Dissertation training

At

International Institute of Health Management research, Delhi

'Prevalence and patterns of tobacco use and its association with perceived stress among young adults in India'

By

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PG/22/073

Under the guidance of

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PGDM (Hospital and Health Management)

2022-24

International Institute of Health Management Research

New Delhi

This certificate is awarded to

Dr. Poornima Khurana

in recognition of having successfully completed her dissertation internship and successfully completing her project on

'Prevalence and patterns of tobacco use and its association with perceived stress among young adults in India'

Date: 12th February, 2024 to 12th May, 2024

Organization: International Institute of Health Management Research, Delhi

She comes across as a committed, sincere & diligent person who has a strong drive & a zeal for learning.

We wish her all the best for all her future endeavours.

Mentor

IIHMR Delhi

CERTIFICATE OF APPROVAL

The following dissertation titled **"PREVALENCE AND PATTERN OF TOBACCO USE AND ITS ASSOCIATION WITH PERCEIVED STRESS AMONG YOUNG ADULTS IN INDIA"** at **"INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH, DELHI"** is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **PGDM (Hospital and Health Management)** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

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TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr. Poornima Khurana,** student of PGDM (Hospital and Health Management) from International Institute of Health Management Research, New Delhi has undergone dissertation internship training at IIHMR Delhi from 12th February, 2024 to 12th May, 2024.

The candidate has successfully carried out the study designated to her during the internship training and her approach to the study has been sincere, scientific and analytical.

The internship is in fulfillment of the course requirements. I wish her all the success in her future endeavors.

Dr. Sumesh Kumar
Associate Dean, Academic and student affairs
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Certificate from Dissertation Advisory Committee

This is to certify that Dr. Poornima Khurana, a graduate student of PGDM (Hospital and Health Management) has worked under our guidance and supervision. She is submitting this dissertation titled "PREVALENCE AND PATTERNS OF TOBACCO USE AND ITS ASSOCIATION WITH PERCEIVED STRESS AMONG YOUNG ADULTS IN INDIA" at "INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH, DELHI" in partial fulfilment of the requirements for the award of the degree **PGDM (Hospital and Health Management).**

This dissertation has the requisite standard and to the best of our knowledge no part of it has been produced from any other dissertation, monograph, report or book.

Dr. Rupsa Banerjee

Assistant professor,

IIHMR Delhi

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Signature of organization mentor

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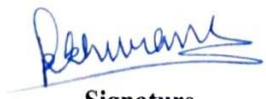

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ABSTRACT

Background- Studies investigating the association of tobacco use and perceived stress among young adults are limited. Our study aims to bridge this gap along with examining the prevalence and patterns of tobacco use among young adults in India.

Methods- We conducted an online cross-sectional study on 18–30-year-old individuals pan-India, to assess sociodemographic characteristics, tobacco use and its patterns, and perceived stress assessed by the PSS-10 scale. All variables were computed in proportions and associations were tested for statistical significance using chi-square testing. Data was analysed using SPSS Statistics version 22.

Results- Out of the total sample studied (339), 87 (25.7%) were tobacco users. Tobacco smoking was found to be significantly associated at 95% CI with male gender [OR= 2.85 (1.71-4.75); p= 0.000], alcohol consumption [OR= 17.93 (9.60-33.48); p= 0.000], with non-students [OR= 3.58 (2.14-6.01); p= 0.000] and with 24–30-year-olds [OR= 2.61 (1.46-4.64); p= 0.001]. Study participants were more likely to smoke if they had family members or friends who smoked [OR= 5.53 (2.80-10.90); p= 0.000]. Most commonly used tobacco products were cigarettes/beedis (60.91%). 85.5% of our study population had moderate to high levels of perceived stress. We found no significant association between perceived stress and tobacco use [OR= 1.50 (0.78-2.88); p= 0.226].

Conclusion- The prevalence of tobacco use among our study sample was 25.7% and tobacco smoking was not significantly associated with perceived stress.

ACKNOWLEDGEMENT

It gives me great pleasure to present my research project while thanking everyone who assisted me with this assignment. The success and final completion of this project required a great deal of direction and support from a significant number of people. First and foremost, I want to thank my family for their unwavering support during my dissertation training endeavour. I would like to thank IIHMR, Delhi, for presenting me with this opportunity.

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

SYMBOLS AND ABBREVIATIONS

ABBREVIATIONS	FULL FORM
PSS	Perceived Stress Scale
HTP	Heated tobacco product
GATS	Global Adult Tobacco Survey
GYTS	Global Youth Tobacco Survey
NFHS	National Family Health Survey

ABOUT THE ORGANIZATION

INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH (IIHMR), DELHI

Over the years IIHMR Delhi has emerged as an institute of repute both nationally and globally for producing socially conscious, skilled and vibrant top-class health care management professionals. Our graduates are well-matched for the ever-changing health care sector and evolving social milieu. The institute has progressed as a leader in research, teaching, training, community extension programmes and policy advocacy in the field of health care. IIHMR has carved out a niche for itself through its cutting-edge academic curriculum, infrastructure, accomplished multi-disciplinary faculty and research.

