RESEARCH ARTICLE

Insights into Smoking and its Cessation among Current Smokers in India

Almas Binnal1, GuruRaghavendran Rajesh2*, Junaid Ahmed1, Ceena Denny1, Sangeetha U Nayak3

Abstract

Background: Initiation, perpetuation and cessation of smoking are all multifactorial. It is essential to explore interactions among various parameters influencing smoking and its cessation for effective smoking cessation interventions. Objectives: To obtain insights into smoking and its cessation among current smokers in India. Materials and Methods: The present study was conducted among current smokers visiting the Department of Oral Medicine and Radiology, Manipal College of Dental Sciences (MCODS), Manipal University, Mangalore. Knowledge, attitudes, behavior, worksite practices towards smoking and its cessation, barriers to smoking cessation and socio-demographic variables were explored using a structured, pretested, self-administered questionnaire. Results: A total of 175 current smokers participated in the study. Mean knowledge, attitude, worksite practice and barrier scores were 15.2±5.67 (66.1%), 57.5±7.67(82.1%), 4.18±2.02 (41.8%) and 57.4±12.37 (63.7%) respectively. Correlation analysis revealed: association of knowledge with education, occupation and religion; attitude with education and occupation; worksite practices with occupation; knowledge with attitude; and barriers negatively with worksite practices. The majority (85.7%) of respondents intended to quit smoking and this was associated with higher attitude scores, whereas actual quit attempts were associated with high knowledge, attitudes, worksite practices and low barrier scores. Conclusions: Various socio-demographic factors associated with smoking and its cessation were identified. The present study highlights the importance of identifying and targeting these interactions while framing guidelines and interventions for effective tobacco cessation in a developing country like India.

Keywords: Smoking cessation - current smokers - worksite practices - barriers - India

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Introduction

Tobacco has become an ever growing global menace and has emerged as the leading cause of death worldwide [World Health Organization (WHO, 2009; 2011; US Department of Health and Human Services: US DHHS, 2012)]. Tobacco usage is associated with many of the fatal diseases (Johnson, 2001; Winn, 2001; Zhang and Cai, 2003; Ezzati et al, 2005a: 2005b; Mellsted, 2006; White 2007; Lloyd-Jones et al., 2010; Deaton et al., 2011). Besides its impact on health, usage of tobacco is associated with high social, economic and environmental burden (Global Adult Tobacco Survey: GATS India, 2010).

The prevalence, morbidity and the mortality associated with tobacco usage is on the rise, (Ezzati and Lopez, 2004; Murthy and Mathew, 2004; Mathers and Loncar, 2006; WHO, 2009; 2011; Tobacco Atlas, 2012) causing high economic burden worldwide (John et al., 2009; WHO, 2011; Wu and Sin, 2011). A definite shift of tobacco related trend has been observed from developed to developing part of the world (WHO, 2011; Tobacco Atlas, 2012). It is reported that almost 6 million people died worldwide in the year 2011, with 80% of them belonging to low and middle income countries (Tobacco Atlas, 2012). It is also estimated that around 1 billion people might die in the 21st century if a similar trend continues (WHO, 2011; Tobacco Atlas, 2012). Smoking being commonest form of tobacco usage, it has been observed that 20% of the world population smokes tobacco (Tobacco Atlas, 2012).

India is no exclusion to this global scenario owing to the expanding prevalence of tobacco usage in India. This increase in tobacco usage could be attributed to increased economic growth witnessed in India over the past few decades. It has been estimated that 26.2% and 3.6% of Indian males and females respectively are smokers (GATS India, 2010; Tobacco Atlas, 2012). Also there is growing concern over increasing exposure to secondhand smoke (GATS India, 2010; Tobacco Atlas, 2012). GATS India
reported that 52% of the Indian adults were exposed to secondhand smoke at home (GATS India, 2010). India
witness’s highest tobacco related mortality in the world
(Shah et al., 2008; Murthy and Saddicchha, 2010). As
a result of growing trends in consumption of tobacco,
tobacco related morbidity and mortality in India are on
the rise (Murray and Lopez, 1997). To further aggravate
the situation, there is definite paucity of resources to deal
with this rising incidences of tobacco related illnesses in
India (Gajalakshmi et al., 2003; Murthy and Saddicchha,
2010).

