RESEARCH ARTICLE

Perception and Practices of Physicians in Addressing the Smokeless Tobacco Epidemic: Findings from Two States in India

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Abstract

Background: Smokeless tobacco use in South Asia is believed to be a significant contributor to morbidity and mortality. In India, only a few studies involving health educational intervention by health care providers have demonstrated reduction in smokeless tobacco usage. In the present study we assessed the cessation efforts towards smokeless tobacco by physicians in two high tobacco prevalence states of India. The study also identified opportunities and barriers for integration of tobacco cessation services in routine practices of physicians. Materials and Methods: This mixed method study involved qualitative (phase I) and quantitative research study (phase II). In phase I, 59 in-depth interviews with physicians were conducted. In phase II, a quantitative study conducted among 238 physicians. An inductive approach was followed to analyze qualitative data using ATLAS. Ti software. The Chi-square test was employed to test the association between different variables of interest using SPSS version 17. Results: The majority of physicians related only respiratory problems and cancer with smokeless tobacco. Other major health effects like cardio-vascular problems, oral diseases, and effects on reproductive and neonatal health were recognized only by a few physicians. The age-group of 10-19 years was identified as most vulnerable to smokeless tobacco use. Less than one-third of physicians reported recording smokeless tobacco history of all patients. Findings indicated that less than half of physicians provided information on harmful health effects of smokeless tobacco with regard to specific diseases. Conclusions: The study revealed a low level of knowledge of physicians about harmful effects of tobacco and their suboptimal engagement in tobacco control practices. The study indicates the need of capacity building initiatives to equip physicians with skills in tobacco cessation.

Keywords: Smokeless tobacco - physicians - cessation education - India

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Introduction

Tobacco use is the leading preventable cause of death. Globally, tobacco accounts for over 5 million deaths annually. World Health Organization (2008) predicted that tobacco will lead to over 8 million deaths annually by 2030 with low and middle-income countries accounting for 70% of deaths. Smokeless tobacco use in South Asia is believed to be a significant contributor to morbidity and mortality (Gupta and Ray, 2003).

Smokeless tobacco is commonly used and increasingly so, especially as new forms have been emerging over the last few decades, enticing new consumers. Global Adult Tobacco Survey (GATS) 2009-10, India reveals that prevalence of smokeless tobacco is more than smoking (14%). Disparity also exists between rural (26%) and urban areas (15%). Increasing use of smokeless tobacco has been reported not only among men, but also among vulnerable groups such as children, adolescents, and women of reproductive age (GATS India, 2009-10; Patel, 2012). Smokeless tobacco is consumed predominantly by chewing in form of pan (piper betel leaf filled with sliced areca nut, lime, catechu, and other spices chewed with or without tobacco), pan-masala or gutkha (a chewable tobacco containing areca nut), and mishri (a powdered tobacco rubbed on the gums as toothpaste) (Gupta, 2013). Smokeless tobacco use poses a number of health risks. The major effects of smokeless tobacco are seen in the oral cavity, pharynx and oesophagus, which together account for a large proportion of the tobacco-related cancers that occur in the country (Raute et al., 2011). In particular, smokeless tobacco is a well established cause of oral cancer, one of the most common cancers in India (IARC, 2004). About 800,000 new cases of cancer are estimated to occur every year in India (Raute et al., 2011).

Health professionals play an important role in educating patients about the hazards of both forms of tobacco, asking, advising, and providing support and motivation to patients to quit tobacco (Gupta et al., 2005). Article 12 and 14 of WHO Framework Convention

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for Tobacco Control specifically emphasize the role of health professionals in tobacco control. Research has demonstrated that interventions that use Health Care Providers (HCPs) as tobacco control advocates were very effective. Simple advice from a HCP has been shown to increase abstinence rates significantly (World Health Organization, 2005). However, according to GATS data less than half of patients (43%) visiting the HCP in India were asked or advised about smokeless tobacco cessation. Considering that only about 1% of smokeless tobacco users spontaneously quit, it is very important to address smokeless tobacco cessation in India.

