಲು ಪ್ರಾರಂಭಿಸಿದ್ದೀರಿ?	ಎ) 18 ವರ್ಷ ಮೇಲ್ಪಟ್ಟು
		ಬಿ) 18 ವರ್ಷ ಕೆಳಗೆ
20.3	ನೀವು ಎಷ್ಟು ಬಾರಿ ಹೊಗೆರಹಿತ ತಂಬಾಕನ್ನು ಬಳಸುತ್ತೀರಿ?	a) ಸಾಮಾಜಿಕ ಕೂಟದ ಸಮಯದಲ್ಲಿ/3 ತಿಂಗಳಿಗೊಮ್ಮೆಗಿಂತ ಕಡಿಮೆ
		b) ವಾರಕ್ಕೊಮ್ಮೆಗಿಂತ ಹೆಚ್ಚು, ಆದರೆ ಪ್ರತಿದಿನವಲ್ಲ
		c) ಪ್ರತಿದಿನ
20.4	ನೀವು ಎದ್ದ ನಂತರ ಎಷ್ಟು ಬೇಗ ಸಾಮಾನ್ಯವಾಗಿ ಹೊಗೆರಹಿತ ತಂಬಾಕನ್ನು ಬಳಸುತ್ತೀರಿ?	a)5 ನಿಮಿಷದೊಳಗೆ
		b)30 ನಿಮಿಷದೊಳಗೆ
		c)1 ಗಂಟೆಯೊಳಗೆ
		d)1 ಗಂಟೆಗಿಂತ ಹೆಚ್ಚು
ಧೂಮಪಾನ ರಹಿತ ತಂಬಾಕಿನ ಹಿಂದಿನ ಇತಿಹಾಸ		
20.5	Have you previously used smokeless Tobacco?	ನೀವು ಈ ಹಿಂದೆ ಹೊಗೆರಹಿತ ತಂಬಾಕನ್ನು ಬಳಸಿದ್ದೀರಾ?
20.6	ಹೌದು ಎಂದಾದರೆ, ನೀವು ಬಳಸಿದ ಹೊಗೆರಹಿತ ತಂಬಾಕಿನ ವಿವಿಧ ರೂಪಗಳು ಯಾವುವು?	) ತಂಬಾಕಿನೊಂದಿಗೆ ವೀಳ್ಯದೆಲೆ ರಸ
		b) ಖೈನಿ/ತಂಬಾಕು ಸುಣ್ಣದ ಮಿಶ್ರಣ