Short term as well as long term benefits of tobacco
cessation is well documented in the literature (US DHHS,
1990; Samet, 1992; Kenfield et al., 2008; Murthy and
Saddicchha, 2010; Wu and Sin, 2011). Most of the tobacco
related deaths can be prevented if effective cessation
measures are implemented (World Bank, 2000; Murthy
and Saddicchha, 2010).

Initiation, perpetuation and cessation of smoking
involve interaction of multiple factors (Sims, 2009).
It is essential to identify these factors in order to
undertake tailor-made interventions for prevention and
cessation of smoking. However, there is definite dearth
of information related to comprehensive assessment of
various issues related to smoking and its cessation as
earlier investigations have focused on one or a few of
the concerned issues. Most of the earlier studies focused
mainly on prevalence and practices of smoking among
targeted populations such as school children, adolescents,
students, professionals, etc. (Sinha et al., 2007; Saade et
al., 2009; Khami et al., 2010; Jayakrishnan et al., 2011;
Al-Naggar et al., 2012). Socio-demographic determinants
might play a crucial role in smoking and its cessation.
Simultaneous investigation of all the issues in a single
population is essential to explore various interactions
among factors involved in smoking and its cessation. End
result might be critical to implement targeted interventions
pertaining to smoking cessation.

The present study was undertaken to assess knowledge,
attitude, practices of the current smokers in India towards
smoking and its cessation. The aim of the study was also
to assess the factors which act as barriers in smoking
cessation and to determine if any association existed
between the aforementioned parameters with respect to
each other and with respect to socio-demographic variables.
This is the first investigation to explore various
issues related to smoking and its cessation simultaneously
among current smokers in India.

Materials and Methods

The present study was conducted among current
smokers visiting the Department of Oral Medicine
and Radiology, Manipal College of Dental Sciences
(MCODS), Manipal University, Mangalore, Karnataka,
India. Prior to the study, ethical clearance was obtained
from the Institution Ethics Committee, MCODS,
Mangalore. Purposes of the study were explained to
the current smokers and were invited to be part of
the study. A total of 175 subjects participated in the study.
A cross-sectional questionnaire design was employed
in the present study using a structured, pretested, self-
administered questionnaire. The questionnaire comprised
of a total of 85 items apart from the demographic data
such as age, gender, education, occupation, religion
and marital status. Education and occupational status of
respondents in the present study were classified according
to Kuppuswamy’s scale (Kuppuswamy, 1981).

A total of 23 questions were employed to assess
the knowledge of current smokers towards adverse effects
of tobacco on oral and general health, and health of
the children and women; nicotine dependence; passive
smoking; safety of smokeless tobacco; and, importance
of quitting tobacco. Attitude of the study subjects were
explored using 14 items on a 5-point Likert scale. The
attitude domain focused mainly on parents as role
models for their children; passive smoking; price, selling
and advertisement of tobacco products; tobacco ban;
sponsorship by tobacco industry; smoke-free environment
and work places; importance of tobacco cessation.

A total of 15 items explored various smoking related
practices such as age when started to smoke; frequency,
type, frequent place and expenditure of smoking; reason
to start and for not being able to quit; methods used to
quit; and, when do they plan to quit smoking. Respondents
behavior towards smoking cessation was assessed using
items which enquired if they wish to quit smoking; find
it difficult to quit smoking; ever stopped smoking for at
least a week; ever approached doctor or dentist to seek
help in quitting smoking; and, were ever counseled to
quit smoking. Smoking and its cessation related worksite
practices were explored using questions which enquired
about prohibition of selling of tobacco products in and
near the worksite; tobacco related policies in place; health
education programs conducted; influence of peers and
workplace environment on tobacco use and its avoidance,
etc.

Various aspects of smoking which might hinder
tobacco cessation were addressed in the barrier domain of
the questionnaire comprising of 18 items. Barrier domain
enquired about enjoyment, craving, weight changes,
withdrawal symptoms, relief of boredom and stress
associated with smoking; interest in quitting smoking; peer
and social pressure; fear of failure; and, lack of awareness,
time and money.

