

## Assessing the Barriers Related With Delivering Tobacco Cessation Counseling Among Dental Students of Kanpur City

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**Abstract:** Background: Tobacco use is currently recognized as one of a major risk factor for health and is strongly related with high mortality rate globally. Dental professionals can easily recognize the patients with tobacco habits and can better counsel them regarding tobacco cessation due to increased duration of dental treatment as dentists have higher opportunities to deliver better cessation services to their patients. Aim: The present study was aimed at assessing barriers related with the delivery of tobacco cessation program among Dental students of Kanpur City. Methods: The present cross sectional, descriptive study was conducted on 157 dental students of Kanpur city. Purposive sampling technique was used. A self-structured, close-ended questionnaire consisting of 27 questions was administered to assess the barriers that related with the delivery of tobacco cessation counseling among dental students. Data was analysed using SPSS version 17.0 and percentages were calculated to derive the results. Results: Lack of training (90.44%), inadequate time (85.35%) and fear of losing the patients (84.71%) were the most common barriers reported by dental students. Conclusion: As dentists can easily identify their patients who consume tobacco and can deliver tobacco cessation counseling to them. With a proper training and knowledge regarding this can help them delivering the better counseling and also will help in establishing the healthier society.

[Antima S NJIRM 2017; 8(1): 54-59]

**Key words:** tobacco cessation program, dental students, barriers.

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**Introduction:** Tobacco use is currently one of a major risk factor for health globally and it is also strongly related with high mortality rate. Current statistics show that till 2030, approximately 10million deaths will be associated with tobacco use globally.<sup>1</sup>

India has a huge burden of tobacco related disability, mortality and morbidity. Nearly one third to half of the nation population use some form of tobacco above 15 years of age. According to Global Adult Tobacco 2010 Survey 34.6% adults use some form of tobacco which include 47.9% males and 203% females. Among 34.6% of current users, 14.0% were smokers and 25.9% use smokeless tobacco. The statistics revealed that out of all the users 35.4% of the smokeless tobacco users and 38.4% of smokers planned to quit tobacco. The estimated deaths in India due to tobacco were measured around 638,000 per year.<sup>2</sup> The results of a study conducted by Reddy K et al in 2004 revealed the that in rural India the relative risk of death associated with tobacco use is 50–60 % higher among smokers, 90 %higher among reverse smokers; and 15–30 % higher for people who chew tobacco in both males and females and 40% higher among people who chew and smoke tobacco.<sup>3</sup>

The World Health Organization predicts that in India mortality rate related to tobacco use may exceed up to 1.5 million per year by the year 2020.<sup>4</sup>Ifthe current

use of tobacco can be reduced to half by the year 2020 then 180 million deaths related to tobacco can be avoided globally.<sup>5</sup>

Dentists are the health care professionals who can easily recognize the patients with tobacco habits and can counsel the patients regarding tobacco cessation due to increased duration of dental treatment than other treatment as dentists have higher opportunities to deliver longer and better cessation services to their patients. A study conducted by Aza Fazura A 2004 has revealed the positive effects of smoking cessation intervention delivered by dentists.<sup>6</sup>Previous studies have revealed that certain barriers cause hindrance in tobacco cessation services among dental practitioners these are the lack of confidence<sup>7,8</sup>, knowledge<sup>9</sup> and delivery of tobacco cessation program , fear of losing the patients<sup>10</sup>if forced for tobacco cessation, so we assume that identification and removal of these barriers is important for the proper implementation and effectiveness of successful tobacco cessation program.

The aim of the present study was to identify the barriers related with the delivery of tobacco cessation program among Final Year students and Interns of Dental Institutes of Kanpur.

**Methods: Approval from authorities and Ethical Consideration:** The ethical Clearance was obtained by the Institutional Review Board. The required permission was obtained by the concerned authorities of the dental institutions.

**Study Design:** The present study is a, cross sectional, descriptive study. A pretested, closed ended questionnaire consisting of 27 questions was used to assess the dental students' Knowledge, Attitude, Practices and barriers related with the delivery of Tobacco Cessation Counseling to their patients. The validity of the questionnaire was checked before the start of the study.

**Sampling Method and Sample Size:** A purposive sampling was used to determine the sample size. Total 218 students were invited to participate in the study.

