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"A Cross-Sectional Study To Assess The Prevalence Of Tobacco Consumption And Associated Factors Among Middle Age Adults Residing In Rural Ares Of Bagalkot"

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ABSTRACT

Background: Tobacco use a major public health issue, contributing significantly to chronic diseases and premature mortality. While studies often focus on youth and the elderly, middle-aged adults represent a crucial yet under-researched group, particularly in rural areas. This population faces increased risks due to prolonged exposure and cumulative health effects of tobacco use. In rural settings, tobacco consumption is shaped by cultural norms, socioeconomic status, and limited healthcare access. Many middle-aged adults begin using tobacco early and continue due to stress, habit, or social acceptance. Furthermore, weak enforcement of tobacco control policies in rural communities makes cessation efforts difficult. Understanding the prevalence and determinants of tobacco use in this demographic is essential for developing targeted interventions and reducing long-term health impacts**.**

Methods: A total of 399 participants residing in Pattadakal, Bagalkot, were selected using a convenient sampling technique. Data on tobacco consumption were collected through a structured questionnaire developed by the researcher. The Chi-square test was applied to determine the relationship between tobacco use and socio-demographic variables.

Results: Findings revealed a significant association between Gender (χ^2=19.49, p=0.000) and Religion (χ^2=10.194, p=0.017) with tobacco use. However, Education (p=0.957), Marital status (p=0.278), Income (p=0.344), Family type (p=0.059), and awareness of harmful effects (p=0.713) showed no significant relationship.

Conclusion: The study concludes that tobacco consumption among middle-aged adults in rural areas is primarily influenced by socio-cultural factors, particularly gender and religion, rather than educational or economic status. Tailored awareness programs and culturally sensitive interventions are needed to reduce tobacco use and its health consequences in these communities.

Keywords: Tobacco consumption, Middle age adults, Prevalence, Cross Sectional study, Risk Factors

Introduction

Tobacco usage is a major risk factor for Non Communicable Diseases (NCD's), but it is also a preventable cause of death and morbidity. [1] The World Health Organization (WHO) reports that tobacco smoking causes 8 million deaths each year, with direct smokes accounting for 6 million. Tobacco smoking has been linked to several types of cancer chronic obstructive pulmonary disease and Lung illness. [2] The harmful effect of tobacco smoking are widely known, but through research on tobacco use pattern in older population-particularly among middle aged and older women in low and middle aged and older women in low and middle income nations like India is severely lacking. [3]

According to predictions, the incidence of smoking would lies to 18% in Africa by 2025 even among comparable Nations in sub-sahalan Africa, smoking rates differed greatly. Countries in Africa eastern and southern regions have greater smoking rates. A part from the direct illness and mortality it causes to its uses, secondhand smoke is responsible for over half a billion deaths worldwide. [4] Cultural and social status, parental smoking, psychological factors (such as gender and parental divorce), and interacting with smokes are all factors linked to tobacco use among young individual in order to create to tobacco focused treatments that are more successful in South Africa, a deep comprehension of the epidemiology of tobacco smoking and behavior among adolescent and young adults is necessary. [5]

Substance abuse is a serious risk to the social, economic and health well being of families, communities and countries. Harmful substance use, namely smoking and chewing tobacco, is on the rise at a starting rate, eighty 1.3 billion people-live in low and middle income nations. Poor health consequence can result from behaviors of young adults are more likely to engage in, such as smoking, binge drinking, drug use, risky sexual conduct, and unhealthy eating habits, factors include peer pressure, academic stress, neglect, abuse, family or social pressure including family disputes, nuclease households, etc. [6] Health professionals plays on important role in reducing tobacco use by teaching their patients about its risk and serving as role models for the general public. Their engagement in preventive and cessation counseling is critical to lowering tobacco-related fatalities. However, studies show that smoking health care personnel are less effective at persuading people to quit. [7]

MATERIALS AND METHODS

Study design- A community-based cross-sectional study will be conducted to assess the prevalence of tobacco consumption and its associated factors among middle aged adults.

Study setting-The study was held at; Pattadkall village, Taluka Badami, Bagalkot district. Pattadkal village is located at a distance of 45.4 kilometers from Bagalkot. The population of Pattadkal is 2573.

Sample size calculation: By using Cochran's formula; data for calculating sample size was used from the findings of the pilot study outcome variables.

Sample size = Z value^2 *SD^2/d^2.

Where, Z- is the critical value at 5% level of significant, SD-is the Standard deviation, d-is the margin of error.

