ORIGINAL RESEARCH ARTICLE

Intention to Quit Tobacco and Its Associated Factors: A Cross-Sectional Study among Support Staff Currently Using Tobacco in A Medical College of Kolkata

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ABSTRACT

Introduction: Tobacco consumption increases the risk of developing lung diseases, cancer and heart related conditions. The intention to quit smoking is widely recognized as a strong predictor of actual quitting and its promotion is needed as it has significant and immediate health benefits, especially among people working in health care systems as they are in close contact with patients.

Methods: A cross-sectional descriptive study was conducted among 288 support staff of IPGME&R, Kolkata between January to March 2024. Data were collected via a predesigned pre-tested structured schedule through face-to-face interviews and analysed using SPSS v25.0 with appropriate descriptive and inferential statistics.

Results: Out of 288 study participants, 50% were addicted to chewing/smokeless tobacco, and 75% among them had tobacco dependence. Among the smokers, 67.7% had high dependence. Nearly two third (62.2%) intended to quit tobacco in last 12 months. Male gender [AOR 6.69 (2.65-16.86)], frequency of tobacco consumption <5 times/day [AOR 2.59 (1.27-5.29)] had higher odds with intention to quit tobacco.

Conclusion: One fourth of the smokers showed very high dependence whereas three fourth of smokeless tobacco users had tobacco dependence. Around two third intended to quit tobacco last 12 months.

Keywords: Tobacco use cessation, Health Personnel, Intention, Cross-Sectional Studies, Tobacco dependence, India

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INTRODUCTION

Globally, tobacco is the foremost preventable cause of death, accounting for about seven million deaths annually and involving roughly 1.3 billion users.[1] Nicotine is a highly addictive substance and the reason for cardiovascular, respiratory diseases and cancers etc.[2] Second-hand smoking linked to adverse health effects to the non-smokers.[3] In India, tobacco is consumed in various forms- smoking and smokeless.[4] Smoking comprises bidis, cigarettes, hand-rolled cigarettes, pipes, cigars, hookahs, water pipes, chutta, dhumti, and chillum. Smokeless tobacco is used in the form of betel quid with tobacco, khaini, gutka, paan masala with tobacco, mishri, gul, bajjar and gudakhu.[5]

WHO 2024 factsheet reported that 60% of world's 1.25 billion tobacco consumers intended to quit. Prevalence of tobacco among people aged 15 years and above was 20.9%. As projected global tobacco use is to decline to 6.7% by 2025, with a further reduction to 5.7% within 2030.[1] India is the world's third-largest producer of tobacco and the second-largest consumer of tobacco products.[6] NFHS-5 (2019-2021) survey reported that 38% of men and 9% of women aged 15 years and above use tobacco in some form. Prevalence is significantly higher in rural areas (43% of men and 11% of women) compared with urban settings (29% of men and 6% of women).[7] NFHS-5 data of West Bengal revealed that 56.9% of men (48.7% in urban areas and 60.8% in rural areas) and 5.7% of women (4% urban and 6.6% rural) use some form of tobacco.[7] Though the overall prevalence of tobacco use dropped by 6% from 34.6% in GATS-1 (2009-10) to 28.6% in GATS-2 still the proportion of tobacco users in India is quite high as 10.7% of adults smoke tobacco, while 21.4% use smokeless forms.[8]

NFHS-5 data reported that 29.3% of women and 30.6% of men had an intention to quit during the past 12 months.[7] As per GATS 2 report nearly 38.5% of smokers tried to quit smoking whereas one-third 33.2% of users of smokeless tobacco attempted to quit in the past 12 months. Proportion of quitting smoking as per GATS 1 and GATS 2 report were almost same; but in case of smokeless tobacco quitting attempt were increased from 35.4% to 33.2%.[8]

Health sectors provide both preventive and curative services. So, it is essential to maintain a tobacco-free hospital environment, as it supports overall wellbeing, helps reduce tobacco use, and positively shapes patients' attitudes toward tobacco. Support staffs, who are directly involved with patient care can play an important role as they are essential in upholding a tobacco-free campus. Precontemplation, contemplation, preparation, action and relapse phases of trans theoretical model of behavioural change helps to elicit intention to quit. Regardless of greater recognition of tobacco's negative impact on health, there is still a gap in knowledge about tobacco usage habits among support staff and it is essential to understand the tobacco usage patterns among them to develop workplace-based cessation programs.