Tobacco cessation advice provided by health professionals enhances the quit rate among their patients (Centers for Disease Control and Prevention, 2007). In India, only a few studies involving health educational intervention by HCPs have demonstrated reduction in smokeless tobacco usage. Limited studies had been conducted in India on how often HCPs such as physicians ask patients about their tobacco use particularly smokeless tobacco, what kind of advice they give them, and whether they feel competent to assist patients quit attempts (Murti et al., 1990). In the present paper we assessed the cessation efforts towards smokeless tobacco by physicians in the two high tobacco prevalence states of India. The objective of the present paper is to evaluate the existing current practices of physicians for asking and advising smokeless tobacco users to quit. The study also identifies opportunities and barriers for integration of tobacco cessation services in routine practices of physicians.

Materials and Methods

The present paper was a subset of studies conducted under project STEPS (Strengthening of Tobacco control Efforts through innovative Partnerships and Strategies). Project STEPS is actively working towards reducing the health and economic burden of tobacco use in India by piloting multi-level initiatives in two states. The study was conducted in twelve districts of Gujarat (GJ) and Andhra Pradesh (AP) from March-June 2011. The study was a mixed method study involving qualitative and quantitative research. The study was conducted in the following phases: *i*) Phase I consist of a qualitative study which was aimed to capture the perception and practices of physicians towards tobacco use and tobacco cessation. A total of 59 in-depth interviews with physicians (GJ-31, AP-28) were conducted. Purposive sampling technique was used to recruit the study respondents. A snowballing approach was also used to support recruitment. In-depth interviews were conducted until saturation was achieved and until patterns were captured related to study objectives. Themes covered in phase I provided insights to discover key issues and elements for subsequent level of study. To facilitate the study, a discussion guide was prepared. Discussion guide had themes which focused on tobacco control strategies including training needs, cessation, and awareness generation amongst physicians; *ii*) In phase II we undertook a quantitative study to assess knowledge, perception and practices of physicians with regard to smokeless tobacco. Semi-structured questionnaire was administered and a total of 238 physicians across 233 public health facilities (Primary Health Centers -181, Community health centres-52) were interviewed. Respondents were recruited by simple random sampling.

Data analysis

A discussion guide which had priori themes was used to do the analysis. An inductive analysis approach was followed to identify existing and new patterns in the data by means of thematic codes. Two coders evaluated the transcripts and found high inter-coder interreliability in their evaluation of these themes. The coding system was applied to all the in-depth interviews and outputs were generated. After careful review of the raw data and several preliminary analyses, certain codes were determined and themes were developed accordingly. ATLAS.Ti (version 6.2) software was used to assign open codes, including quotes (respondents' exact words) as well as to create coding/analytical memos (analysis of codes and themes related to theory formulation). Based on the initial literature review which had generated priori themes and the qualitative research, we identified overarching themes that was central to our understanding of current environmental norms influencing perceptions and practices of physicians regarding smokeless tobacco use. The results were summarized and organized through a process of enumeration and examining relationships in the data using the outputs. Representative quotes corresponding to these key questions are presented to represent major findings Descriptive statistics was applied to portray the current status of tobacco related knowledge, attitudes, and practices among the respondents. Chi-square test was employed to test the association between different variables such as knowledge of physicians about health effects of tobacco and their practices in tobacco control in the two states by using SPSS version 17.

Written informed consent was obtained from all respondents. The ethical approval for the study was taken from the institutional ethics committee (TRC-IEC 66/60).

Results

Demographic profile

Table 1 illustrates demographic profile of the respondents. A total of 238 physicians were interviewed (AP-53%, GJ-46%). Majority of physicians were interviewed at Primary Health Centres (PHC) in rural areas. Major proportion of respondents was males (71%) in their middle ages.

Knowledge and perception of physicians on smokeless tobacco

Knowledge of physicians on health effects of smokeless tobacco: Table 2 shows that majority of physicians related only respiratory problems and cancer (lung, throat & oral cancer) with smokeless tobacco. Other major health effects like Cardio-Vascular Diseases (CVDs) and oral diseases (tooth & gum diseases) were recognized by less than a half of physicians (about 45%). Less than 10% of physicians were aware about harmful effects of smokeless tobacco on reproductive health outcomes such as low birth weight

and still birth. Findings from qualitative survey revealed that physicians related smokeless tobacco to oral cancer. A physician opined: "*Chewing tobacco is injurious to health, it is dangerous because one can have mouth cancer and other type of cancer too*".