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DISSERTATION PROJECT

INTRODUCTION

Everyone would be aware of that advertisement that has been playing since time immemorial in movie theatres which warns against the use of tobacco and is famous for its tagline at the end “Smoking kills”. Paying no heed to such warnings and initiatives, 1.3 billion people 15 years and over, 80% of whom are in the low and middle-income countries, still consumed at least 1 tobacco product up till 2020 globally (1). This number has declined in present times but not enough to bring a drastic change in tobacco use practices all over the world.

Tobacco use worldwide has been on the rise in epidemic proportions, more so recently, with the advent of e-cigarettes and vapes with time, especially in the youth. Tobacco use refers to the use of products like cigarettes and beedis (tobacco wrapped in dried leaves of special trees). Smokeless tobacco use includes the use of chewing paan (a mixture of Areca nut pieces, lime, spices and tobacco wrapped in a betel leaf); chewing Gutkha (scented tobacco mixed with lime and Areca nut in powdered form); and Mishri, which is a type of toothpaste applied to the gums, and now, the aforementioned e-cigarettes and vapes too.

The morbid effects of tobacco are known to be many, not only for the users themselves but even for the people around them. Every year, more than 8 million people die from tobacco use globally (2). It is one of the contributors to causing non-communicable diseases like Ischaemic Heart disease, various types of cancers including majorly oral cancers, chronic respiratory diseases, Diabetes, and others (3). Furthermore, 1.3 million non-smokers are killed each year from second-hand smoke, proving that passive smoking is as much harmful and dangerous to people’s lives as it is to the smokers themselves (4).

Tobacco use is still a major public health problem in developing countries, especially those constituting the South-East Asia region. The scenario in India is no different than others. It is said to be the 3rd largest nation to produce tobacco and the 2nd largest nation in terms of consumption of tobacco worldwide (5). According to statistics, 42.4% of men, 14.2% of women and 28.6% (266.8 million) of all adults currently use tobacco (smokeless and/or smoked tobacco) in India (6). Cigarette smoking is only the tip of the iceberg when it comes to tobacco usage but is also the most common form. It is known to be affected by various sociodemographic, socioeconomic factors and other determinants in the population. These factors may include, but are not limited to, age, gender, education, marital status, economic status, income group and others.

The association of use of heated tobacco products, a special form of tobacco use, in Korean adolescents, with determinants like physical activity and internet use has been investigated elsewhere. Another one of these determinants is perceived stress which has also been investigated in the aforementioned study (7). It is the type of stress which is considered as unpredictable and unmanageable by an individual in his daily life, in the absence of any psychosocial stressors or any stressful events (8). Previous research in adolescents has shown that increased levels of perceived stress may lead to increased instances of tobacco use, especially cigarette smoking. This has more to do with the fact that adolescents with high levels of perceived stress may turn to cigarette smoking as a maladaptive pharmacological means to cope with the emotional distress, which otherwise is perceived as unmanageable by them (9).

The levels of perceived stress in an individual are measured by the extensively validated psychometric test, the Perceived Stress Scale, given by Cohen et al. in 1983. It is a self-reported, subjective questionnaire which has been used in various studies in the form of essentially three versions- PSS-14, 10 and 4 depending on the number of items that the questionnaire includes, PSS-14 being the original version given by Sheldon Cohen. The

scales are rated on a Likert scale and include both positively and negatively worded questions/items to deduce the level of stress being perceived by the respondent in his life.

Most of the studies done previously have focused on investigating the tobacco use prevalence and its determinants among the age group of 15-24 years as representative of the youth. The major nationally representative surveys also, the Global youth tobacco survey and the Global adult tobacco survey, take into account ages from 13-15 years and 15-24 years as sample population respectively. However, in this study, we have not included adolescents and specifically focused on tobacco use among the young adult population in the age group of 18-30 years, thereby addressing this gap in research to some extent. Furthermore, the association of tobacco use, especially cigarette smoking, with perceived stress, especially among young adults of this age, has hitherto been investigated in very few studies and to the best of our knowledge, has not been investigated in any previous studies in India.

The objective of conducting this study is to estimate the prevalence of tobacco use, its patterns, and its association with perceived stress among young adults in India.

LITERATURE REVIEW

A comprehensive literature review was conducted of studies done in the past 10 years assessing prevalence of tobacco use, the effects of sociodemographic characteristics and various determinants on its use, its patterns of use and its association with perceived stress, if there was any.

