Tobacco Cessation Scenarios Among Healthcare Profession Students: A Multidisciplinary Study

Almas Binnal1, Rajesh Gururaghavendran2*, Ceena Denny1, Junaid Ahmed1, Arjun Kumar Tallada3

Abstract

Background: It is acknowledged that the most effective means to contain the tobacco epidemic is to involve healthcare providers across various disciplines. The present study was undertaken to gain a comprehensive insight into various factors that determine the efficacy of multidisciplinary approaches in tobacco control. Methods: A cross sectional study design using a structured, pretested and self-administered questionnaire was employed in the present study, conducted among medical and dental interns and final year nursing students. Respondent demographics, knowledge, attitude, behaviour, perceived effectiveness and barriers, and willingness to participate in tobacco cessation were assessed. Results: A total of 268 subjects participated, with mean knowledge, attitude, behaviour, perceived effectiveness and barrier scores of 69.7%, 89.0%, 72.0%, 80.6% and 88.6% respectively. There were significant differences among the mean scores of the study domains across the 3 disciplines. The majority (92.91%) of the respondents were willing to participate in tobacco cessation activities, but only 14.2% had previously received relevant training. Regression analysis revealed that the significant predictors of behaviour scores were gender, course, attitude and perceived effectiveness; those for willingness to undertake tobacco cessation activities were course, attitude, behaviour and perceived barriers. Conclusions: The study highlighted the willingness but low previous training among the participants and also identified factors that determine t behaviour and willingness to undertake tobacco cessation activities. The study emphasizes the need for modification in the policies pertaining to curricula of medical, dental and nursing training programs.

Keywords: Smoking and tobacco use- training health professionals- workforce development

Asian Pac J Cancer Prev, 19 (4), 1081-1088

Introduction

The detrimental effects of tobacco are not only witnessed by various organ systems of the human body but also by the environment (Eriksen et al., 2015). Tobacco usage is associated with high morbidity, mortality and economic burden [World Health Organization (WHO), 2011]. It is reported that tobacco kills one individual every 6 seconds (WHO, 2008). Tobacco usage lead to the death of 100 million people across the globe in the 20th century and another billion people might lose their life in the 21st century if the current trend continues (Eriksen et al., 2015). The link between tobacco usage and poverty is well established (WHO Tobacco Free Initiative, 2004; WHO, 2008). Despite various measures, tobacco consumption is on the rise especially in middle and low socioeconomic countries (Eriksen et al., 2015). The effects of tobacco are more destructive in these countries owing to their large population, lack of resources and awareness, healthcare costs, lack of stringent tobacco related policies (WHO, 2008). Furthermore, manpower shortage is one of the major reasons for inability to contain the situation effectively in these countries.

According to World Health Organisation report the only way to contain tobacco menace is to implement a comprehensive, uninterrupted, viable and adequately funded tobacco control strategies which focus on preventing uptake of tobacco habit; promotes cessation among users; prevention of passive smoking; and, regulation of tobacco products (WHO, 2005). It is noted that health care professionals play an important role in tobacco cessation of their patients (Bal et al., 1995; Saddichha et al., 2010; Gorin and Heck, 2004) by various methods ranging from brief advice and counselling to pharmacological interventions (Fiore et al., 2008).

WHO also recommended involvement of various streams of health professionals belonging to medical, dental, nursing, psychology, psychiatry, pharmacy and other health related professionals in order to combat tobacco epidemic (WHO, 2005). The team of multidisciplinary healthcare providers have an advantage that they interact with tobacco users at various levels of their treatment. The chances of quitting tobacco are higher when a person is persistently reinforced about tobacco

1Department of Oral Medicine and Radiology, 2Department of Public Health Dentistry, Manipal College of Dental Sciences, Mangalore, Manipal Academy of Higher Education, 3Sree Narayana Dental Clinic, Maripeda, Telangana, India. *For Correspondence: drrajeshgrao@gmail.com
hazards from all the healthcare providers’ frequently (WHO, 2005). However, several studies have also reported lack of time as one of the major hindrance for tobacco cessation counselling among healthcare providers (Vogt et al., 2005; Panaitecu et al., 2014; Li et al., 2014).