		c)ಗುಟ್ಕಾ/ಅಡಿಕೆ ಮಿಶ್ರಣ
		d)ತಂಬಾಕು/ಮೂಗಿನ ನಶ್ಯವಿಲ್ಲದ ಪಾನ್ ಮಸಾಲ/ವೀಳ್ಯದೆಲೆ ರಸ
20.7	ನೀವು ಎಷ್ಟು ಬಾರಿ ಹೊಗೆರಹಿತ ತಂಬಾಕನ್ನು ಬಳಸಿದಿರಿ?	a) ಸಾಮಾಜಿಕ ಕೂಟದ ಸಮಯದಲ್ಲಿ / 3 ತಿಂಗಳಿಗೊಮ್ಮೆಗಿಂತ ಕಡಿಮೆ
		b) ವಾರಕ್ಕೊಮ್ಮೆಗಿಂತ ಹೆಚ್ಚು ಬಾರಿ, ಆದರೆ ಪ್ರತಿದಿನವಲ್ಲ
		c) ಪ್ರತಿದಿನ
20.8	ನೀವು ಎಚ್ಚರವಾದ ನಂತರ ಎಷ್ಟು ಬೇಗ ಸಾಮಾನ್ಯವಾಗಿ ಹೊಗೆರಹಿತ ತಂಬಾಕು ಬಳಸುತ್ತೀರಿ?	a) 5 ನಿಮಿಷದೊಳಗೆ
		b)30 ನಿಮಿಷದೊಳಗೆ
		c)1 ಗಂಟೆಯೊಳಗೆ
		d)1 ಗಂಟೆಗಿಂತ ಹೆಚ್ಚು
	ಧೂಮಪಾನ ರಹಿತ ತಂಬಾಕು ಸೇವನೆಯನ್ನು ನಿಲ್ಲಿಸುವುದು	
21	ನೀವು ಎಂದಾದರೂ ಹೊಗೆರಹಿತ ತಂಬಾಕನ್ನು ತ್ಯಜಿಸಲು ಪ್ರಯತ್ನಿಸಿದ್ದೀರಾ?	1) ಹೌದು
		2) ಇಲ್ಲ
	ಹೌದು ಎಂದಾದರೆ, Q 21.1 ಮತ್ತು 21.2 ಕ್ಕೆ ಹೋಗಿ.	ಇಲ್ಲವಾದರೆ, Q 22.1 ಗೆ ಹೋಗಿ.
21.1	ಹೊಗೆರಹಿತ ತಂಬಾಕನ್ನು ನಿಲ್ಲಿಸಲು ನೀವು ಈ ಕೆಳಗಿನ ಯಾವುದನ್ನಾದರೂ ಬಳಸಿದ್ದೀರಾ?	ಎ) ನಿಕೋಟಿನ್ ಪ್ಯಾಚ್/ಗಮ್
		ಬಿ) ಮನರಂಜನಾ ಚಟುವಟಿಕೆಗಳಲ್ಲಿ ತೊಡಗಿಸಿಕೊಳ್ಳಿ
		ಸಿ) ಕುಟುಂಬ/ಸಂಬಂಧಿಕರು/ವೈದ್ಯರಿಂದ ಸಮಾಲೋಚನೆ
		ಡಿ)ಔಷಧಿಗಳು
		e)None
21.2	ಹೊಗೆರಹಿತ ತಂಬಾಕನ್ನು ತ್ಯಜಿಸುವ ಬಗ್ಗೆ ನೀವು ಏನು ಯೋಚಿಸುವಂತೆ ಮಾಡಿತು?	ಎ) ಆರೋಗ್ಯ ಸಮಸ್ಯೆಗಳು
		ಬಿ) ಪೋಷಕರ ಆಕ್ಷೇಪಣೆ
		ಸಿ)ಅಪಾಯಗಳ ಅರಿವು
		ಡಿ)ಆರೋಗ್ಯ ತಪಾಸಣೆಗಳು
		ಇ) ಇತರೆ
22	ನೀವು ಹೊಗೆರಹಿತ ತಂಬಾಕನ್ನು ತ್ಯಜಿಸುವಲ್ಲಿ ಯಶಸ್ವಿಯಾಗಿದ್ದೀರಾ?	ಎ) ಹೌದು
		ಬಿ) ಇಲ್ಲ