The possible range of scores for knowledge, attitude,
work-site related practices and barriers were 0-23, 14-70,
0-10 and 1-90 respectively. Each answer for knowledge
and worksite related practices were scored as 1 or 0 based
on the accuracy of the answer. For attitude and barrier
domains 5-point Likert scale with options of ‘strongly
agree’, ‘agree’, ‘unsure’, ‘disagree’ and ‘strongly disagree’
was used.

Data was entered into the computer (MS Excel,
MS Word) and Statistical Package for Social Sciences
(SPSS), version 16.0 (SPSS Inc, Chicago IL) was
employed for data analysis. Internal consistency of the
knowledge, attitude and barrier domains were analyzed
for Crohnbach’s alpha and split half reliability. Differences
among various domains based on demographics such
as age, sex, education, occupation, religion and marital
status were evaluated using student’s t-test. Various
domain scores with respect to smoking cessation practices were compared by employing student’s t-test. Pearson’s correlation analysis was employed to assess the correlation between demographic variables and the domains; and also among the various domains. Chi square test was employed to assess correlation of smoking cessation related practices with demographic variables.

Results

Results of the pilot study indicated that the Cronbach’s alpha and split half reliability values for knowledge, attitude and barrier domains were 0.89 and 0.80; 0.82 and 0.73; and 0.83 and 0.68 respectively. A total of 175 current smokers participated in the main study. The mean age of the respondents was 28.61(±8.95) years and a majority of the respondents were males (n=174, 99.43%). The mean knowledge and attitude scores of respondents was significantly associated with attempts to stop smoking (χ²=7.02, p<0.01) and attempts to seek help of doctor (χ²=6.87, p<0.01) (Table 3).

Results of the correlation analysis indicated that education of the respondents showed significant association with their knowledge (r=0.24, p<0.00) and attitude (r=0.21, p<0.01) scores. Occupation showed significant correlations with knowledge (r=0.23, p<0.00), attitude (r=0.17, p<0.03) and work-site practice (r=0.17, p<0.02) scores whereas religion showed significant correlation with knowledge (r=0.16, p<0.04) scores (Table 2). Results also indicated that knowledge showed significant correlation with attitude (r=0.36, p<0.00), while barriers in smoking cessation were negatively associated with work-site related practices (r=−0.29, p<0.00) (Table 3).

Correlation analysis indicated that age was significantly associated with quit attempts by respondents (χ²=6.87, p<0.01) and attempts to seek help of doctor (χ²=7.02, p<0.01). It can also be observed that marital status of the respondents was significantly associated with attempts to

Table 1. Intragroup Comparison of Various Parameters among Study Subjects

<table>
<thead>
<tr>
<th>Demographic variables</th>
<th>Study subjects No.</th>
<th>Study subjects %</th>
<th>Knowledge Mean</th>
<th>Knowledge SD</th>
<th>Attitude Mean</th>
<th>Attitude SD</th>
<th>Work-site practices Mean</th>
<th>Work-site practices SD</th>
<th>Barriers Mean</th>
<th>Barriers SD</th>
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<td>≥26 years</td>
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<td>4.03</td>
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<td>5.2</td>
<td>58.62*</td>
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<td>4.37</td>
<td>1.87</td>
<td>56.48</td>
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<td>4.17</td>
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<tr>
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<td>57.48</td>
<td>7.67</td>
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<td>57.37</td>
</tr>
</tbody>
</table>

*Significant at 5% level of significance

Table 2. Correlation Analysis of Various Parameters with Respect to Demographics

<table>
<thead>
<tr>
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<td>2.02</td>
<td>57.37</td>
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</tbody>
</table>

*Significant at 5% level of significance, **Significant at 1% level of significances
seek help of doctor (χ²=4.03, p<0.01) (Table 4).

Results also indicated that respondents who wished to quit smoking reported significantly greater attitude scores than those who did not wish to quit (p<0.01). Subjects who found it difficult to quit smoking reported higher barrier scores than those who did not find it difficult to quit (p<0.01). Respondents who had attempted to quit smoking for at least a week reported higher knowledge (p<0.01), attitude (p<0.01), worksite practice (p<0.05) scores and lower barrier scores (p<0.01) than those who had not attempted to quit smoking. Those who had sought the help of doctor to quit smoking reported higher barrier scores than those who had not sought doctor’s help (p<0.05). Higher work-site practice scores were reported by respondents who were counseled to quit smoking than by those who were not counseled (p<0.05) (Table 5).