Variables- Tobacco consumption status, prevalence of tobacco consumption, associated factors

Process of Data collection- Data collection was carried out from 08 August 2024 to 01 September 2024 in Pattadkal, Badami, Bagalkot, India. Data was collected from middle age adults through convenient method. Before enrolment of subjects and data collection, formal authorization was obtained from the Principal of the nursing institution and Gram Panchayat, of concerned villages. The study was explained to participants on paper, consent was taken from them. A structured questionnaire was given to participants, who were able to read and write to participants, who cannot read or write English or Kannada, the researcher read question and asked them to mark their options.

Participants- In the present study, participants were mid adults of 40-60 years.

Inclusion criteria

- Individual's age about 40-60 years they are residing in the selected area of pattadkal for at least one year.
- Participate are willing in the study and provide informed consent.

Exclusion criteria

- Individuals with severe illness or cognitive impairment that participation
- Those who refuse to provide informed consent.

Statistical Analysis- Information was analyzed using SPSS (Statistical package for the social science). Data were entered in an MS excel sheet and then transferred to SPSS. Data was organized and explained using descriptive and inferential analysis to find out the association between variables.

Ethical clearance: A certified of ethical permission was obtained from the ethical committee of the Department of Community Health Nursing, BES Bagalkot College of Nursing, Bagalkot, Karnataka, India. 26/12/2024(BES-IEC-2024-25-14)

Table1: Final result table with key statistics including frequency, chi-square value, and p-value.

Factor	Does it affect tobacco use?	Consumes Tobacco(%)	Does Not Consume (%)	p-Value	Significance
Gender (Male vs Female)	Yes, male consume more	Male: 55% Female: 32%	Male:45% Female: 68%	0.000	Significant
Religion(Hindu, Muslim, Others)	Yes, religions affects consumptions	Hindu: 23.8% Muslim: 41.6% Christian:16.2% Other: 18.4%	Hindu:13.1% Muslim: 51.4% Christian: 12.6% Other: 22.9%	0.017	significant
Education (Different levels)	No effect	Level1: 46.6% Level2: 44.6% Level3: 50.0%	Level1: 53.4% Level2: 55.4% Level3: 50.0%	0.957	Not significant
Marital Status (Single, Married, Divorced)	No effect	Married: 44.6% Unmarried:54.8% Divorced: 43.5%	Married: 55.4% Unmarried: 45.2% Divorced:56.5	0.278	Not significant
Income (Different salary levels)	No effect	Varies across income groups	Varies across income groups	0.344	Not significant
Family Type (Nuclear, Joint, Extended)	No effect	Nuclear: 43.6% Joint: 49.1% Extended: 70.0%	Nuclear:56.4% Joint: 50.9% Extended: 30.0%	0.059	Not significant
Awareness of Harmful Effects	No effect	Yes: 46.1% No: 50.0%	Yes: 53.9% No: %0.0%	0.713	Not significant

Social demography area : The study analyzed the association between various socio-demographic factors and tobacco use among participants. The results revealed that gender and religion significantly influenced tobacco consumption, while other factors such as education, marital status, income, family type, and awareness of harmful effects showed no significant association.

Table1: Final result table with key statistics including frequency, chi-square value, and p-value. In this table the result is mentioned as including frequency, chi square and P value of tobacco consumption individual associated factors with demographic area. In gender, the findings indicated that males (55%) were more likely to consume tobacco compared to females (32%), and the difference was found to be statistically significant ($p = 0.000$). Religion also showed a significant effect ($p = 0.017$). Tobacco consumption varied among religious groups, with the highest rates among Muslims (41.6%), followed by Hindus (23.8%), Christians (16.2%), and others (18.4%). The difference could be attributed to variations in cultural practices, religious restrictions, and lifestyle habits within different faiths.

Other variables did not show a statistically significant relationship with tobacco use. Education level ($p = 0.957$) had no effect, indicating that awareness or educational attainment did not necessarily prevent tobacco

use. Similarly, Marital status (p = 0.278) and income level (p = 0.344) did not influence tobacco consumption, suggesting that tobacco use is not restricted to any particular economic or social group. Although individuals from extended families showed a higher rate of tobacco use (70%), the relationship between family type and tobacco use was not significant (p = 0.059).

Lastly, awareness of harmful effects did not significantly impact tobacco consumption (p = 0.713). This finding highlights a concerning gap between knowledge and behavior, indicating that awareness alone may not be sufficient to deter tobacco use. Overall, gender and religion emerged as key determinants, while other factors showed minimal influence on tobacco consumption patterns**.**