**Inclusion and Exclusion criteria:** Students who agreed to participate in the study and who were present on the day of data collection were included in the study, whereas students who were not willing to participate and who did not give the written consent were excluded from the study.

**Pilot study and Pre testing of the questionnaire:** In order to determine the feasibility of the study a pilot study was conducted on 25 dental students. The questionnaire was administered to the participants and based on the responses the data was analyzed and the validity of the questionnaire was calculated. The cronbach's coefficient was calculated as 0.86.

**Data collection and Analysis:** Total 218 dental students of final year and internship were invited to participate in the study, a day prior the collection of data because in dental institutes students up till third year don't interact with patients and cannot counsel them. Total 157 students agreed to participate in the study. After the agreement from the students a written informed consent was taken from each student prior to the filling of the questionnaire in English language. A self-structured, closed ended, pre tested questionnaire was used to gather the data. Total duration required for data collection was around 60minutes. The students were informed about the survey and the questionnaire was explained to them in detail. In order to get proper information each student was assigned a serial number and were told

not to fill their names on the questionnaire and the students were insured that their answers will be kept confidential and their answers will not affect their grades. This was done to increase response rate. The questionnaire comprised of 27 questions assessing the knowledge, attitude, behaviour and the barriers related to tobacco cessation program and each question had a five point likert scale to assess the responses from the participants which was dichotomized for the data analysis. Data analyses were done using SPSS version 17.0. A percentage was calculated for the analysis of the results.

**Results:** Table 1 shows the baseline data regarding the characteristics of the dental students in the study. He results showed that there was a higher predilection for males (71.97%) than females (28.02%). Around 79.61% dental students never used tobacco and 91.71% students believed that tobacco cessation is important. Though the estimated time spent in providing the intervention services to the patient per visit was found to be quiet low (31.89%). A higher percentage of 78.98% was found in regards to provide the tobacco intervention services in the future.

Table2: shows the knowledge of the dental students regarding tobacco cessation services. All 100% students believed that tobacco is addictive in nature and a high portion of students 87.89% were aware of harmful effects of tobacco on health. 73.88% students were unaware of the tobacco cessation technique. For the Nicotine replacement therapy as first line of pharmacotherapy the knowledge was limited to 52.22%.

Table 3 shows the attitude of dental students regarding the tobacco cessation services. Around half of the dental students believed that dentists do play an important role in tobacco intervention program. Higher results were found of around 85.35%. Regarding the dental practitioners who use tobacco showed delivery of tobacco cessation counseling.

Table 4: shows the practices of dental students regarding tobacco cessation services. 75.15% dental students reported that they explain the harmful effects of tobacco on general and oral health. Although only 10.82% dentists keep the records of the patient's tobacco use status.

**Table 1: Percentage of Characteristics of dental students in study, in each category**

	Number (n)	Percentage (%)		Number (n)	Percentage (%)
<b>Gender</b>			patient per visit		
Male	113	71.97%	Less than or equal to 1 minute	32	27.58%
Female	44	28.02%	2 minutes	24	20.68%
<b>Tobacco use status</b>			3 minutes	37	31.89%
Current user	23	14.65%	4 or more minutes	23	19.82%
Former user	09	5.73%	<b>Planning to provide tobacco intervention services in future</b>		
Never user	125	79.61%	Yes	124	78.98%
<b>Do you think tobacco cessation is important</b>			No	24	15.28%
Yes	144	91.71%	Not yet decided	9	5.73%
N	13	8.28%	<b>Any training related to tobacco intervention in the past of your BDS curriculum</b>		
<b>Have you ever advised any patient to quit tobacco?</b>			Yes	63	40.12%
Yes	116	73.88%	No	94	59.87%
No	41	26.11%	<b>Etime spent in providing tobacco intervention services per</b>		

**Table 2: knowledge of dental students regarding tobacco cessation services**

No	Questions	Yes(n)	%	No(n)	%
1	Are you aware of the current prevalence of tobacco use in India?	83	52.86%	74	47.13%
2	Do you think that tobacco use is addictive in nature?	157	100%	0	0%
3	Are you aware of the harmful effects of tobacco on health?	138	87.89%	19	12.10%
4	Do you think that tobacco use is associated with heart diseases?	114	72.61%	43	27.38%
5	Do you think that smoking causes delayed wound healing?	86	54.77%	71	45.22%
6	Do you think that smoking can be equally harmful as chewing tobacco?	129	82.16%	28	17.83%
7	Are you aware of the 5 A's and 5 R's of tobacco cessation technique?	41	26.11%	116	73.88%
8	Do you think that tobacco cessation program is possible with any drug therapy?	119	75.79%	38	24.20%
9	Is Nicotine replacement therapy used as first line of pharmacotherapy?	82	52.22%	75	47.77%