Considering this context, the study was conducted among the hospital support staffs with objectives to assess tobacco addiction patterns, to identify intentions to quit tobacco, and to find out the factors associated with these behaviours

METHODOLOGY

An institutional based cross sectional descriptive observational study was conducted at the IPGME&R, Kolkata for a duration of 3 months from January to March 2024. The Institute along with the main campus has 6 annex hospitals namely Bangur Institute of Neurosciences, PG Polyclinic, Ramrikdas Harlalka Hospital, Kidderpore Maternity Home, Kolkata Police Hospital and Sambhunath Pandit Hospital. These annexes are all under administrative control of IPGME&R, Kolkata.

Study population: Support staff employed by outsourced agencies like Reliable Facility Services, Ex-serviceman Resettlement Society (ERS) in IPGME&R, Kolkata and its annexes, who were using tobacco for last one year, gave informed consent and were available on the day of data collection were included in the study

Sample size: The sample size was calculated using the Cochran's formula: $n= [Z_{1-\alpha/2}{}^2 \times p(1-p)]/d^2$; taking proportion of intention to quit tobacco among adult population, p= 76% (Dasgupta *et al*)[9], at 95% confidence interval (C.I), standard normal deviate (Z_α) at 95% C. I= 1.96 and absolute error (d)= 5%. The final sample size was 288.

Sampling technique: Simple random sampling was done until the desired sample size was used using the line list of employees maintained in the office of Reliable and ERS in IPGME&R premises.

Study tool: A predesigned pretested structured schedule was used for data collection which comprised of socio demographic characteristics, clinical profile, addiction pattern, nicotine dependence both for smokers and smokeless tobacco users, intention to quit and stages of quitting (Precontemplation, contemplation, preparation phase). To measure nicotine dependence Fagerstrom Test for Nicotine Dependence (Validated scale) was used.[10] It is a validated tool comprising of six questions to calculate Nicotine Dependence in smokers. The items were summed to yield a total score of 0-10. Dependence was classified as – 0-2 Very low, 3-4 Low, 5 Moderate, 6-7 High, 8-10 Very high. Also, six questions were there for smokeless tobacco users; a score of 5 or above was categorized as significant dependence, whereas a score of 4 or below indicated low to moderate dependence. Intention to quit was assessed based on whether the participant expressed willingness to stop using tobacco within the past 12

months. Responses were recorded as "Yes" or "No," with "No" indicating no intention to quit, and "Yes" indicating an intention to quit tobacco use.[11] If yes, *time for recent most quitting attempt the previous attempts to quit tobacco which lasted for at least one week*, *attempts to quit tobacco in the past lasting for more than 1-month* etc were noted.

The study tool was designed by a team of three experts including one professor of Community Medicine, Dental expert and one expert from Tobacco cessation clinic. It was prepared in English and later translated into Bengali. The schedule was then pretested among 15 randomly selected current tobacco user of the same area for its validity and reliability.

Study technique: Contact numbers of support staff were availed from the office of 62.2, Kolkata the interviews of the selected staff were scheduled accordingly. Data were collected by face-to-face interview after taking informed written consent and ensuring maintaining anonymity and confidentiality. Data collection was done thrice a week over a period of two months, which averaged about twelve participants being interviewed per day.

Data analysis: All the 288 responses were included in analysis. Data were tabulated in Microsoft Excel 2019 (Microsoft Corp, Redmond, WA, USA) and then imported to Statistical Package for the Social Sciences (SPSS for Windows, version 26.0, SPSS Inc., Chicago, USA) for interpretation and analysis. Descriptive statistics were used to summarize the data. Chi-Square test was done for all potential independent variables. Variables having p-value<0.05 were included in univariate model and independent variables having p-value <0.20 were considered biologically plausible to be included in the multivariable model (model fit if Hosmer Lemeshow >0.05, Omnivus model fit-<0.05). Multivariable binary logistic regression was performed to ascertain the relationship between the intention to quit tobacco and socio demographic profile, addiction pattern. Data were checked for multicollinearity (VIF <10) and variables with p-value<0.05 were considered statistically significant in the final model. Those who were using tobacco for at least the last 12 months during the study duration were considered as current tobacco users.