The mean age at which the respondents first tried and started regular smoking was 20.14 (±4.29) years and 22.30 (±4.88) years respectively. A total of 161 respondents smoked daily whereas 14 smoked occasionally. Almost all of the study subjects (n=170, 97.1%) smoked cigarettes while the remaining subjects smoked bidi or other forms of tobacco with or without cigarettes. Stress (n=47, 26.9%) emerged as the main reason to start smoking followed by other reasons such as pleasure (n=39, 22.3%), peer and social pressure (n=38, 21.7%), experimentation (n=24, 13.7%), cool and glamorous (n=19, 10.9%) and association of smoking with maturity (n=8, 4.6%). Majority of the subjects (n= 100, 62.1%) smoked 1 to 5 cigarettes per day whereas 38 (23.6%), 16 (9.9%) and 7 (4.3%) subjects smoked 6-10, 11-15 and ≥16 cigarettes per day. Occasional smokers smoked 1-15 smokes per month. While 19 (10.9%) subjects had no fixed timing for smoking, 64 (36.6%), 36 (20.6%), 10 (5.7%), 13 (7.4%) of the respondents reported that they smoke their first cigarette of the day within 1, 2, 3 and 4 hours of waking respectively. On an average, respondents spent Rs. 818 per month on smoking with range of Rs. 15 to 5000. A total of 123 (70.3%) subjects smoked at worksite and 106 (60.6%) subjects did not smoke when nonsmokers were around.

Majority of the 150 study subjects (85.7%) wished to quit smoking and responded to the reasons for their wish. Fifty three (30.3%) of them worried about tobacco related diseases, 46 (26.3%) feared cancer, 21 (12%) felt pressure from family and friends, 15 (8.6%) were worried about family, 8 (4.6%) had heard a health talk and 7 (4%) were worried of social boundaries. Although 103 subjects (58.9%) found it difficult to quit smoking, 111 (63.4%) did not try any methods to quit smoking while 11 (6.3%) of the remaining used medication, 23 (13.2%) used traditional remedies and 30 (17.2%) used other methods such as chewing tobacco, gum etc.

Even though 147 respondents (84%) never approached doctor or dentist to seek help in quitting smoking, 110 (62.9%) of the study subjects had stopped smoking for at least a week. Lack of knowledge on how to quit smoking (51.4%) emerged as the main reason for not able to quit smoking followed by not wanting to quit (16.6%), withdrawal effects (14.9%), fear of not succeeding (9.7%) and fear of rejection in peer and social group (7.4%). Twenty six (14.9%) and 80 (45.7%) of the respondents always and sometimes felt the need of assistance in quitting smoking respectively. Majority of 141 (80.6%) study subjects reported that they were not counseled by doctor or dentist to quit smoking. When enquired about their thoughts on quitting smoking, 16 (9.1%) subjects reported that they did not want to quit, whereas 89 (50.9%) responded that they were ready to quit immediately. A total of 38 (21.7%), 20 (11.4%) and 12 (6.9%) subjects were thinking to quit in a month, 2-6 months and 7-12 months respectively.

Table 3. Correlation Analysis of Various Parameters among Study Subjects

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Attitude</th>
<th>Work-site practices</th>
<th>Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>r value p-value</td>
<td>r value p-value</td>
<td>r value p-value</td>
<td>r value p-value</td>
</tr>
<tr>
<td>Knowledge</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Attitude</td>
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<td>-</td>
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<tr>
<td>Work-site practice</td>
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<tr>
<td>Barriers</td>
<td>-0.14 0.07 -0.04 0.59 -0.29* 0</td>
<td>-</td>
<td></td>
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</tbody>
</table>

*Significant at 0.1% level of significance

Table 4. Intragroup Comparison of Smoking Cessation Related Practices among Current Smokers