Perception of physicians about population vulnerable to smokeless tobacco: Majority of physicians stated that males are prone to both forms of tobacco use (more than 90%) while females are inclined towards smokeless tobacco consumption (10%). Data from qualitative study suggest that a change in tobacco use pattern from smoking to smokeless tobacco is observed. A physician stated: "*Two years before people were mainly smoking but now they are consuming smokeless tobacco products such as khaini and gutkha*".

In the qualitative study factors leading to initiation of tobacco habit were captured. Findings indicate that peer pressure and emotional factors were mainly responsible for tobacco initiation. A physician mentioned: "*Youngsters start using tobacco on account of reasons due to depression. They take in the presence of friends and peer groups*".

Another respondent mentioned that: "*Some youngsters get habituated as a fashion, some due to pressure, emotional sides and other reasons of psychological deviation*".

Physicians perceived age-group of 10-19 years to be most vulnerable to smokeless tobacco use. A physician stated: "*Old people are smoking cigars and young people are using chewing variety... Maximum numbers of youth are being affected by chewing tobacco*"-Medical officer, AP.

Physicians mentioned that smokeless tobacco use is common among low socio-economic status people and those belonging to a particular community. Respondents also stated that smokeless tobacco use is common among women belonging to tribal castes like Tarpada, Thakore and Darbar in the state of Gujarat.

Practices of physicians to promote quitting of tobacco use

Smokeless tobacco history recording practices of physicians: Findings indicate that less than one-third (27%) of physicians reported that they record smokeless tobacco history of all patients. We found that less than half of physicians reported recording smokeless tobacco history selectively of patients suffering from respiratory diseases. Less than one-third of physicians do not take history (ask) of smokeless tobacco for patients suffering from CVDs and oral diseases. Less than 10% of physicians record smokeless tobacco history while providing antenatal services (Figure 1).

Information given by physicians about harmful health effects of smokeless tobacco: Physicians were questioned on the medical conditions for which they informed people about the harmful health effects of smokeless tobacco. As depicted in table 3, findings indicates that less than half of physicians provided information on harmful health effects of smokeless tobacco with regard to specific diseases such as respiratory problems and oral diseases. Findings indicate that information was not provided by the physicians while providing ante-natal care and while screening for CVDs.

Female Physicians and smokeless tobacco: We measured knowledge level of female physicians on deleterious health effects of smokeless tobacco on birth outcomes (still birth, low birth weight baby). About one-third (23%) of female physicians were aware of effects of tobacco like low birth weight babies. Significant difference was observed between knowledge of female and male physicians with females reporting more knowledge as compared to male physicians (10%) as far as the reproductive effects of smokeless tobacco was concerned (p value 0.02).

Only 11% of female physicians mentioned that they record smokeless tobacco history while providing ante-natal services. Less than one-third of them (15%) give information about harmful health effects of smokeless tobacco to women seeking ante-natal services.

Table 1. Demographic Profile of Physicians

Mean age		34 years (SD-8.5)
Location	Rural	89% (n=212)
	Urban	11% (n=26)
Gender	Male	71% (n=169)
	Female	29% (n=69)
Health Facility	Primary Health Centre	78% (n=181)
	Community Health Centre	22% (n=52)

Table 2. Knowledge of Physicians on Health Effects of Smokeless Tobacco

Medical conditions (n=238)	Gujarat	AP	Total
Oral cancer	65%	69%	67%
Respiratory problems*	50%	66%	59%
Throat cancer	50%	63%	57%
Mouth ulcer	54%	56%	55%
Lung cancer*	37%	65%	52%
Oral diseases*	36%	51%	44%
Cardio-vascular diseases*	16%	40%	29%
Still birth	4%	11%	8%
Low birth weight	4%	5%	4%

*p<0.05 for distribution of characteristics between the two states

Table 3. Information Given by Physicians about Harmful Health Effects of Smokeless Tobacco

Medical conditions	Gujarat	AP	Total
Respiratory problems* (n=109)	52%	41%	46%
Mouth ulcer* (n=104)	57%	33%	44%
Oral diseases* (n=85)	43%	30%	36%
Cardio-vascular diseases* (n=44)	11%	25%	19%
Chronic condition** (n=28)	13%	11%	12%
Antenatal check-up*	9%	3%	6%

*p<0.05 for distribution of characteristics between the two states; **Cardio-vascular diseases, asthma, diabetes