Ethical considerations: Approval from the Institutional Ethics Committee was obtained before initiating the study (IPGME&R/IEC/2024/0027 dated 08.02.2024). Informed written consent was taken from each participant prior to the interview, and all ethical principles were rigorously followed throughout the study.

RESULTS

Out of 288 study participants half of the participants (50.3%) belonged to the age group of 30-40 years (35.03±8.22), 67.4% were male, 72.2% followed Hinduism, 65.6% of them were married and 60.1% attained secondary level of education. 55.2% of the participants were employed by reliable facility services and most (41.7%) were security guards. More than half of the respondents (55.7%) belonged to joint family. Majority (81%) belonged to lower middle class as per Modified B.G Prasad Scale October 2023.[11] Around 87% were suffering from chronic diseases. **[Table 1]**

About 46.2% of the participants were addicted to smokeless tobacco, 29.1% addicted to smoking while 24.7% were addicted to both forms of tobacco. About one fourth (24.7%) were addicted to bidi and 44.1% were addicted to khaini only. Nearly one third (32.6%) were using the substance for 6-10 years. Overall age of onset for tobacco consumption was early twenties (39%); around 37% consumed tobacco 2-3 times per day. More than 80% spent 5% or more of their monthly income on tobacco consumption; nearly 21% of them also consumed other substances like (alcohol, Ganja).65.2% of the participants family members, either parents or uncle were also addicted to tobacco. **[Table 2]**

Table 1: Distribution of study participants according to their Sociodemographic Profile (n=288)

Variables	Participants (%)
Age	
<30 years	84 (29.2)
30-40 years	145 (50.3)
≥40 years	59 (20.5)
Gender	
Male	194 (67.4)
Female	94 (32.6)
Religion	
Hinduism	208 (72.2)
Islam	80 (27.8)
Educational status	
Middle school	19 (6.6)
Secondary	173 (60.1)
Higher secondary	62 (21.5)
Graduate	34 (11.8)
Residence	
Urban	76 (26.4)
Rural	212 (63.6)
Marital status	
Married	188 (65.6)
Unmarried	93 (32.3)
Designation	
Divorced/separated	6 (2.1)
Patient Care services	85 (29.5)
Housekeeping	68 (23.6)
Security guard	120 (41.7)
Food and Beverages	15 (5.2)
Recruiting agency	
ERS	129 (44.8)
Reliable	159 (55.2)
Type of family	
Nuclear	127 (44.1)
Joint	161 (55.7)
Socio-economic Status	
Lower	33 (11.5)
Lower middle	233 (80.9)
Middle	22 (7.6)

Table 2: Distribution of study participants as per their tobacco use patterns (n=288)

Variables	Participants (%)
Form of tobacco used	
Both Smoking & Smokeless tobacco	71 (24.7)
Smoking	84 (29.1)
Smokeless tobacco	133 (46.2)
Age of onset of tobacco use (in years)	
≤20	111 (38.5)
21-25	112 (38.8)
>25	65 (22.5)
Duration of tobacco use (in years)	
≤5	67 (23.4)
6 -10	94 (32.6)
11 -15	46 (15.9)
16- 20	56 (19.4)
>20	25 (8.7)
Frequency of using tobacco products per day	
2-3 times	107 (37.2)
4-5 times	94 (32.6)
>5imes	87 (30.2)
Tobacco product use among other family members	
Yes	188 (65.2)
No	100 (34.7)
Proportion of total monthly income spent on tobacco products	
≤ 5%	56 (19.4)
>5%	232 (80.6)
Use of other substances	
Yes	59 (20.5)
No	229 (79.5)