	ಇಲ್ಲವಾದರೆ, Q 22.1 ಗೆ ಹೋಗಿ.	ಹೌದು ಎಂದಾದರೆ, Q 22.2 ಗೆ ಹೋಗಿ.
22.1	ಕಾರಣಗಳೇನು?	ಎ) ಗೆಳೆಯರ ಒತ್ತಡ/ ಕೌಟುಂಬಿಕ ಸಮಸ್ಯೆಗಳು
		ಬಿ) ಅಭ್ಯಾಸದ ನಡವಳಿಕೆ
		ಸಿ) ಒತ್ತಡ ನಿವಾರಣೆ
		ಡಿ)ಇತರೆ
22.2	ನೀವು ಎಷ್ಟು ದಿನ ಹೊಗೆರಹಿತ ತಂಬಾಕಿನಿಂದ ದೂರವಿದ್ದಿರಿ?	a) < 1 ವಾರ
		b) 1 ವಾರದಿಂದ 1 ತಿಂಗಳವರೆಗೆ
		c) 1 ತಿಂಗಳಿನಿಂದ 6 ತಿಂಗಳವರೆಗೆ
		d) 1 ವರ್ಷದವರೆಗೆ
		e)> 1 ವರ್ಷ
	ಹೊಗೆರಹಿತ ತಂಬಾಕಿನ ಅಪಾಯಗಳ ಕುರಿತು ಜಾಗೃತಿ	
23	ಹೊಗೆರಹಿತ ತಂಬಾಕು ಬಳಸುವುದರಿಂದ ನಿಮಗೆ ಯಾವ ರೋಗಗಳು ಬರಬಹುದು?	ಎ) ಬಾಯಿಯ ಕ್ಯಾನ್ಸರ್
		ಬಿ) ಹೃದಯಾಘಾತ
		ಸಿ)ಮೃತ ಜನನ/ಅಕಾಲಿಕ ಜನನ
		ಇ) ನಿಕೋಟಿನ್ ವಿಷ
		ಎಫ್) ಪಾರ್ಶ್ವವಾಯು
		ಜಿ) ತಿಳಿದಿಲ್ಲ
24	ತಂಬಾಕು ಸಂಬಂಧಿತ ಜಾಹೀರಾತುಗಳು ಹೊಗೆರಹಿತ ತಂಬಾಕು ಸೇವನೆಯ ಮೇಲೆ ಪ್ರಭಾವ ಬೀರುತ್ತವೆ ಎಂದು ನೀವು ಭಾವಿಸುತ್ತೀರಾ?	ಎ) ಹೌದು
		ಬಿ) ಇಲ್ಲ
25	ಹೊಗೆರಹಿತ ತಂಬಾಕಿನ ದುಷ್ಪರಿಣಾಮಗಳ ಕುರಿತು ನಿಮ್ಮಲ್ಲಿರುವ ಮಾಹಿತಿಯ ಮೂಲಗಳು ಯಾವುವು?	1)ವಿ/ರೇಡಿಯೋ/ಸಿನೆಮಾ
		2) ಪುಸ್ತಕಗಳು/ಪೋಸ್ಟರ್‍ಗಳು
		3)ಪೋಷಕರು/ಒಡಹುಟ್ಟಿದವರು/ಸ್ನೇಹಿತರು
		4)ಗೊತ್ತಿಲ್ಲ
26	ತಂಬಾಕಿನ ದುಷ್ಪರಿಣಾಮಗಳ ಬಗ್ಗೆ ಯಾವುದೇ ಆರೋಗ್ಯ ತಜ್ಞರು ನಿಮಗೆ ವಿವರಿಸಿದ್ದಾರೆಯೇ?	ಎ) ಹೌದು
		ಬಿ) ಇಲ್ಲ
27	ಸಾರ್ವಜನಿಕ ಸ್ಥಳಗಳಲ್ಲಿ ಹೊಗೆರಹಿತ ತಂಬಾಕನ್ನು ನಿಷೇಧಿಸುವುದರ ಪರವಾಗಿ ನೀವು ಇದ್ದೀರಾ?	ಎ) ಹೌದು
		ಬಿ) ಇಲ್ಲ

ANNEXURE V : GANTT CHART

STEP	ACTIVITY	TIME PERIOD										
		2023			2024				2025			
		Feb-march	April	May-June	July	Aug-September	October-November	December	January	February	March	April
1	Topic search, selection & synopsis writing	■										
2	Synopsis submission		■									
3	Approval by IEC*			■								
4	Proforma Preparation and validation				■							
5	Pilot project					■						
6	Review of literature	■	■	■	■	■	■	■	■			■
7	Data collection					■	■	■				
8	Data analysis								■	■		
9	Dissertation writing								■	■	■	
10	Submission of dissertation											■

ANNEXRE VII

Members

1. Dr. D.E.Gangadhar Rao, (Chairman) Prof. & HOD of Zoology, Govt. Women's College, Kolar

2. **Dr. Sujatha.M.P, (Member Secretary),** Prof. Department of Anesthesia, SDUMC