One study that looked into the prevalence of tobacco use worldwide found that, if we talk about gender- specific tobacco use estimates, the proportion of males currently using both smoked and smokeless tobacco products ranged from 0.2% in the Ukraine and Mexico, to 17.9% in Nepal. In four South-East Asian nations, namely, Timor-Leste, the Maldives, Nepal and Indonesia, the percentage of dual users among men was at least twice as high as that of females. Dual usage of cigarettes and hookah/waterpipes was reported in five nations- 0.3% in India, 0.4% in Egypt, 2.6% in Russia and Vietnam in 2009-10 and 6.0% in the US in 2013–14 (10).

As regards to the Indian population, primary and secondary studies, reviews and researches on publicly available nationally representative data like the NFHS-5, GATS, GYTS surveys previously done have investigated the prevalence and determinants of tobacco use and its other aspects. According to a study that secondary analysed GATS 2009–10 data, India has the highest prevalence of smokeless tobacco use, followed by smoking and dual tobacco use among men and women. It was discovered that in the majority of states, the use of smokeless tobacco accounts for a significant fraction of total tobacco consumption. In all of India's states, men were also far more likely than women to consume tobacco in any form. In terms of prevalence by region, the states in North-Eastern India had a greater prevalence of tobacco use in all its forms than the other states (11).

Using data from the GATS 1, another study discovered that, compared to females, male gender is a stronger predictor of tobacco smoking (35.3% of all males versus 10.7% of all females). Male gender was also found to be a significant predictor of cigarette consumption among youth, with men smoking at a significantly greater rate (OR 24.99, 95% CI-17.62-35.43). Having said that, the same study also discovered that female gender is a strong predictor of smokeless tobacco use, with smokeless tobacco use being more common in females than in males (OR 0.41, 95% CI 0.36-0.47) (12).

According to another secondary study done specifically to investigate prevalence and factors of tobacco use specifically in men using NFHS-4 data, it was seen that tobacco use was greater in men in the North-East region and in those men who consumed alcohol. Increase in age was also found to be associated with increased smoking in men. Respondents from the North-East were found more likely to be a tobacco user (13).

Similar findings were reported in another secondary study that used data from the Global Adult Tobacco Survey (2016–17) to demonstrate that males had considerably higher odds of using tobacco products (OR: 3.9 [3.5–4.4]) than females did. When participants from the north-east region were compared with those from the North, the former had seven times higher rates of tobacco use (OR: 7.2 [5.9-8.7]). (14).

Primary studies have also been conducted in various parts of India to investigate tobacco use prevalence and predictors. One research among college students in Mangalore discovered that among the factors influencing tobacco smoking, males have 0.20 greater chances of being a smoker than females. Participants aged 21-24 years had 2.82 higher odds of being a smoker, than those aged 18 years (5). Another study done among college students of Delhi University found that among the smokers in the participants in the cross-sectional study conducted, 15% (14 out of 92) were female, while 85% were male. This difference was found to be statistically significant. Also, the mean age at initiation of smoking was found to be 17.3 years (±2.07) (15).

In Gautam-Budh Nagar district, Uttar Pradesh, another primary survey conducted on a population aged 15 and above indicated that the total prevalence of tobacco use (smoking or smokeless tobacco) was 50.4%, with 65% of males and 28.8% of females using it (p value < 0.001). Additionally, it was discovered that the prevalence of tobacco usage among research participants rose with age, and that this relationship was significant (p < 0.001). It was also shown that men were substantially more likely than women to consume tobacco (p< 0.001) (16).

Yet another primary research done among young adult literate girls of 18-25 years of age in Shillong, Meghalaya revealed that 8.10% of the girls in the survey sample currently used tobacco in any way, 1.85% used only smoking tobacco, 4% used smokeless tobacco, and 2.25% used both smoking and smokeless tobacco. 62 of the 78 current tobacco smokers were also found to be current alcohol consumers. This suggests that 79.5% of current tobacco smokers also drank alcohol, or 3.25% of the research population consumed alcohol along with smoking tobacco. However, a few gaps in this study were noticed as it did not consider other sociodemographic factors influencing tobacco use as marital status, living situation and others. Association between tea/coffee drinking and tobacco use could also have been investigated (17).

A secondary study examining the relationship between perceived stress and the use of heated tobacco products in Korean adolescents found that individuals with high levels of perceived stress were more likely to use cigarettes exclusively, to dual use cigarettes and e-cigarettes, or to use all three—cigarettes, e-cigarettes, and HTPs (odds ratio [OR] = 1.11, 1.17, and 1.34). Compared to moderate stress, which was found to be negatively linked, low perceived stress was found to be more positively associated with the use of HTP only (OR = 0.47, 95% CI: 0.24–0.93). However, this study did not investigate the association of perceived stress with other types of tobacco and no reliable and valid scale

was used to measure the levels of perceived stress. Also, since this research has been conducted in only the adolescent population, that is also a huge research gap (7).