Considering the magnitude of the current tobacco usage scenario there is a need to rope in the untapped potential of healthcare professional students who closely interact with patients during their training program. Healthcare professional students in the final years of training program are at advantage as they are in concluding years of their training program and have gained the necessary skills to manage patients. Hence they might play significant role in facilitating tobacco cessation among its users. Earlier research works by various authors such as Springer et al., (2008), Patelarou et al., (2011), Rajasundaram et al., (2011), Binnal et al., (2012) and Grassi et al., (2012) highlighted the importance of integrating healthcare professional students in tobacco cessation activities.

Although WHO recognised the importance of multidisciplinary approach towards tobacco control (WHO, 2005), the current literature lacks data pertaining to the comprehensive assessment of various factors determining the usefulness of multidisciplinary approach towards tobacco cessation. As a part of global tobacco surveillance system, US Centers for Disease Control and Prevention and Canadian Public Health Association initiated Global Health Professions Student Survey (GHPSS) to collect information about the tobacco usage among medical, dental, nursing and pharmacy students; and tobacco cessation related counselling practices among their patients (GTSS Collaborative Group, 2006). Since the studies conducted earlier had focused only on one or fewer factors, there is a definite need for studies focusing on comprehensive evaluation of factors influencing the multidisciplinary approach towards tobacco control. Hence, the present study was undertaken to gain comprehensive insight into the various factors that facilitate or hinder such an approach. The study results might help streamline the educational curriculum across all the health professions for better control of tobacco. Once identified the facilitators of tobacco cessation can be further improvised and implemented whereas barriers can be eradicated to control the tobacco epidemic.

Materials and Methods

The present study was conducted among the health care professional students who were in the last year of their professional training program in Mangalore city, Karnataka, India. The medical and dental interns and final year nursing students belonging to Kasturba Medical College, Mangalore; Manipal College of Dental Sciences (MCODS), Mangalore; and, Manipal College of Nursing, Mangalore respectively were included in the study. Clearance from the Institution Ethics Committee, MCODS, Mangalore and permission from the respective heads of the aforementioned Institutions were taken prior to conduction of the study. Informed consent was also obtained from the study subjects. A structured, pretested, self-administered questionnaire employed to assess various aspects of tobacco cessation among participants was developed by theory, research, observation and expert opinion (Binnal et al., 2012; Streiner et al., 2014).

The questionnaire comprised of 86 items divided into 5 major domains of knowledge, attitude, behaviour, perceived effectiveness and perceived barriers. Apart from these questions, participants were queried about their workplace related practices, willingness to undertake tobacco cessation activities, earlier training in tobacco cessation, methods used to facilitate tobacco cessation among patients, and their awareness pertaining to tobacco control policies [WHO Framework Convention on Tobacco Control (FCTC) and Cigarettes and Other Tobacco Products prohibition Act (COTPA)].

The knowledge domain focussed on effects of tobacco on oral and general health, second-hand smoking, addiction to nicotine, and tobacco cessation strategies. Attitude domain evaluated the study subjects perspective towards health professionals serving as role models; necessity of participating in tobacco cessation activities and training; importance of inquiring about tobacco related practices of patients and advising them to quit; increasing the price of tobacco products; forbidding advertisement of tobacco products, selling of tobacco products to children and adolescents, smoking in public places, hospitals, etc. Behaviour domain related questions enquired about whether the study participants ask patients about their tobacco habits; explain the impact of tobacco on general and oral health; advise patients to quit tobacco and not to smoke in public places and around children; assist and follow up the patients to help them quit tobacco. Perception of study subjects towards self-efficacy in undertaking tobacco cessation activities; recognising nicotine addiction and withdrawal symptoms; identifying precancers, cancers and other tobacco related diseases among their patients was analysed using perceived effectiveness domain. Perceived barrier domain reviewed study members perception towards various issues that might hinder tobacco cessation among patients.

Depending upon the appropriateness of the participants responses to the questionnaire, each question of the knowledge domain was scored as 0 or 1 based on its accuracy, whereas 5 point Likert scale for attitude and perceived effectiveness domain and 3 point Likert scale for behaviour and perceived barrier domain was used. Hence, the range of scores for various domains were: knowledge, 0-24; attitude, 1-80; behaviour, 1-42; perceived effectiveness, 1-25; and, perceived barrier, 1-39. Demographic information including age, gender, and place of residence was also collected from the participants.