Table 3: Distribution of study participants as per Nicotine Dependence pattern and intention to quit

Nicotine Dependence	Pipantsartic (%)
Smoking (n=155)	
Very High dependence	37 (23.9)
High dependence	105 (67.7)
Moderate dependence	13 (8.4)
Smokeless tobacco (n=204)	
Low-moderate dependence	51 (25)
Dependence	153 (75)

Mean age of onset for smoking tobacco was 22.2±3.6 and mean duration was 12.3±5.5. Mean of nicotine dependence score for smoking was 6.93±1. For smokeless tobacco mean age of onset was 22.8±3.6, and duration of consumption was 13.45±7.7. Mean score for Fagerstrom nicotine dependence for smokeless tobacco was 5.93±2.4. Among smokers 23.9% had very high dependence and among smokeless tobacco consumers 75% had dependence. **[Table 3]**

Out of the 288 participants 62.2% (179/288) intended to quit tobacco in last 12 month, out of which 21.2% were smokers, 58.2% were smokeless tobacco users and 20.6% consumed both form of tobacco. **[Figure 1]**

Among those who intended to quit in last 12 months - 47.5% (85/179) attempted to do so in the last 1 month. Again, out of these 85 participants, 72.9% (62/85) already had one previous quitting attempt which lasted for at least one month and 41.9% (26/62) had 2 quitting attempts lasting for at least 1 month. **[Figure 2]**

So, among 288 participants 62.2% entered in pre-contemplation stage, 29.2% were in contemplation stage and 19.4% went into preparation stage.

Only 8.3% visited health centre previously for quitting tobacco and 5.5% used nicotine chewing gum for this purpose. Majority (93.7%) of them had seen health messages regarding tobacco use, out of which around 53% noticed it on package of cigarette, bidi, khaini.

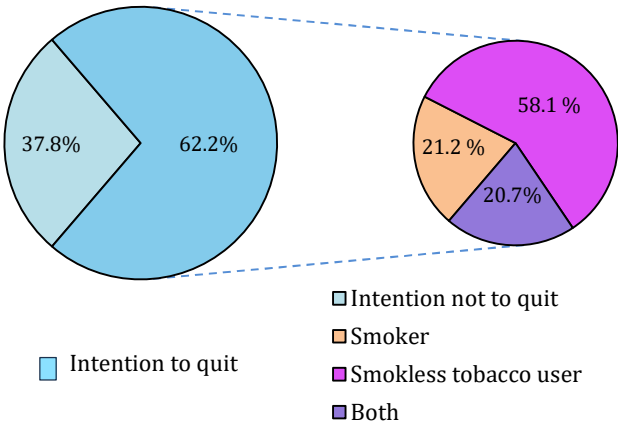


Figure 1: Pie of pie diagram showing distribution of participants according to intention to quit tobacco (n=288)