According to another longitudinal study conducted in Southern California among school students, females reported higher perceived stress than males and higher perceived stress was observed in participants who were exposed to smoking by others in the home as opposed to those who were not ($p< 0.01$ for all tests). In contrast to men, females showed considerable associations between perceived stress and all four tobacco use outcomes as well as the poly-tobacco use indexes; however, these associations were not found to be statistically significant for any of the male outcomes (9).

Other researches have also been done investigating associations between perceived stress and smoking cessation practices countering in the role of smoking urges and also between perceived stress and postpartum tobacco use in native Alaskan women.

To the best of our knowledge, no previous researches have investigated patterns of tobacco use and this is also a gap which our study aims to overcome.

METHODOLOGY

An online cross-sectional study was conducted among young adults aged 18-30 years pan-India within the period of February, 2024- May, 2024. A sample size of 342 respondents was calculated using the sample size estimation formula and taking prevalence of tobacco use among the population, p as 0.286 according to the GATS-2 (2016-2017) report, assuming 95% confidence interval, a 5% absolute margin of error and 5% non-response rate.

The data was collected using a self-administered, web-based, online questionnaire which was circulated via social media and email to eligible respondents who further circulated the same to their eligible contacts by adopting the snowball sampling method. The online questionnaire comprised of 4 sections which included questions related to sociodemographic characteristics, tobacco use and its patterns, and questions derived from the PSS-10 scale to assess the perceived stress. Section-4 included PSS-10 scale questions like 'In the last month, how often have you been upset because of something that happened unexpectedly?', 'In the last month, how often have you felt that you were unable to control the important things in your life?', 'In the last month, how often have you felt nervous and stressed?', 'In the last month, how often have you felt confident about your ability to handle your personal problems?', 'In the last month, how often have you felt that things were going your way?' and other similar questions related to an individual's ability to handle stress which they perceive as being unpredictable in their daily life.

The independent/outcome variable was perceived stress among the respondents and the dependent variable was smoking/tobacco use among them. Other covariates included sociodemographic characteristics like age, sex, marital status, living situation, occupation and region/state of residence. Questions related to patterns and frequency of tobacco use

like ‘if there is any specific time of use in the day by the respondent’, ‘if tobacco is used while with specific friends/colleagues’, ‘while taking breaks from work’, ‘during specific events’, ‘while under some stress’ and others were included in the questionnaire. Motivation factor to start smoking, age at initiation of smoking and the types of tobacco products used were also the other variables included.

The data analysis was done using SPSS statistics version 22. Descriptive statistics have been shown in the form of frequency and percentage. All the variables were computed in proportions and the associations between tobacco smoking and the sociodemographic characteristics, between tobacco smoking and perceived stress and also between the sociodemographic characteristics and perceived stress were tested for statistical significance using chi-square testing. The influence of factors on tobacco smoking and perceived stress was also seen by performing logistic regression analysis among the study variables. A p value of <0.05 was considered as significant.

Ethical review of the study was done by the student review board and informed consent was taken from the participants in both English and Hindi. The responses were kept anonymous and all the data was used for only research purposes.

RESULTS

We received 339 responses to our questionnaire hence the sample size was N=339. The data was analysed and tested for associations. If we talk about the sociodemographic characteristics of the respondents, the mean age was found to be 24.54 years.

Descriptives:

There were 29.8% males and 70.2% females in the sample population. 28.6% of the respondents were either working professionals or generally non-students while the rest of them were pursuing under graduation or post-graduation. As regards to the marital status of the respondents, 81.4% of them were unmarried/single while the rest 18.6% were either married or in a relationship. 57.8% of respondents lived with their families and 42.2% lived alone, with their friends/flatmates or with their spouses/partners.

As regards to tea/coffee consumption and alcohol consumption, 90.5% of respondents consumed tea/coffee and 35.7% were current users of alcohol.

The study sample consisted of 87 (25.7%) tobacco users and 252 (74.3%) non- tobacco users.