<table>
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<tr>
<th>Demographic variables</th>
<th>Wish to quit smoking</th>
<th>Find it difficult to quit smoking</th>
<th>Ever stopped smoking for at least 1 month</th>
<th>Ever sought help of doctor</th>
<th>Ever counseled to quit smoking</th>
</tr>
</thead>
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<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
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<td>Age &lt;25 yrs</td>
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<td>56&quot; 20</td>
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<tr>
<td>Age ≥26 yrs</td>
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<tr>
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<td>13</td>
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<td>14</td>
<td>60</td>
<td>46</td>
<td>71</td>
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<td>77</td>
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<tr>
<td>Others</td>
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<td>32</td>
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<td>33</td>
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<td>150</td>
<td>25</td>
<td>103</td>
<td>72</td>
<td>110</td>
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Table 5. Smoking Cessation Related Practices and Various Domain Scores

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Attitude</th>
<th>Work-site practices</th>
<th>Barriers</th>
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<tbody>
<tr>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Wish to quit smoking</td>
<td>Yes (150)</td>
<td>15.52</td>
<td>5.51</td>
</tr>
<tr>
<td>No (25)</td>
<td>13.36</td>
<td>6.33</td>
<td>53.08&quot;</td>
</tr>
<tr>
<td>Find it difficult to quit smoking</td>
<td>Yes (103)</td>
<td>14.93</td>
<td>5.94</td>
</tr>
<tr>
<td>No (72)</td>
<td>15.61</td>
<td>5.27</td>
<td>57.56&quot;</td>
</tr>
<tr>
<td>Ever stopped smoking for at least 1 week</td>
<td>Yes (110)</td>
<td>16.29&quot; 5.18</td>
<td>58.76&quot;</td>
</tr>
<tr>
<td>No (65)</td>
<td>13.38&quot; 6.02</td>
<td>55.31&quot;   7.34</td>
<td>3.77*</td>
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<tr>
<td>Ever sought help of doctor</td>
<td>Yes (28)</td>
<td>16.18</td>
<td>6.5</td>
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<tr>
<td>No (147)</td>
<td>15.03</td>
<td>5.5</td>
<td>57.52&quot;</td>
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<tr>
<td>Ever counseled to quit smoking</td>
<td>Yes (34)</td>
<td>16.74</td>
<td>6.04</td>
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<tr>
<td>No (141)</td>
<td>14.84</td>
<td>5.54</td>
<td>57.43&quot;</td>
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</table>

*Significant at 5% level of significance, **Significant at 1% level of significances, ***Significant at 0.1% level of significances
Discussion

Smoking is a major but modifiable cause of premature death worldwide (Gavin, 2004). As quitting tobacco improves health significantly, there is increased focus on cessation of tobacco usage worldwide. Since smoking and its cessation is multifactorial, identifying the smoking and cessation related factors and their associations might be critical to implement targeted interventions pertaining to tobacco cessation. The present study was the first exploration to assess various factors associated with smoking which influences its cessation comprehensively among a population of current smokers in the India.

The role of increasing knowledge in reducing smoking initiation, facilitating smoking cessation and long term abstinence from smoking is well appreciated (Curry et al., 1997; Hyland et al., 2004; WHO, 2008). Awareness about health hazards associated with smoking is a significant predictor in predicting smoking related behavior. However, there is scarcity of explorations which have reported on knowledge of smokers towards tobacco and its cessation, especially in the Indian context.

The respondents in the present study had mean knowledge score of 15.21 (66.13%). The knowledge scores are higher than those reported by Yang et al. (2010) and Sansone et al. (2012) who reported a mean score of 3.82 and 2.59 on a scale of 8 among current smokers in China and India respectively. Various other investigators have also reported that although smokers were aware that smoking was injurious to their health on a whole, they did not have a clear knowledge about the specific risks of diseases (Reddy et al., 1996; Takano et al., 2001; Weinstein et al., 2004; Oncenk et al., 2005; GATS India, 2010; Raupach et al., 2011; Minh An et al., 2013). These results indicate that there is further need to formulate and exercise measures to improve knowledge of tobacco users. It was also observed that the knowledge scores of respondents belonging to other religions were significantly greater than those belonging to Hindu religion in the present study. Further studies are required to elucidate more on this aspect of knowledge.