The collected information collected was entered into the computer and analysis was performed using Statistical Package for Social Sciences (SPSS), version 16.0 (SPSS Inc, Chicago IL). Correlation analysis was used to assess the association of study domains among themselves and with respect to demographics. Regression analysis was employed to identify the factors that determine the behaviour of the study subjects towards tobacco cessation and their willingness to undertake tobacco cessation activities among their patients.
Tobacco Cessation Scenarios among Healthcare Profession Students

Results

A total of 268 subjects in the final year of their professional courses comprising of 116 (43.28%) medical interns, 100 (37.31%) dental interns and 52 (19.41%) final year nursing students participated in the study. Majority of the participants were females (n=136, 50.75%), aged ≥23 years (n=163, 60.82%) and residing at institutional hostel premises (n=163, 60.82%).

The Crohnbach’s alpha and split half reliability values for the questionnaire employed in the present study for knowledge domain were 0.67 and 0.67 respectively (Binnal et al., 2012).

The mean knowledge, attitude, behaviour, perceived effectiveness and barrier scores among the study subjects were 69.67%, 89.03%, 72%, 80.64% and 88.62% respectively Table 1. Results of ANOVA indicated that there were statistically significant differences in knowledge, attitude and behavior scores between medical, dental and nursing participants. Posthoc analysis revealed that there were statistically significant differences in knowledge scores between medical and dental students; and dental and nursing students. It can also be observed that there were statistically significant differences in attitude scores between medical and dental students; and medical and nursing students. Results also showed that there were statistically significant differences in behavior scores between medical, dental and nursing participants.

Table 1. Mean Knowledge, Attitude, Behavior, Perceived Effectiveness and Perceived Barrier Scores Among Study Subjects

| Course     | Knowledge Mean | Knowledge SD | Knowledge % | Attitude Mean | Attitude SD | Attitude % | Behavior Mean | Behavior SD | Behavior % | Perceived effectiveness Mean | Perceived effectiveness SD | Perceived effectiveness % | Perceived barriers Mean | Perceived barriers SD | Perceived barriers % |
|------------|----------------|--------------|-------------|---------------|-------------|-------------|---------------|-------------|------------|-----------------------------|--------------------------|------------------------|------------------------|------------------------|------------------------|
| Medical    | 16.43          | 2.298        | 69.46       | 7.691         | 86.6        | 31.75       | 5.42          | 75.595      | 20.37      | 2.796                       | 81.48                    | 34.47                  | 4.756                  | 88.39                  |
| Dental     | 17.56          | 2.528        | 73.17       | 6.594         | 90.15       | 28.73       | 5.17          | 68.41       | 19.83      | 2.854                       | 79.32                    | 35.03                  | 3.794                  | 89.82                  |
| Nursing    | 15.75          | 3.080        | 65.63       | 6.770         | 92.29       | 29.75       | 6.26          | 70.83       | 20.31      | 3.686                       | 81.24                    | 33.87                  | 4.827                  | 86.85                  |
| Total      | 16.72          | 2.752        | 69.67       | 7.439         | 89.03       | 30.24       | 5.65          | 72.16       | 19.83      | 2.854                       | 80.64                    | 34.56                  | 4.439                  | 88.62                  |

Table 2. Inter-Group Analysis of Knowledge, Attitude, Behavior and Perceived Effectiveness and Barrier Scores Pertaining to Tobacco Cessation Among the Participants

| Variable                  | Different streams | ANOVA       | Medical      | Dental      | Nursing     |
|---------------------------|-------------------|-------------|--------------|-------------|-------------|
| Knowledge                 | Medical           | p<0.001     | -            | -           | -           |
|                           | Dental            | -           | -1.12897*    | -1.81000*   | -           |
|                           | Nursing           | -68103      | -1.81000*    | -1.81000*   | -           |
| Attitude                  | Medical           | p<0.001     | -            | -           | -           |
|                           | Dental            | -           | 2.84414*     | 1.70692     | -           |
|                           | Nursing           | -4.55106*   | 1.70692      | 1.70692     | -           |
| Behavior                  | Medical           | p<0.001     | -            | -1.02       | -1.02       |
|                           | Dental            | -3.02*      | -            | -1.02       | -1.02       |
|                           | Nursing           | -2.00       | -1.02        | -1.02       | -1.02       |
| Perceived effectiveness   | Medical           | p=0.389     | -            | -0.54069    | -0.54069    |
|                           | Dental            | -0.54069    | -            | -0.54069    | -0.54069    |
|                           | Nursing           | -0.063      | 0.47769      | -0.063      | 0.47769      |
| Perceived barriers        | Medical           | p=0.267     | -            | 0.55586     | -           |
|                           | Dental            | -           | -0.60875     | -1.16462    | -1.16462    |
|                           | Nursing           | -           | -1.16462     | -1.16462    | -1.16462    |