Table 4.1- Sociodemographic characteristics of study population

Sociodemographic characteristics	**N=339** **Frequency (%)**
Mean Age (SD)	24.54 (2.964)
Gender • Males • Females	 101 (29.8%) 238 (70.2%)
Occupation • Student (UG) • Student (PG) • Non-Student	 112 (33%) 130 (38.3%) 97 (28.6%)
Marital status • Unmarried/single • Married/in a relationship	 276 (81.4%) 63 (18.6%)
Living situation	

• Alone • With friends/flatmates • With parents/siblings/relatives/guardians • With spouse/partner	46 (13.6%) 64 (18.9%) 196 (57.8%) 33 (9.7%)
Use of • Tea/Coffee ➢ Yes, almost daily ➢ Yes, occasionally ➢ No • Alcohol ➢ Consumed once/twice in past ➢ Used to regularly consume in the past ➢ Currently consume occasionally (social drinking) ➢ Currently consume frequently (once or more in a week) ➢ Never consumed	 214 (63.1%) 93 (27.4%) 32 (9.4%) 67 (19.8%) 4 (1.2%) 112 (33%) 9 (2.7%) 147 (43.4%)

Cigarettes/Beedis were found to be the most commonly used tobacco products with 60.91% of the respondents preferring to smoke them over other products.

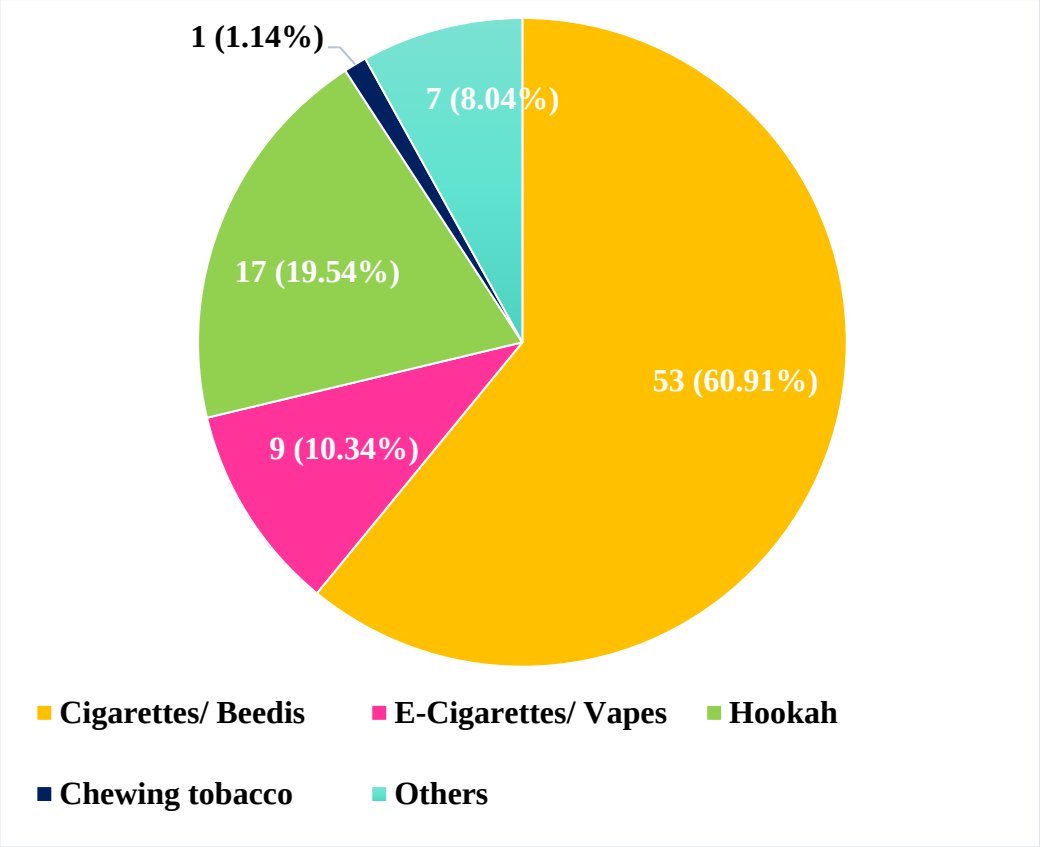

Figure 4.1: Most commonly used tobacco products (N=87)

27.58% of the respondents reported using tobacco products daily or for more than half the days of the week while most of them used tobacco products occasionally (29.88%). **20.71 years** was found to be the mean age at which initiation of tobacco use occurred among the respondents.