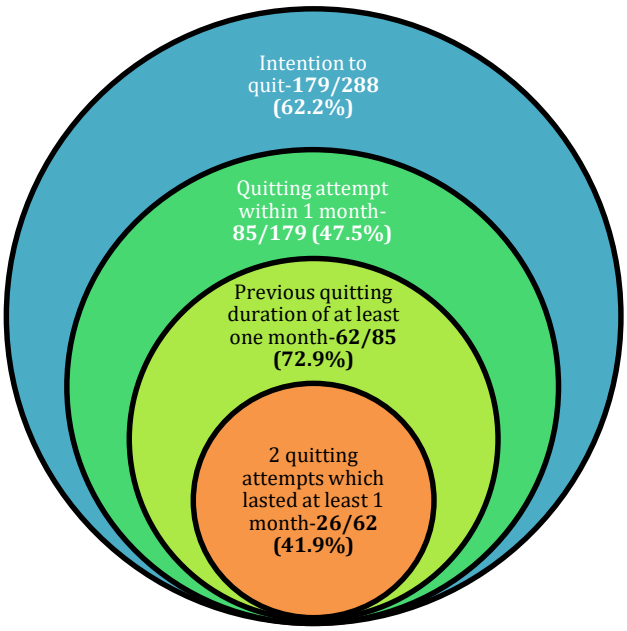


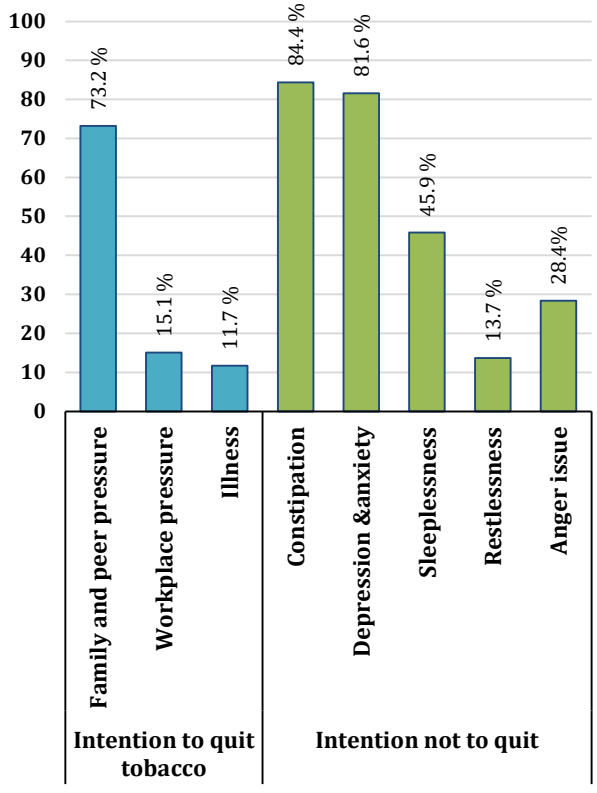
Figure 2: Venn diagram showing stages of Intention to quit tobacco among the study participants (n=288)

Table 4: Binary Logistic regression showing association with intention to quit tobacco and socio-demographic profile and other parameters (n=288)

Variables	Intention to Quit (n%)	Total (%)	uOR (95%C. I)	p-value	aOR (95% C.I)	p-value
Age						
<30 years	60 (71.4)	84 (29.2)	Ref		Ref	
30-40 years	73 (50.3)	145 (50.3)	1.41(0.65-3.07)	0.381	2.40 (0.69-8.35)	0.167
≥40 years	46 (77.9)	59 (20.5)	3.49 (1.73-7.01)	**0.001**	1.84 (0.61-5.575)	0.277
Gender						
Female	43 (45.7)	94 (32.6)	Ref	-	Ref	-
Male	136 (70.1)	194 (67.4)	2.78 (1.67-4.62)	**0.001**	**6.69 (2.65-16.86)**	**0.001**
Recruiting agency						
ERS	96 (74.4)	129 (44.8)	Ref		Ref	-
Reliable	83 (52.2)	159 (55.2)	2.66 (1.61-4.41)	**0.001**	**2.64 (1.13-6.15)**	**0.008**
Nature of tobacco use						
Smokeless tobacco users	104 (73.2)	142 (49.3)	Ref		Ref	-
Smokers	38 (45.2)	84 (29.2)	1.849(0.98-3.46)	0.055	7.18 (3.22-15.98)	**0.001**
Smokers and Smokeless tobacco users	37 (59.7)	62 (21.5)	**3.31 (1.87-5.84)**	**0.001**	**4.30 (1.49-12.35)**	**0.007**
Age of onset of tobacco consumption						
≤20 years	74 (66.7)	111(38.5)	Ref		Ref	-
21-25 years	75 (67)	112 (39)	**2.33 (1.24-4.36)**	**0.008**	**3.15 (1.31-7.54)**	**0.010**
>25 years	30 (46.2)	65 (22.5)	0.98 (0.56-1.72)	0.962	**8.15 (2.79-23.76)**	**0.001**
Frequency of using tobacco products per day						
≥5 times	54 (62.1)	87 (30.2)	**Ref**		**Ref**	-
<5 times	125 (62.2)	201 (69.8)	3.26 (1.77-6.02)	**0.001**	**2.59 (1.27-5.29)**	**0.009**
Use of other substances						
Yes	32 (54.2)	59 (20.5)	Ref		**Ref**	-
No	100 (43.7)	229 (79.5)	2.55 (1.31-4.98)	**0.006**	2.55 (0.85-7.61)	0.093