The mean attitude score of 82.11% in the present study is consistent with the reports of Sansone et al, who noted that smokers had a negative opinion about smoking and believed that it was bad for their health (Sansone et al., 2012). However, Sansone et al. (2012) also pointed that their study subjects believed that they were in good health and smoking did not harm them; and very few of them intended to quit smoking.

Osuchowski et al. (2009) reported that majority of their study subjects believed that employer should protect the non-smokers from second hand smoking and help the employees who smoke in quitting. In a similar study conducted in European Union, individuals who supported implementation of smoke free policies varied from 62.4% to 95.0% in restaurants; 43.7% to 93.1% in bars, pubs, and clubs; and, 66.2% to 94.7% in offices and other indoor workplaces (Martinez-Sanchez, 2010). The literature pertaining to worksite related smoking practices in India is sparse. The mean worksite smoking practice related scores in the present study was 41.8%, which indicates that although smoking was banned or restricted in India, it was not being followed effectively. Stringent measures are thus required to be implemented in order to make this law a reality in India.

Although many smokers wish to quit smoking, very few succeed in quitting the habit spontaneously. Jha et al have observed that only 2% smokers were successful in quitting smoking spontaneously (Jha et al., 2008). In order to facilitate tobacco cessation, it is of utmost importance to identify the factors which prevent smokers from quitting smoking. The mean barrier scores among present study subjects were 63.74%, indicating that these factors need to be eliminated or controlled to bring about effective smoking cessation. Further studies are required to confirm the results of the present study.

Correlation analysis revealed that knowledge was significantly associated with education, occupation and religion, which is consistent with the reports of Sansone et al. (2010). Individuals with higher education and occupational levels may be more aware of harmful effects of tobacco. Attitude of the study subjects showed significant correlation with their education and occupational status. Individuals with lower education and occupational levels need to be particularly targeted to instill positive attitude towards tobacco cessation in order to control the tobacco menace. Worksite practices showed significant correlation with occupation of the subjects. This implies that work places at lower occupational levels need to implement better anti-tobacco practices. Worksite practices also showed negative correlation with barriers to quit smoking in the present study. This indicates that respondents working at higher occupational status are more likely to report lesser barriers than those working at lower occupational levels. Hence improvement at worksite is crucial to effective smoking cessation practices. Health education programs pertaining to tobacco usage and its cessation need to be implemented at work places. Knowledge was associated with attitude of the study subjects, while no associations were observed between the other domains. Further research is required to shed more light on the same.

Intention to quit smoking was greater among subjects with higher attitude scores. In a similar study, intention to quit smoking was higher among subjects with high knowledge scores (Sansone et al., 2012). However actual quit attempts were higher among respondents with high knowledge, attitude and worksite practices and low barrier scores in the present study. Hyland et al. (2004; 2006) reported that intentions to quit are significant predictors of quit attempts.

Earlier studies reported level of quit intention to be 10% and 12% among their study subjects (GATS India, 2010; Sansone et al., 2012). In contrast, majority of the respondents (85.71%) in the present study reported that they wanted to quit smoking, while 51.43% reported that they did not know how to quit and 58.86% admitted that they find it difficult to quit smoking. These findings indicate that although many smokers wish to quit, they may not know how to quit and whom to approach. A total of 84% of the subjects reported that they were not counseled by a doctor or a dentist to quit smoking, which is
similar to the reports of Raupach et al. (2011). In contrast, Yu et al. (2004) reported that 74% of their subjects were counseled for quitting smoking (Yu et al., 2004). There is urgent need to spread awareness among the general public on whom to approach if they need help in quitting smoking. Further studies need to be undertaken to explore these issues.

Average age at which most of the study subjects in the present study first tried smoking was 20.14±4.29 years and when they started smoking regularly was 22.30±4.88 years. This is higher than that reported by investigators in GATS India 2010, who observed that their study subjects initiated tobacco usage at the age of 17.8 years (GATS India, 2010). GATS India 2010 reported that cigarette smoking was common in urban areas, whereas bidi smoking was common in rural population. Mangalore is an urban and economically well placed region which could be reflected in the population’s smoking practices, where most of the subjects smoked cigarettes.