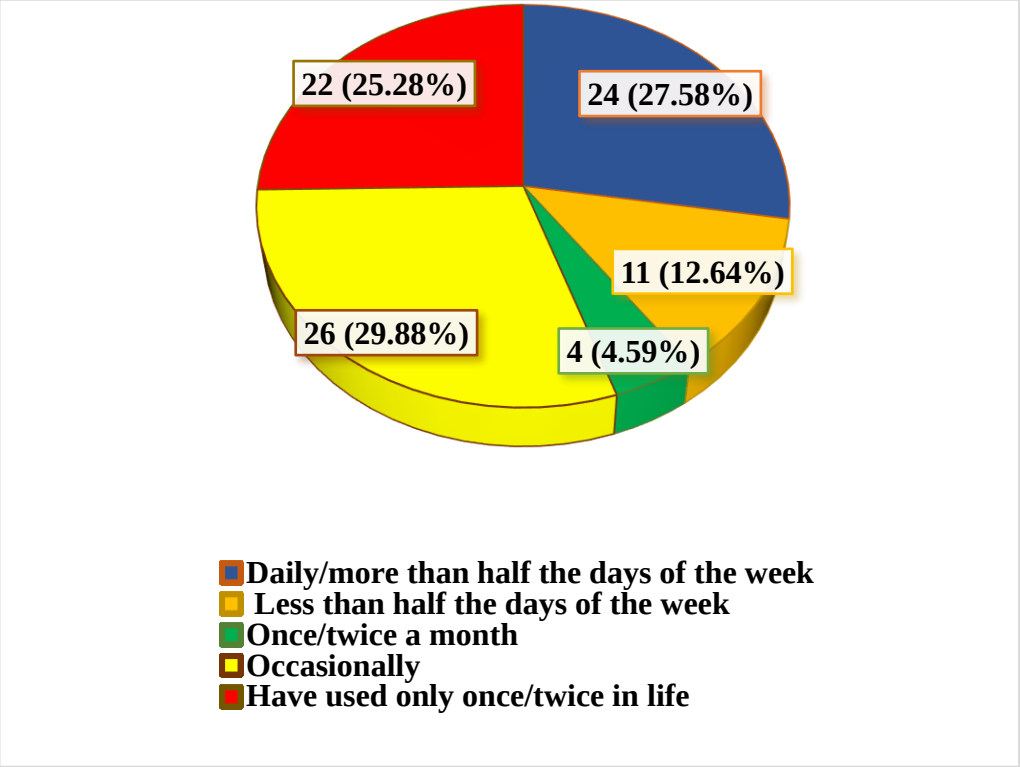

Figure 4.2: Frequency of tobacco usage (N=87)

48.27% of the respondents said that they started using tobacco/ smoking out of curiosity. As regards to the patterns of tobacco use, the most significant finding was that 70.11% of users used tobacco during specific events like social gatherings, vacations etc. while 57.47% reported that they used tobacco while meeting specific colleagues/ friends.

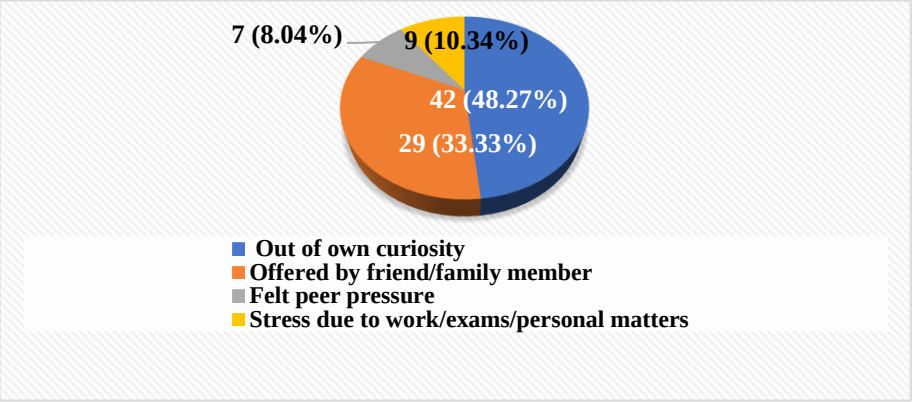

Figure 4.3: Motivation factor for initiation of smoking (N=87)