**Table 3: Attitude of dental students regarding tobacco cessation services:**

No	Questions	Yes (n)	%	No (n)	%
1	Dentist can play an important role in tobacco intervention program.	79	50.31%	78	49.68%
2	Dental practitioners should advice their patients to quit tobacco use	124	78.98%	33	21.01%
3	Tobacco cessation counseling by a dentist may have an impact on quitting of the habit	129	82.16%	28	17.83%
4	A dental practitioner who uses tobacco may/should deliver tobacco cessation counseling	134	85.35%	23	14.64%

**Table 4: Practices of dental students regarding tobacco cessation services**

No	Questions	Yes (n)	%	No(n)	%
1	Do you ask patients verbally whether they use tobacco?	157	100%	0	0%
2	Do you motivate your patients to quit tobacco use?	114	72.61%	43	27.38%
3	Do you explain the harmful effects of tobacco on general and oral health?	118	75.15%	39	24.84%
4	Do you arrange follow-up visits for the patients concerning tobacco intervention services in the institution?	107	68.15%	50	31.84%
5	Do you discuss pharmacotherapy with your patients?	92	58.59%	65	41.40%
6	Do you keep records of the patient's tobacco status?	17	10.82%	140	89.17%

Table 5 shows assessment of the barriers in providing tobacco cessation among dental services. 90.44% dentists believe that there is lack of training to counsel patients who use tobacco. 85.35% students reported that inadequate time available for counseling and

49.68% reported inadequate patient's material availability are another barriers related to tobacco cessation counseling. 61.78% dentists also had an opinion that sometimes the patient feel that dentists cannot provide proper tobacco intervention services.

**Table5: Assessing he barriers in providing tobacco cessation among dental students**

No	Questions	Yes (n)	%	No(n)	%
1	Identification of patients who use tobacco	113	71.97%	44	28.02%
2	Lack of training to counsel patients who use tobacco	142	90.44%	15	9.55%
3	Patients resistance to tobacco intervention services	98	62.42%	59	37.57%
4	Inadequate time available for the counseling	134	85.35%	23	14.64%
5	Inadequate availability of patients education material related to tobacco cessation counseling	78	49.68%	79	50.31%
6	Inadequate space to hold confidential conversations related to tobacco intervention counseling	42	26.75%	115	73.24%
7	Fear of losing the patient if counselled for tobacco cessation	133	84.71%	24	15.28%
8	Sometimes patients feel hat dentist cannot provide proper tobacco intervention services.	97	61.78%	60	38.21%

**Discussion:** Tobacco use and its health complications affecting the vast number of population globally, and tobacco use is also the major cause of morbidity and mortality so to overcome this problems Murthy and Saddichha, 2010 have focused the involvement of healthcare professionals of different fields to fight against tobacco use.<sup>11</sup>Dentistry is a noble profession and a dentists can play a role model and can provide smoking cessation and can prevent its major health hazards, so to identify the knowledge and interest of dental students in tobacco cessation counseling the present study was conducted on 157 dental students. The majority of the study population was male (71.97%).

The number of tobacco users in the study was relatively small (14.65%), which is in line with other reports of smoking prevalence among healthcare professionals Secker-Walker et al., 1994<sup>12</sup> and Awan KH 2015.<sup>13</sup>The less number of users with such findings sets a strong support and role model for the society but this could be because the study population involved was dental students and their fear of getting the results disclosed.

78.98% dental students agreed to provide assistance regarding smoking cessation to their patients in future, which highlights the need for training and motivation of dental professionals. This is an agreement with results of other studies (Logan et al., 1992; Clover et al., 1999; Wyne et al., 2006)<sup>14,15,16</sup>

where the Dentists reported that tobacco cessation programme is the part of their practice. In our study 40.12% of participants reported they had not gone under any tobacco cessation activity but 78.98% are willing to participate, the results are similar to the study conducted by Binnal et al 2012.<sup>17</sup>, where majority of the participants (97%) were willing to participate in the tobacco cessation activity.