Table 3. Correlation Analysis of Knowledge, Attitude, Behavior, Perceived Effectiveness and Barriers, and Demographics Among Study Subjects

| Knowledge | Attitude | Behavior | Perceived effectiveness | Perceived barriers |
|-----------|----------|----------|-------------------------|--------------------|
| Age       | 0.118    | 0.053*   | -0.185                  | 0.002***           |
| Gender    | 0.112    | 0.068    | 0.239                   | <0.001***          |
| Residence | -0.03    | 0.62     | 0.244                   | <0.001***          |
| Knowledge | -        | -        | -                       | -                  |
| Attitude  | 0.356    | <0.001***| -                       | -                  |
| Behavior  | 0.029    | 0.639    | 0.111                   | 0.069              |
| Perceived effectiveness | 0.27 | <0.001*** | 0.217                   | <0.001***        |
| Perceived barriers | 0.165 | 0.007** | 0.192                   | 0.002**            |

*, significant at 5% level of significance; **, significant at 1% level of significance; ***, significant at 0.1% level of significance.
Correlation analysis of study domains with respect to demographics revealed statistically significant association of knowledge with age (r= -0.118, p=0.053); attitude with age (r= -0.185, p=0.002), gender (r=0.239, p<0.001) and residence (r=0.176, p=0.004). Correlation analysis also showed statistically significant association of knowledge with attitude (r=0.356, p<0.001), perceived effectiveness (r=0.202, p=0.001), perceived barriers (r=0.112, p=0.063) and willingness to undertake tobacco cessation activities among their patients (r=0.124, p=0.098). Scores between medical and dental students Table 2.

Table 4. Regression Analysis to Identify the Determinants of Behavior and Willingness to Undertake Tobacco Cessation Activities Among the Study Subjects

| Dependent variables | Independent variables | β/OR  | p-value | 95% CI Lower bound | Upper bound |
|---------------------|-----------------------|-------|---------|--------------------|-------------|
| Behavior            | Age                   | -0.112| 0.079   | -0.819             | 0.045       |
|                     | Sex                   | -0.183| 0.006** | -3.538             | -0.596      |
|                     | Course                | -0.157| 0.016*  | -2.132             | -0.219      |
|                     | Address               | 0.029 | 0.637   | -1.054             | 1.719       |
|                     | Knowledge             | -0.062| 0.34    | -0.392             | 0.136       |
|                     | Attitude              | 0.129 | 0.052*  | 0.001              | 0.200       |
|                     | Perceived effectiveness| 0.202| 0.001** | 0.153              | 0.606       |

| Willingness to undertake tobacco cessation activities among their patients | Age | 1.240 | 0.198 | 0.893 | 1.722 |
|-------------------------------------------------------------------------|-----|-------|-------|-------|-------|
| Sex (Male)                                                              | 0.614| 0.425 | 0.186 | 2.034 |
| Course (Nursing)                                                       | -   | 0.140 |       |       |
| Course (Medical)                                                       | 0.442| 0.262 | 0.106 | 1.840 |
| Course (Dental)                                                        | 0.157| 0.048*| 0.025 | 0.981 |
| Address (Hostel)                                                       | 0.775| 0.641 | 0.266 | 2.260 |
| Knowledge Score                                                        | 0.993| 0.942 | 0.827 | 1.193 |
| Attitude Score                                                         | 0.926| 0.030*| 0.864 | 0.993 |
| Behavior Score                                                         | 1.109| 0.039*| 1.005 | 1.225 |
| Perceived effectiveness                                                | 0.971| 0.731 | 0.819 | 1.151 |
| Perceived barriers                                                     | 0.883| 0.027*| 0.791 | 0.986 |

*, significant at 5% level of significance; **, significant at 1% level of significance