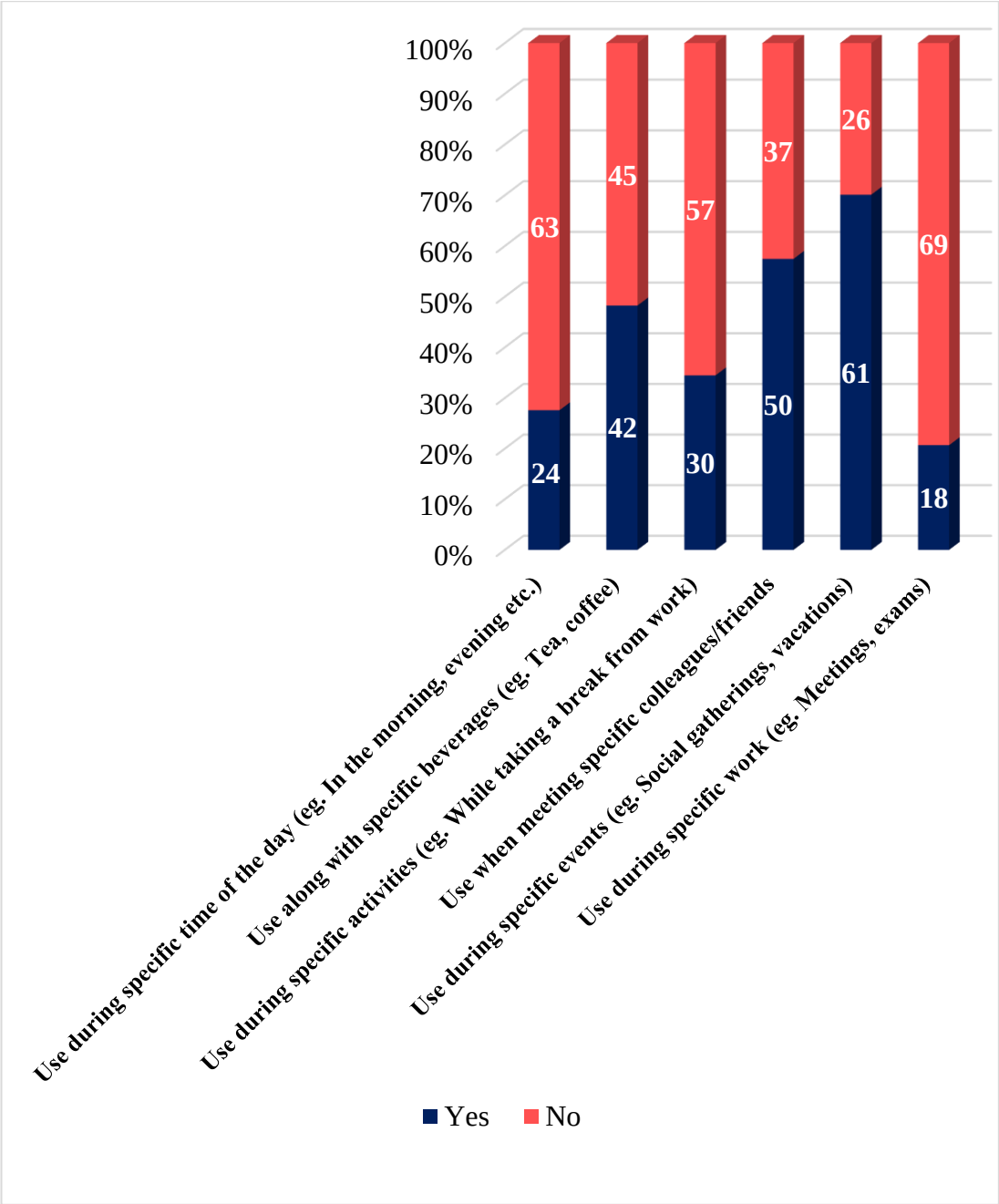

Figure 4.4: Patterns of tobacco use

If we talk about the levels of perceived stress, 14.7% of the sample population had high stress (perceived stress score of 26-40), 70.8% of them had moderate levels of stress (perceived stress score of 14-25) and 14.5% of the respondents had low stress (score of 0-13).

After converting into categorical variables, the associations between them were tested for significance by Chi-square testing. The association between gender and tobacco use was

found to be significant and males were 2.85 times more likely to smoke than females [OR=2.85 (1.71-4.75), p=0.000].

Table 4.2: Association between variables and tobacco use after chi-square testing

Variables	Categories	Users Freq. (%)	Non-users Freq. (%)	Odds' Ratio (95% CI)	p-value
Perceived stress levels	• Low • Moderate/high	16 (32.7%) 71 (24.5%)	33 (67.3%) 219 (75.5%)	1.50 (0.78-2.88)	0.226
Gender	• Male • Female	41 (40.6%) 46 (19.3%)	60 (59.4%) 192 (80.7%)	**2.85 (1.71-4.75)**	**0.000**
Occupation	• Not a student • Student	43 (44.3%) 44 (18.2%)	54 (55.7%) 198 (81.8%)	**3.58 (2.14-6.01)**	**0.000**
Marital status	• Unmarried/single • Married/in a relationship	65 (23.6%) 22 (34.9%)	211 (76.4%) 41 (65.1%)	0.57 (0.32-1.03)	0.062
Tea/coffee consumption	• Yes, almost daily/ occasionally • No	81 (26.4%) 6 (18.8%)	226 (73.6%) 26 (81.3%)	0.64 (0.26-1.62)	0.347
Alcohol consumption	• Current user • Past/non-user	71 (58.7%) 16 (7.3%)	50 (41.3%) 202 (92.7%)	**17.93 (9.60-33.48)**	**0.000**
Living situation	• Living alone/with friends/flat mates/ with spouse/partner • Living with family	36 (25.2%) 51 (26%)	107 (74.8%) 145 (74%)	0.96 (0.58-1.57)	0.860
Known smokers among friends/ family	• Yes • No	76 (35.2%) 11 (8.9%)	140 (64.8%) 112 (91.1%)	**5.53 (2.80-10.90)**	**0.000**
Age of the respondent	• 24-30 years • 18-23 years	69 (31.5%) 18 (15%)	150 (68.5%) 102 (85%)	**2.61 (1.46-4.64)**	**0.001**