Stress emerged as the major reason to start smoking in the present study, followed by pleasure, and peer and social pressure. In a study conducted among Malaysian school teachers, stress emerged as the second most common cause to start smoking (Al-Naggar et al., 2012). In a similar study among adolescents peer pressure emerged as major reason to start smoking (Bhojani et al., 2009). Although being under stress constantly is not normal, it has become an integral part of modern life. Various activities should be initiated to target stress, thereby preventing public from falling prey to the clutches of smoking and other harmful habits.

Most of our study subjects (70.29%) reported that they smoke when they were outside their house, which indicates the potential role that family can play in prevention and cessation of smoking. Family members of the smokers can be counseled along with the smokers to facilitate quitting smoking. Smoking is either banned or restricted in public places in India. However, 39.43% of the respondents in the present study reported that they indulge in smoking when nonsmokers were around. Further measures are required for effective implementation of the anti-tobacco laws in India. Second hand smoke is a major cause of concern and there is need to increase awareness of the public about the same.

Majority (60.57%) of the subjects in the present study felt the need for assistance in quitting smoking. A small percentage (6.29%) of the respondents had received medicinal remedies to quit smoking and 63.43% of the respondents never used any methods to quit smoking. There is need to identify smokers and provide them with adequate assistance in quitting smoking. There is also a definite lack of resources required to control tobacco menace in India. Medical professionals along with the other health professionals and volunteers need to be trained to increase the shortage of trained manpower. There is also a need to establish tobacco cessation clinics at the regional level, which will identify smokers and help them in quitting smoking. Screening of individuals for tobacco usage must be mandatory at health establishments, so that tobacco use can be targeted effectively.

Majority (84%) of the study subjects in the present investigation reported that they wanted to quit smoking within next 6 months and only a small number (9.14%) of individuals did not wish to quit smoking. This is in contrast to the reports of Sansone et al who reported that only 10% of their study subjects were ready to quit smoking in next 6 months and 37% individuals did not wish to quit smoking (Sansone et al., 2010). The variation in these findings could be attributed to the variations in cultural and socioeconomic background of the respondents.

The results of the present study must be analyzed in the view of its limitations. There is possibility of acquiescence (yea-saying), deviation (faking bad) and social desirability (faking good) biases in the questionnaire based studies. The results of the present study must be affirmed among a larger sample size.

The present investigation highlights the importance of implementing measures to improve knowledge about smoking and its cessation among the general public. There is definite need of meaningful involvement of health and allied health professionals in identifying and assisting smokers to quit smoking. Other professionals and volunteers can be trained in order to tackle the shortage of manpower issues in India to assist smokers to quit smoking. Policy makers need to implement tobacco related laws more stringently. Worksite environment and family members of smokers can play a vital role in facilitating tobacco cessation among smokers. Barriers in smoking cessation need to be targeted in order to facilitate cessation of smoking. Various interactions among smoking and its cessation related factors and socio-demographic factors also need to be considered while framing guidelines and interventions for effective smoking cessation in a developing country like India.

Following conclusions can be drawn from the present study, 1) Knowledge of the respondents towards smoking and its cessation was low. 2) Respondents had high attitude scores towards cessation of smoking whereas their practices towards cessation were low. 3) Smoking related worksite practices of smokers were poor and a number of factors were identified as barriers in quitting smoking. 4) Graduation and higher educational status, and semiprofessional and professional occupations had higher knowledge and attitude scores. Knowledge of subjects belonging to Hindu religion was lower than those belonging to other religion. 5) Significant association were observed among knowledge with education, occupation and religion; attitude with education and occupation; knowledge with attitude; worksite practices with occupation and negatively with respect to barriers in smoking cessation. 6) Age was associated with earlier quit attempts and attempts to seek help of doctor by the respondents. Marital status of the respondents was significantly associated with attempts to seek help of doctor. 7) Respondents who wished to quit smoking reported higher attitude scores and subjects who found it difficult to quit smoking reported higher barrier scores. 8) Respondents who had attempted to quit smoking for at least a week reported higher knowledge, attitude, worksite practice scores and lower barrier scores. 9) Those who had sought the help of doctor to quit smoking reported higher barrier scores. 10) Higher work-site practice scores
were reported by respondents who were counseled to quit smoking.

References


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