Table 5. Workplace Related Activities Among the Study Subjects

| Workplace related activities | Medical | Courses | Nursing | Total (%) |
|------------------------------|---------|---------|---------|-----------|
| Type of tobacco-free policy  | No policy on smoking | 11 | 40 | 24 | 75 (27.99) |
|                              | Smoking rooms available | 23 | 0 | 2 | 25 (9.33) |
| Tobacco free policy enforced | No smoking allowed at all | 82 | 60 | 26 | 168 (62.69) |
| Prohibition of selling of tobacco in working premises                   | Always | 51 | 63 | 25 | 139 (51.87) |
|                              | Sometimes | 52 | 28 | 21 | 101 (37.69) |
|                              | Never | 7 | 3 | 1 | 11 (4.1) |
|                              | Unaware | 6 | 6 | 5 | 17 (6.34) |
| Prohibition of selling of tobacco near working premises                  | Always | 71 | 83 | 22 | 176 (65.67) |
|                              | Sometimes | 20 | 6 | 18 | 44 (16.42) |
|                              | Never | 3 | 3 | 9 | 15 (5.6) |
|                              | Unaware | 22 | 8 | 3 | 33 (12.31) |
| Prohibition of selling of tobacco in working premises                   | Always | 57 | 20 | 16 | 93 (34.7) |
|                              | Sometimes | 41 | 28 | 22 | 91 (33.96) |
|                              | Never | 14 | 43 | 14 | 71 (26.49) |
|                              | Unaware | 4 | 9 | 0 | 13 (4.85) |
| Environment at workplace influences to smoke                             | More | 2 | 11 | 14 | 27 (10.07) |
|                              | Less | 114 | 89 | 38 | 241 (89.93) |
| Total                       | 116 | 100 | 52 | 268 |
effectiveness ($r=0.27$, $p<0.001$) and perceived barriers ($r=0.165$, $p=0.007$); attitude with knowledge ($r=0.356$, $p<0.001$), perceived effectiveness ($r=0.217$, $p<0.001$) and perceived barriers ($r=0.192$, $p=0.002$); behaviour with perceived effectiveness ($r=0.255$, $p<0.001$) and barriers ($r=0.181$, $p=0.003$); perceived effectiveness with knowledge ($r=0.27$, $p<0.001$), attitude ($r=0.217$, $p<0.001$), behaviour ($r=0.255$, $p<0.001$) and perceived barriers ($r=0.185$, $p=0.002$); and, perceived barriers with knowledge ($r=0.165$, $p=0.007$), attitude ($r=0.192$, $p=0.002$), behaviour ($r=0.181$, $p=0.003$) and perceived effectiveness ($r=0.185$, $p=0.002$) Table 3.

The issues related to study subject’s willingness to participate, previous training and familiarity with tobacco controlling laws with respect to demographics were also enquired. Majority of the study subjects were