Occupation and tobacco use were also found to be significantly associated, with non-students 3.58 times more likely to use tobacco than students [OR=3.58 (2.14-6.01), p=0.000]. Significant association was also seen between alcohol consumption and tobacco use with current users of alcohol more likely to smoke than past users

[OR=17.93 (9.60-33.48), p=0.000]. Also, tobacco use was found to be significantly associated with respondents who knew of friends or family members who smoked [OR=5.53 (2.80-10.90, p=0.000] and with the age group to which the respondent belonged, showing significant association with the 24-30 years age group [OR=2.61 (1.46-4.64), p=0.001].

Table 4.3: Association between variables and tobacco use after regression analysis

Variables	Adjusted Odds' ratio	95% CI for adjusted odds' ratio		p-value
		LOWER	UPPER	
Perceived stress levels	1.096	0.46	2.61	0.84
Gender (male)	2.26	1.16	4.38	**0.016**
Occupation	1.88	0.91	3.91	0.089
Marital status	0.99	0.45	2.20	0.98
Tea/coffee consumption	1.15	0.33	3.97	0.83
Alcohol consumption (current user)	13.73	6.72	28.04	**0.000**
Living situation	0.65	0.33	1.25	0.197
Family/friends known smokers	3.13	1.39	7.04	**0.006**
Age of the respondents	0.83	0.37	1.88	0.66

After doing regression analysis and adjusting for covariates, tobacco use was still found to be significantly associated with the male gender [OR=2.26 (1.16-4.38), p=0.016], with current alcohol consumption among respondents [OR=13.73 (6.72-28.04), p=0.000] and with having known smokers among family/friends [OR=3.13 (1.39-7.04), p=0.006].

DISCUSSION

Our study investigated the association between tobacco use and other variables including perceived stress, which has hitherto not been focused upon.

We found that males have an increased tendency to use tobacco which corroborates with previous studies done in India and other countries too (5,11,12,14–16,18). Previous studies also showed that tobacco usage increases with increasing age which is consistent with the findings of this study that 24-30-year-olds are more likely to use tobacco than 18-24 year-olds (11,13,16). This study also found a significant association between alcohol consumption and tobacco smoking which is consistent with previously done researches (17). Our study did not find a significant association between perceived stress in respondents with tobacco use among them which is contrary to various studies conducted in India and globally in which a significant association was seen between the two (7,9).

Tobacco use has been seen to be increasing in epidemic proportions and it has become necessary to tackle this menace before it takes any more lives. Tobacco control has still not achieved the desired effects in the population despite the presence of existing policies, especially in India. Policies focusing on tobacco control like the National Tobacco Control Programme have had positive effects in terms of reducing tobacco usage but having seen through this study the association between alcohol consumption and tobacco use, it's also necessary to bring about initiatives which tackle both of them and create awareness among the masses.

Further research is necessary to investigate the association between perceived stress and tobacco use so that if found associated, focus can be put upon bringing about initiatives

and policies undertaking stress management and reducing the use of tobacco as a coping mechanism.

By 2025, the percentage of people worldwide 15 years and older (both sexes) who are currently using tobacco products is expected to drop to about a fifth (20.4%) of the total population, assuming that present tobacco control initiatives continue in all countries (1). But this alone is not enough to tackle the tobacco menace and to achieve this, stronger policies and measures are required worldwide.

CONCLUSION

The prevalence of tobacco use in our study was found to be 25.7% which is almost comparable to the 28.7% prevalence according to the GATS 2016-17 report. As regards to the patterns of tobacco use among the respondents, most respondents reported using tobacco while meeting specific friends/colleagues (57.47%) and during specific events like social gatherings, vacations, or other social events (70.11%).

It was concluded that there is no association between perceived stress and tobacco use. However, tobacco use was found to be significantly associated with alcohol consumption (p=0.000), male gender (p=0.000), non-students (p=0.000) and 24–30-year-old respondents (p=0.001). It was also found that respondents were more likely to smoke if they had family members or friends who smoked (p=0.006).

After adjusting for covariates, tobacco use was still found to be significantly higher among males, among respondents having higher alcohol consumption and among respondents having known smokers among their friends/family. This shows us that newer policies are required in the country that allow us to tackle both increasing rates of alcohol consumption and tobacco use. Stricter measures also need to be taken to reduce the influence of family members/ friends who smoke on these young adults by creating awareness among them.

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