RESULTS

The study revealed a significant link between gender and tobacco use, with males (55%) consuming more than females (32%) (X2 = 19.49, p = 0.000). However, education level showed no table impact (X2 = 0.087, p = 0.957). While unmarried individuals had a higher consumption rate (54.8%) than married (44.6%) and divorced (43.5%) individuals, the association was not statistically significant (X2 = 2.562, p = 0.278). Religion played a key role, with the highest tobacco use among Muslim (41.6%), followed by Hindus (23.8%), Christians (16.2%), and other groups (18.4%) (X2 = 10.194, p = 0.017). Income level did not significantly influence tobacco consumption (X2 = 12.268, p = 0.344). Family structure showed a near-significant impact, with tobacco use highest in extended families (70%), compared to nuclear (43.6%) and joint families (49.1%) (X2 = 5.647, p = 0.059). Additionally, awareness of tobacco's harmful effects did not significantly reduce usage (X2 = 0.136, p = 0.713). These results highlight the need for targeted interventions, particularly for high-risk groups such as males, specific religious communities, and those in nuclear family settings**.**

DISCUSSION

The study by Krishna Prasad, Mandara Shetty, Lauren Edward, Claudia Kanitscheider, and Felix Marczykowski examines Japan's changing tobacco landscape, where heated tobacco products (HTPs) are rising as cigarette smoking declines. Findings show HTPs do not lead to traditional smoking; users mainly adopt them for perceived harm reduction rather than quitting. While the methodology strengthens reliability, reliance on self-reported data may cause bias. The study highlights Japan's shift toward dual use of cigarettes and HTPs and calls for further research on their long-term health effects.

The study by Manik Halder, Nuruzzaman Kasemi, and Malasree Majumder using Longitudinal Aging Study in India (LASI) data found that 18.2% of women aged 45 and above use tobacco. Consumption was higher among widowed, separated, less-educated, low-income, and rural women, particularly those with poor health or depression. The study concludes that tobacco use among older Indian women is a major health issue, emphasizing the need for targeted awareness programs and preventive strategies for vulnerable groups.

The study by Shama Razzaq, Muhammad Luqman Farrukh Nagi, Unsa Athar, Tahseen Kazmi, Thamer Alslamah, Sana Naz, and Adil Abalkhail examined tobacco use in Lahore's urban slums, revealing high consumption despite control measures. About 10.5% smoked tobacco, and 8.6% used smokeless forms, mainly due to unemployment, poor media exposure, and weak enforcement of health warnings. The authors recommend stronger awareness campaigns, stricter regulations, and integration of cessation services into healthcare. Another study found that 27.1% of medical students used tobacco, with higher rates among males (34.7%) and hostel residents (33.2%), often linked to stress and peer influence. Despite awareness, many

continued use, while parental disapproval encouraged quitting, emphasizing the need for stress management and educational interventions.

The study revealed a high prevalence of tobacco use among adult males in rural Bareilly, with 50.5% identified as users—45.75% current and 4.75% past. Smokeless tobacco (19.5%), mainly chewing forms, was more common than smoked (16.5%). Consumption spanned all socioeconomic levels, with 77.77% of users from higher economic classes, challenging the belief that it's limited to low-income groups. The highest use (31%) occurred among those aged 15–24 years. The study concludes that strong awareness programs, community-based initiatives, and strict enforcement of tobacco control policies are essential to prevent early initiation and reduce overall tobacco-related health risks.

The study conducted in Amarapur village, Uttar Pradesh, revealed a high prevalence of tobacco use among men, with 36.1% smoking and 42.6% using smokeless forms such as bidis, hookah, gutka, and paan masala. Smoking was most common among 25–34-year-olds (48%), while smokeless use peaked in the 35–44 age group (61.8%). Enjoyment and stress relief were main reasons for use, though many were unaware of health risks. Age, marital status, and number of children were significantly associated with tobacco use, while education, religion, and occupation showed no link. The study concludes that despite awareness, use remains high, emphasizing the need for stronger education, family support, and enforcement of anti-tobacco policies to curb tobacco consumption in rural populations.

CONCLUSION

The study concludes that tobacco consumption among middle-aged adults in rural areas is primarily influenced by socio-cultural factors, particularly gender, family structure and religion. Tailored awareness programs and culturally sensitive interventions are needed to reduce tobacco use and its health consequences in these communities. The study was revels the major problems among the gender and religion are influenced the tobacco there is no significant associated factors among Education, Marital status, Income. This imply minor influence on overall cultural and social factors play a key role, emphasizing the need for targeted interventions addressing these determinants to effectively reduce tobacco consumption.

Recommendations: By this study, I strongly recommend to make this type of study more to avoid all from of tobacco consumption including smoking and smokeless tobacco.

1. Conduct similar studies to curb all forms of tobacco use.
2. Develop culturally sensitive awareness campaigns addressing gender and religion.
3. Involve local leaders and communities to promote tobacco-free lifestyles.
4. Enforce tobacco control laws strictly, especially in rural areas.
5. Provide accessible cessation programs and counseling at primary health centers.
6. Strengthen family support systems to reduce tobacco use.
7. Carry out regular surveys to track trends and assess interventions.

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