Table 6. Perceived Barriers Among the Study Subjects

| Perceived barriers                      | Medical | Courses | Nursing | Total (%) |
|-----------------------------------------|---------|---------|---------|-----------|
| Lack of awareness of patients           | No      | 10      | 7       | 6         | 23 (8.58) |
|                                         | Unsure  | 9       | 4       | 1         | 14 (5.22) |
|                                         | Yes     | 97      | 89      | 45        | 231 (86.19) |
| Patients not being interested           | No      | 1       | 2       | 2         | 5 (1.87)  |
|                                         | Unsure  | 8       | 4       | 0         | 12 (4.48) |
|                                         | Yes     | 107     | 94      | 50        | 251 (93.67) |
| Lack of time                            | No      | 14      | 14      | 1         | 29 (10.82) |
|                                         | Unsure  | 27      | 18      | 14        | 59 (22.02) |
|                                         | Yes     | 75      | 68      | 37        | 180 (67.16) |
| Patients are not compliant              | No      | 1       | 2       | 4         | 7 (2.61)  |
|                                         | Unsure  | 11      | 13      | 12        | 36 (2.61)  |
|                                         | Yes     | 104     | 85      | 36        | 225 (83.96) |
| Inadequate finances                     | No      | 17      | 13      | 5         | 35 (13.06) |
|                                         | Unsure  | 31      | 23      | 12        | 66 (24.63) |
|                                         | Yes     | 68      | 64      | 35        | 167 (62.31) |
| Lack of resources                       | No      | 21      | 13      | 8         | 42 (15.67) |
|                                         | Unsure  | 18      | 10      | 7         | 35 (13.06) |
|                                         | Yes     | 77      | 77      | 37        | 191 (71.27) |
| Lack of awareness among dentists        | No      | 33      | 34      | 16        | 83 (30.97) |
|                                         | Unsure  | 14      | 14      | 13        | 41 (15.30) |
|                                         | Yes     | 69      | 52      | 23        | 144 (53.73) |
| Lack of referral centers                | No      | 13      | 5       | 14        | 32 (11.94) |
|                                         | Unsure  | 21      | 15      | 8         | 44 (16.42) |
|                                         | Yes     | 82      | 80      | 30        | 192 (71.64) |
| Lack of training                        | No      | 7       | 6       | 9         | 22 (8.21)  |
|                                         | Unsure  | 15      | 10      | 6         | 31 (11.57) |
|                                         | Yes     | 94      | 84      | 37        | 215 (80.22) |
| Withdrawal effects                      | No      | 6       | 2       | 3         | 11 (4.10)  |
|                                         | Unsure  | 16      | 7       | 13        | 36 (13.43) |
|                                         | Yes     | 94      | 91      | 36        | 221 (82.46) |
| Fear of detecting cancer among patients | No      | 17      | 7       | 10        | 34 (12.69) |
|                                         | Unsure  | 26      | 26      | 11        | 63 (23.51) |
|                                         | Yes     | 73      | 67      | 31        | 171 (63.81) |
| Peer pressure                           | No      | 5       | 3       | 1         | 9 (3.36)   |
|                                         | Unsure  | 15      | 9       | 2         | 26 (9.70)  |
|                                         | Yes     | 96      | 88      | 49        | 233 (86.94) |
| Social pressure                         | No      | 14      | 12      | 4         | 30 (11.19) |
|                                         | Unsure  | 97      | 80      | 45        | 222 (82.84) |
| Total                                  |         | 116     | 100     | 52        | 268        |
willing to participate in tobacco cessation activities (92.91%); had not undergone any training in tobacco cessation (85.82%); and although 63.06% were familiar with COTPA (Cigarettes and Other Tobacco Products Act), 54.1% were not familiar with WHO FCTC (World Health Organisation – Framework Convention on Tobacco Control).

Regression analysis was employed to identify the determinants of behaviour and willingness to undertake tobacco cessation activities among the study subjects. Multiple linear regression analysis indicated that gender (p=0.006, β= -0.183), course (p=0.016, β=-0.157), attitude (p=0.052, β=0.129) and perceived effectiveness (p=0.001, β=0.202) were the significant predictors of behaviour scores among the respondents. Binary logistic regression analysis revealed that course (p=0.048, OR=0.157), attitude (p=0.030, OR=0.926), behavior (p=0.039, OR=1.109) and perceived barriers (p=0.027, OR=0.883) emerged as significant predictors of willingness to undertake tobacco cessation activities among their patients.

Workplace related activities among study subjects are presented in Table 5. Majority of the study subjects reported that no smoking was allowed at all on the premises (n=168, 62.69%), whereas 9.33% (n=25) reported that smoking rooms existed while 27.99% (n=75) noted that no smoking related policy existed in the premises. Majority of the study subjects reported that tobacco free policy was always enforced in the premises (n=139, 51.87%); selling of tobacco in the working premises was always prohibited (n=176, 65.67%); and, that environment at workplace was less conducive to smoke (n=241, 89.93%). However, only 34.7% (n=93) subjects reported that selling of tobacco near the working premises was prohibited.

The types of interventions used by the study subjects to help their patients in quitting tobacco were also enquired. Most of the study subjects did not or only sometimes used traditional remedies (n=164, 61.19%), self-help materials (n=145, 54.1%) and medication (n=144, 53.73%). However, majority (n=209, 77.99%) of the participants counselled their patients to quit habit.

The factors that were perceived to hinder the tobacco cessation activities were assessed in the perceived barrier domain. Patients not being interested (n=251, 93.67%), peer pressure (n=233, 86.94%), lack of awareness among patients (n=231, 86.19%) were reported to be major barriers for tobacco cessation by the study participants.

Discussion

In order to control the ever growing menace of tobacco, it is essential to prevent its initiation as well as facilitate its cessation among its users (WHO, 2005). The present study was an attempt at integrating healthcare professional students in the multidisciplinary approach towards tobacco cessation activities.