Study conducted by Saddichha et al<sup>18</sup> reported a poor proportion of the professionals were aware of different forms of NRT and in a study conducted by Aggarwal VP et al., 2015<sup>19</sup>, reported 90% of the dentists' knowledge about NRT whereas in our study around half (52.22%) of the students have the knowledge regarding this. If the students were taught about the NRT supplements, they will be more precise in prescribing these medications to the patients who want to quit tobacco.<sup>20</sup>A study conducted by Salman et al<sup>21</sup> in 2014 showed that 50.1% respondents felt they were responsible as a Dentist to provide smoking cessation counseling significantly whereas in our study a higher number of dental students (78.98%) understand the their responsibility towards tobacco cessation this is in accordance with a study conducted by Sujatha S et al<sup>22</sup> 2015 where 100% of the participants felt the same.

In the current study 78.98% of dental students stated a positive attitude towards advising their patients regarding quitting of tobacco. This finding of our study

is similar to the study conducted by Amit S 2011<sup>23</sup>, Jain M 2015<sup>24</sup>, and Sujatha S 2015.<sup>22</sup> 82.16% of the dental students in our study believe that if a dental practitioner wills advice his/her patient regarding quitting of the habit, it will have an impact on patient. The findings are in agreement with the study conducted by Salman et al 2014.<sup>21</sup>

In the present study surprisingly all the students (100%) reported that they ask their patients about their use of tobacco this shows their active participation in tobacco use reduction. This result is similar to the study conducted by Sahoo S<sup>25</sup>2010 and Singla A<sup>26</sup>2014 in which 52% and 82.5% of the dentists reported that they enquired about tobacco use from their patients.

In our study 75.15% students reported that they explained their patients about harmful effects of tobacco on general and oral health which is in the accordance with the study conducted by Rajasundaram P<sup>27</sup> 2011 and Jain M<sup>22</sup> 2015 et al where 93% and 62.1% of the dental professionals reported the same respectively. This difference may be due to the lack of knowledge or interest. The current study show that 68.15% of the students arrange follow up visits for the patients concerning tobacco intervention services while the study conducted by Rajasundaram P 2011<sup>27</sup> and Jain M 2015<sup>24</sup> showed that only 16.4% and 13.7% dental students arrange follow up for their patients respectively. There were some barriers reported by the majority of students (84.71%) stated that such advises can influence their relationship with patients and they may even lose their patient.<sup>10</sup> Other reported barriers were lack of training and knowledge regarding tobacco cessation program which has similar results as reported by Rajasundaram P 2011<sup>27</sup>, Jain M 2015<sup>24</sup> and Sujath 2015<sup>22</sup>.

More than half of the students in present study reported their patient resistance towards cessation program is one of the barrier which is in accordance with the other studies where majority of the participants reported that lack of Patient's motivation towards quitting of tobacco habit is a major barrier.<sup>24,27</sup> Time constrain the another barrier reported by 85.35% of the participants which is in accordance with the studies by Rajasundaram P 2011<sup>27</sup> and Albert D 2002<sup>29</sup>.

**Limitations And Strength:** One of the limitations of the study was that the data were collected via self reported information by the dental students who have the theoretical knowledge about their subjects. However questions regarding knowledge of identification of oral lesions were not included which could have focused on assessment on their knowledge regarding this and hence a further study is recommended to assess the clinical knowledge of the dental students. Apart from that a proper Tobacco cessation intervention training should be included in the academic curriculum. Tobacco cessation intervention program is the major need of an hour because after achieving this we can prevent major oral diseases at an early stage. The cross sectional study design allowed easy data collection which was inexpensive and less time-consuming. The high response rate of the participants prevented major non response bias.

**Conclusion:** As mentioned before, dental treatments are lengthy procedures and dentists deal with their patients for longer period of time and also for the general population, dental professionals are their role models, so, we as a dentist can deliver tobacco cessation intervention effectively to our patients. Since dentists can easily identify their patients with such harmful habits, if they have a proper Knowledge and Training regarding Tobacco cessation intervention program, they can serve the community well.

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Conflict of interest: None
Funding: None
Cite this Article as: Antima S, Devina P, Tilak P, Deepika S Assessing The Barriers Related With Delivering Tobacco Cessation Counseling . <i>Natl J Integr Res Med</i> 2017; 8(1):54-59