uOR – Unadjusted Odds Ratio; aOR – Adjusted Odds Ratio

The Omnibus Test of Model Coefficients shows a p-value <0.05, indicating that the overall model is statistically significant. The Hosmer-Lemeshow goodness-of-fit test shows a *p-value >0.05*, suggesting that the model fits the data well.; The Nagelkerke R^2 value is 0.345, meaning the model explains 34.5% of the variation in the intention to quit based on the included independent variables.



*Multiple Response

Figure 3: Multiple Bar diagram showing reasons for intention to quit and intention not to quit (n=288)

Male gender [AOR 6.69 (2.65-16.86)], recruitment by reliable [AOR 2.64 (1.13-6.15)], frequency of tobacco consumption of less than 5 times a day [AOR 2.59 (1.27-5.29], age of starting tobacco product use 21-25 years [AOR 3.15 (1.31-7.54)], >25 years [AOR 8.15 (2.79-23.76)], those who were smokers [AOR 7.18 (3.22-15.98)] and both form of tobacco users [AOR 4.30 (1.49-12.35)] had higher odds with intention to quit tobacco. **[Table 4]**

Reasons for intention to quit tobacco was mainly family and peer pressure (73.2%); whereas constipation (84.4%), depression and anxiety (81.6%) were the main reasons for not to quit tobacco. **[Figure 3]**

Discussion

Current study revealed that 50.3% of the participants belonged to the age group of 30-40 years (35.03±8.22), 60.1% attained secondary level of education. 55.2% of the participants were employed by reliable facility services. This study reported that 46.2% of the participants were addicted to smokeless tobacco, 29.1% addicted to smoking while 24.7% were addicted to both forms of tobacco. 32.6% were using the substances for 6-10 years. 37% of the study population consumed tobacco 2-3 times per day. More than 80% spent 5% or more of their monthly income on tobacco consumption,

65.2% of their family members, either parents or uncle were also addicted to tobacco.

A study by Aryanpur M *et al.* in Iran reported that 20.2% were daily smokers and 1.8% was occasional smokers.[12] However, our findings are also above than the national average as reported by John RM *et al*, where 2.3% of the monthly household expenditure was on tobacco.[13] Panigrahi A *et al.* reported 84.2% were daily tobacco users, this study was conducted among adolescents and less than daily use might escalate to daily consumption as this population reach adulthood.[14] Ahmed S *et al.* reported that 40% of the participants used smokeless tobacco less than 3 times per day.[15] In the present study 80% of the participants had spent 5% or more of their monthly income on tobacco consumption which was much higher than 1.44% of the monthly basic salary of among government employees as reported by Ahmed *et al*.[15] This difference could be due to the difference in pay structure among the participants of the present study and government employees.

Present study revealed that mean age of onset for smoking tobacco was 22.2±3.6 and mean duration was 12.3±5.5 which was much higher than that reported by Ahmed S *et al*[15] among government employees and Rajiva *et al*[16] among military population. In contrast to GATS 2 report[8] which reported a lower age of initiation of tobacco products (18.9 for smoking and 18.8 for smokeless tobacco use), our study reported a slightly higher age of initiation for most participants which was in their early twenties.

Bharti B *et al* reported 51% use of smokeless tobacco, our study found the use of smokeless tobacco to be slightly lower (46.2%).[4] The current study revealed that 24.7% were addicted to both smoking and smokeless forms of tobacco which was like that observed by Dagupta A *et al*.[9] However, this was much higher than the 9% reported by Bharti B *et al*[4] in a nationally representative cross-sectional study. This difference could be attributed to the fact that smokeless tobacco use is more common in people aged 60+, belonging to male gender, rural areas, and with a poor wealth index as pointed out by Bharti B *et al*.[4] About 24.7% of the participants were addicted to any form of tobacco as reported by our study which was slightly lower than that reported by GATS-2 survey[8] where prevalence was 28.6% though it was much higher than that reported by Ahmed S *et al*[15] (8.6%). This difference could be due to the difference in socio-demographic profile of the study population involved. This hypothesis however is again contrasted in study by Panigrahi A *et al*[14] from Bhubaneswar who reported that 53.3% of the among adolescents, smokeless tobacco use was observed, whereas 30.3% used smoked tobacco and 16.4% consumed both types. Higher rates of tobacco use were reported in a study from Shillong which showed that 73.9% of the participants were current tobacco users 77.3% were ever users of tobacco in any form.[17]