3. Mr. Gopinath Paper Reporter, Samyukth Karnataka

4. Mr. G. K. Varada Reddy Advocate, Kolar

5. Dr. Hariprasad S. Prof. Dept, of Orthopedics, SDUMC

6. Dr. Abhinandana R Asst. Prof. Dept. of Forensic Medicine, SDUMC

7. Dr. Ruth Sneha Chandrakumar Assoc. Prof. Dept. of Psychiatry, SDUMC

8. Dr. Usha G Shenoy, Asst. Prof., Dept. of Allied Health & Basic Sciences SDUAHER

9. Dr. Munilakshmi U Asst. Prof. Dept. of Biochemistry, SDUMC

10. Dr.D.Srinivasan, Assoc. Prof. Dept. of Surgery, SDUMC

11. Dr.Shilpa M D Assoc. Prof. Dept. of Pathology, SDUMC

No. DMC/KLR/IEC/13/ 2023-24   Date: 10/04/2023

PRIOR PERMISSION TO START OF STUDY

The Institutional Ethics Committee of Sri Devaraj Urs Medical College, Tamaka, Kolar has examined and unanimously approved the synopsis entitled **"Prevelance Of Tobacco Usage And Associated Factors Among Women In Rural Kolar- A Cross Sectional Study"** being investigated by **Dr.Aiswarya Lily Ray & Dr.Prasanna Kamath** in the Department of Community Medicine at Sri Devaraj Urs Medical College, Tamaka, Kolar. **Permission is granted by the Ethics Committee to start the study.**

Member Secretary
Member Secretary
Institutional Ethics Committee
Sri Devaraj Urs Medical College
Tamaka, Kolar.

Chairman
CHAIRMAN
Institutional Ethics Committee
Sri Devaraj Urs Medical College
Tamaka, Kolar

ANNEXURE VIII

Conducting interview to rural women in devarayasamudra to assess smokeless tobacco usage.

ANNEXURE IX

DEFINITION OF VARIABLES

Operational definition

Age: The age was recorded as stated by the subject.

Rural: Areas characterized by lower population density and small settlements with a significant proportion of the population engaged in agriculture or other primary sector activities. For the purpose of this study, a rural area is defined as any village or town with a population of less than 10,000 people. Participants residing in gram panchayats, villages, or other rural areas as per government records. [65]

Chewable Tobacco:

- **Never user/ non users**: not tried tobacco any time in life.
- **Ever user**: should have consumed tobacco at least once in her life time.
- **Current user**: history of consuming tobacco within 30days preceding the survey
- **Previous users**: history of consuming tobacco but have not used any tobacco products in the past 30 days. bhavya

Education: The highest level of formal education completed by the participant.

Categories

Illiterate: Participants who cannot read or write.

Primary: Participants who have completed up to 5th grade**.**

Secondary: Participants who have completed up to 10th grade**.**

PUC (Pre-University Course): Participants who have completed up to 12th grade.

Graduate: Participants who have completed a bachelor's degree. major initiatives.[66]

Modified B G Prasad classification (2024)

Definition: The BG Prasad Classification is a socioeconomic classification system used in India, which is updated periodically to account for inflation and changes in the cost of living. It categorizes individuals into socioeconomic classes based on their monthly per capita income.

Categories (Updated to October 2024):

Social class	Socioeconomic class	Monthly income (in rupees)
Class 1	Upper class	9098 and above
Class 2	Upper middle class	4549-9097
Class 3	Middle class	2729-4548
Class 4	Lower middle class	1364-2728
Class 5	Lower class	<1364

Criteria for Classification:

• **Monthly Per Capita Income:** The total monthly income of the household divided by the number of members in the household**.**

 • **Income Calculation:** Includes all sources of income for all household members.

• The CPI directly impacts the BG Prasad Classification as it affects the cost of living. Inflation, as measured by the CPI, can change the real value of income. Periodic updates to the BG Prasad Classification account for these changes to maintain accurate classification. [67]

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