The mean attitude (89.03%) and perceived effectiveness (80.64%) scores were favourable among the study participants. Similar findings were reported by Yang et al., (2015) pertaining to knowledge and attitude; and, Saade et al., (2008) and Barbouni et al., (2012) about attitude among their study participants. However, study participants had lower mean knowledge (69.67%) and behaviour (72%) scores. The observations of the present study could be attributed to the underrepresentation of the importance of tobacco related diseases and its cessation among the undergraduate curriculum of the study subjects. Majority of the study participants perceived various issues that hinder tobacco cessation as barriers with a mean perceived barrier score of 88.62%. The results also emphasized the significant differences among the mean scores of the study domains across the 3 disciplines which is consistent with earlier reports by Sinha et al., (2010) and Barbouni et al., (2012). This might be the result of discrepancy in the curriculum, teaching methodology, teachers across the courses under study. Further studies are required to shed more light on to this variation.

The present study results emphasised the complex interactions among the study domains and with respect to the demographics. Further it is noted that gender, course, attitude and perceived effectiveness emerged as the significant predictors of behaviour of the respondents pertaining to tobacco cessation. In order to succeed, these complex interactions need to be contemplated while formulating multidisciplinary approach strategies. Similar comprehensive studies are summoned to confirm these findings.

Majority (92.91%) of the present study subjects were willing to participate in tobacco cessation activities. However, only 14.18% had received formal training in tobacco cessation which is consistent with the reports of Sinha et al., (2008), Saade et al., (2008), Barbouni et al., (2012) and Yang et al., (2015) wherein majority of the study participants thought that they should be trained in tobacco cessation, while very few had received any training previously. The professional course, attitude, behaviour and perceived barriers were the significant predictors of willingness to undertake tobacco cessation activities among the study participants. Familiarity with the existing tobacco control policies was also assessed in the present study. It is of concern that only 45.9% were familiar with WHO FCTC and 63.06% were familiar with COTPA. Healthcare professionals form an integral part of the healthcare system of the society and arming them with adequate knowledge, skill and competency is of utmost importance if one needs to control major threats such as tobacco. It is imperative to inculcate curriculum modifications to equip health professional students to undertake tobacco control activities independently. This might be achieved by revising the existing curriculum in favour of tobacco cessation and incorporating a mandatory course specific to tobacco issues at regular intervals across all the disciplines of health education.

The number of present study subjects who reported existence of tobacco free policy in their worksite premises was 72.01% which is in conformity with the findings of Sinha et al (2008) and contrary to the reports of Barbouni et al., (2012). Majority (89.55%) of the present study subjects claimed that smoke free policy was always or sometime enforced which is in contrast with the findings
of Barbouni et al., (2012). There is need to enhance awareness pertaining to hazards of second hand smoking and achieve adequate implementation of the policies pertaining to the smoking ban in and around the healthcare institutions.

Majority of the study subjects counselled the patients whereas only few advised medication, self-help materials or traditional remedies to help quitting tobacco. Ministry of Health and Family Welfare, Government of India, initiated 19 tobacco cessation clinics across the country to facilitate tobacco cessation (Thankappan, 2014). However, they have number of limitations which escalate the role of health professionals in controlling tobacco that might be undermined due to inadequate training of the health professionals. Hence, there is an urgent need to inculcate specific training protocols to facilitate meaningful involvement of health professionals in tobacco control.

The present study also analysed the factors that might act as barriers in employing multidisciplinary approach towards tobacco cessation. The major barriers perceived by the study participants included lack of interest among patients (93.67%), peer pressure (86.94%) and lack of awareness among patients (86.19%). It is imperative to address these barriers in order to conquer the tobacco menace.

The present study must be interpreted considering its limitations. The present study is a questionnaire based study which is prone to acquiescence, faking and social desirability biases. The 3 institutions included in the study might not embody all the institutions in India. Hence, studies involving multiple institutions and with larger sample size are warranted. Furthermore, tobacco habit among the health care professionals themselves might bear effect on tobacco cessation practices of their patients.

In conclusions, the study highlights the prospects of meaningful involvement of medical, dental and nursing healthcare professional students as part of multidisciplinary approach towards tobacco cessation. The study emphasised the participant’s positive attitude and higher willingness to undertake tobacco cessation activities among their patients, which is if channelized appropriately might target tobacco control in a more systematic and fruitful manner.

The Authors declare that there is no conflict of interest.

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