In current study, among smokers 23.9% had very high dependence and among smokeless tobacco consumers 75% had tobacco dependence. This study reported that among smokers 76.1% had high to moderate nicotine dependence which was more than one and half times of that reported by Dasgupta A *et al*.[9] In the current study none of the smokers showed low nicotine dependence which contrasted a study from Burdwan town among adolescents by Islam K *et al*[18] where 45.4% belonged to the low nicotine dependence group. Another study from rural field practice area of a tertiary care hospital in Tamil Nadu reported that 48.7% of the study participants had high dependence which was much lower than that reported by our study, and 26.3% had low physical dependence on nicotine in contrast to none in the current study.[19]

The present study reported that around 62.2% intended to quit tobacco (precontemplation stage) in last 12 month. In the present study 29.2% were in contemplation stage and 19.4% went into preparation stage. Aryanpur M *et al.* reported that 23.8% of the participants quit smoking after they were diagnosed with Tuberculosis and the remaining 76.2% patients continued smoking despite PTB diagnosis.[12] Proportion of intention to quit in our study was almost double of that reported by GATS 2 report[8] (38.8%) as well as Dasgupta A *et al*[9] (31.8%) but comparable to the findings of Casado L *et al*[20] (65.6%). Panigrahi A *et al* noted that almost 60% of adolescents with intention to quit tobacco had other family members using tobacco products which are comparable to our study.[14] However, Ballal K *et al* from Karnataka reported a much lower proportion of tobacco use in family member which was seen in 16.4% of the participants.[21] When it was compared to the findings of Ahamed S *et al*[15], it was identified that the proportion to quit due to health effects (85.18%) were much lower in our study. While Dasgupta A *et al* reported that 24.2% had respiratory problems, intention to quit due to ill health was only 11.7% in our study.[9] Thus, ill health does not necessarily guarantee quitting attempt until and unless targeted intensive deaddiction strategies are in place. This shows that despite intentions; maintenance of tobacco free intervals didn't last long and eventually failed. Intensive deaddiction strategies are required to meet is gap. Contemplation phase and preparation phase of our study was higher than that reported by Sarkar A *et al*[17] but lower than that reported by Ebbert JO *et al*[19] and Reddy MM *et al*[22].

Present study established that those who belonged to male gender [AOR 6.69 (2.65-16.86)], recruitment by reliable [AOR 2.64 (1.13-6.15)], frequency of tobacco consumption of less than 5 times a day [AOR 2.59 (1.27-5.29], age of starting tobacco product use 21-25 years [AOR 3.15 (1.31-7.54)], >25 years [AOR 8.15 (2.79-23.76)], those who were smokers [AOR 7.18 (3.22-15.98)] and both form of tobacco users [AOR 4.30 (1.49-12.35)] had higher odds with intention to quit tobacco. Panigrahi A *et al.* from Bhuba-

neswar, reported that adolescents using tobacco for less than five years had significantly higher odds of intending to quit [AOR: 2.59 (1.14–5.87)].[14] Intention to quit was also more likely among those whose first tobacco use of the day occurred 31-60 minutes after waking [AOR: 2.60 (1.17–5.79)] or after more than 60 minutes [AOR: 6.69 (2.28–19.61)], as well as among adolescents who had noticed anti-tobacco messages in any media in the previous 30 days [AOR: 2.70 (1.02–7.14)] as described in Panigrahi A *et al*.[14] According to Reddy MM *et al*[22], the likelihood of quitting smoking was higher among individuals aged 15–24 and 25–44 years (compared with those ≥65 years), those living in the North, Central, or Eastern regions, and smokers who delayed their first cigarette for ≥60 minutes after waking. Quitting was also more common among individuals who had made a quit attempt in the past year, lived in households where smoking was prohibited, received medical advice to stop smoking, understood that smoking causes serious illness, and had seen antismoking messages on billboards or hoardings.

Whereas a systematic review conducted by Chen L *et al*[23] revealed that 56.9% had strong intention to quit. It also depicted that those with a higher intention to quit were generally younger, education level (χ^2=16.43; p <0.05) and occupational category (χ^2=31.70; p <0.001) also differed significantly between the groups. Notably, a higher proportion of participants with college-level education or above was found in the high-intention group (33.50% vs 26.07%). Park E *et al*[24] in their systematic review discussed in their Tobacco Status Project (TSP), which was a Facebook-based smoking cessation intervention did not increase in quit attempts (OR=0.94; 95% CI: 0.22–3.73) or readiness to quit (OR=0.927; 95% CI: 0.089–9.68; p = 0.947) over a 12-months period among young adults of united states; whereas, no significant differences in quit attempts (OR = 1.18; 95% CI: 0.81–1.72) or stage of change (p=0.69) between daily-smoking vocational school students who received a weekly SMS-based intervention and those who did not for the participants of Switzerland.

Our study identified that 93.7% of the participants had seen health messages regarding tobacco use, this observation of danger messages on tobacco product package is crucial determinant of quitting as 62% of cigarette smokers, 54% of bidi smokers and 46% of smokeless tobacco users thought of quitting due to warning labels on packets as per GATS 2 survey[8] and 53% seen it on packages as reported by Ballal K *et al*[21] from Karnataka. In contrast the most common source of information regarding the harmful effects of tobacco was the internet (96%) and television or radio (88%), as revealed by Ahamed S *et al*.[15] This is also corroborated by Reddy MM *et al*[22] who reported that individuals who had seen or read or heard about any antismoking messages in any media in the past 30 days were more willing to quit smoking compared with those who did not.

Reasons for intention to quit tobacco was mainly family and peer pressure (73.2%); whereas constipation (84.4%), depression and anxiety (81.6%) were the main reasons for not to quit tobacco. Findings from current study was higher than that reported by Dasgupta A *et al*.[9] Reasons for intention to quit tobacco were mainly family and peer pressure (73.2%) in the present study while Chawla G *et al*[25] found no such influence of family pressure on smoking cessation, other studies[26-28] supported our finding. Surani NS *et al*[29] in their study, also reported higher quitting intention in smokers who perceived that tobacco use has damaged their health. Thus, workplace-based health education on detrimental effects of tobacco should be in place for these support staff instead of assuming that they are aware of these effects simply because they are employed in the health care sector.

Strengths and Limitations

Strengths of this study include large sample size and simple random sampling technique. The study population was diverse with representation from different age groups, gender, other socio-demographic characteristics and information related tobacco.

Unfortunately, there were some limitations, due to reporting, social desirability bias (face-face interviews in the workplace-data was self-reported, which cannot be cross verified). It was conducted in a single institution, so data lack generalizability.

Conclusion and Recommendations

Though this population was involved with health care sector, none of the smokers had low dependence and one fourth tobacco smokers had very high dependence. Also, a considerable proportion of our study population trying to quit tobacco in the last 12 months, had made previous attempts to quit too. Those who were male, recruitment by reliable, consume tobacco less than 5 times a day, started tobacco product use at the age of 21-25 years and >25 years, smokers or both form of tobacco users were associated with intention to quit tobacco. Sustained level of motivation, through counselling or peer group motivation are cornerstones of maintaining tobacco free status. Formation of tobacco cessation support groups should be encouraged by recruiting agencies as a part of employee welfare measures. Also highlighting and rewarding successful quitters can be motivational for other employees with intention to quit but who are unable to prolong the tobacco free intervals.

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Availability of Data: The data supporting the findings of this study are available from the corresponding author upon reasonable request.

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