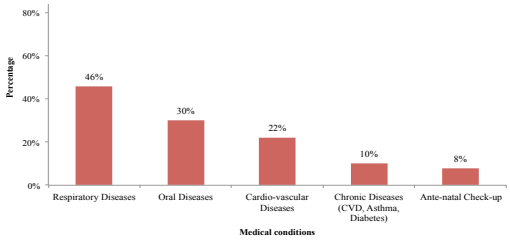

Figure 1. Smokeless Tobacco History Recording Practices of Physicians for Specific Medical Conditions

Interpersonal counseling practices of physicians for smokeless tobacco cessation: Almost all the physicians (98%) self reported that they counsel patients on smokeless tobacco cessation. More than half of the physicians mentioned that patient treat counseling as nagging and think that patient may not revisit if counseled against tobacco use (56%). One-third (23%) of physicians advised their patients to switch to smokeless tobacco in order to help them quit smoking. However, findings from qualitative study reveal that physicians recognized importance on counseling in tobacco control. A physician stated: "*There should be anti tobacco counseling. There should be a complete ward [clinical section] for it, where issues like prevention, quitting tobacco and tobacco-related sickness should be told*".

Discussion

The preamble to the WHO (2003) Framework Convention on Tobacco Control notes the significant role of health professionals in tobacco control. Our study attempted to understand the perception and practices of physicians on harmful health effects of smokeless tobacco in the two high tobacco prevalence states of India.

The harms of smokeless tobacco products vary as widely as the types of products themselves. Our findings suggest that physicians related tobacco to oral cancer. Considering the high burden of oral cancer in India this finding is promising. However, knowledge of physicians on harmful effects of tobacco beyond cancer was limited. The few points that are worthy of attention were relatively poor recognition of the impact of smokeless tobacco on CVDs. This is particularly troubling in Indian context where CVDs is one of the leading cause of morbidity and mortality (Reddy, 1990). Similar results were obtained from other studies in China, India, and Indonesia which stated that health professionals were generally aware that tobacco use is harmful but they were less aware of specific health risks beyond cancer (Yang et al., 1999; Mohan et al., 2006; Ng et.al., 2007; Hahn et al., 2009).

Tobacco consumption in India has a distinct socioeconomic and spatial distribution, the worse off population groups are at greater risk of consuming tobacco (Subramanian et al., 2007). As per GATS, India (2009-10) the age of initiation of use of smokeless tobacco in the state of AP and GJ is less than 15 years. Our findings indicate that physicians viewed age-group of 10-19 years vulnerable to smokeless tobacco use. Findings indicate that factors such as peer pressure and depression lead to tobacco initiation. This is in accordance with other studies conducted in different regions of the world (Morgan and Grube, 1991; Biglan, 1995).

A study conducted by Flora et al. (2007) in Bangladesh indicates that tobacco consumption is often found to be disproportionately higher among lower socio-economic groups. Our findings also revealed similar results as physicians mentioned that smokeless tobacco is commonly used among people belonging to low socio-economic strata and people belonging to particular caste and tribe.

Studies from developed countries reveal that a mere inquiry about the tobacco use status of patients by doctor's increases quit rates (Gorin and Heck, 2004). It is therefore imperative that physicians incorporate tobacco use while taking patient's medical history. Our finding reveals that medical practitioner's record tobacco history mainly for patients suffering from specific diseases and not for all patients visiting the health facility. This is because they associate certain specific diseases with tobacco. Patient with specific diseases were advised by physicians to quit tobacco use while this is promising it confines opportunities in clinical practices to counsel only specific patients for tobacco use. Familiarities with tobacco cessation methods will increase the chance for physicians to get involved in tobacco cessation activities.

Physicians can best promote tobacco cessation at times of illness when patients are concerned about their health and are amenable to advice on health promotion. However our study indicates that many physicians do not take advantage of illness as an opportunity for providing smokeless tobacco related information to patients suffering from specific-tobacco related diseases.

Research indicates that smokeless tobacco has adverse effects on pregnancy and the time of pregnancy is an ideal time to intervene (Mehta and Shukla 1990; Krishnamurthy and Joshi, 2003). Findings indicate that only a small number of female physicians ask and provide advice in smokeless tobacco cessation while providing antenatal services. This is a fact of concern as 15% and 11% of women consume smokeless tobacco in the states of AP and GJ respectively (GATS, India, 2009-10). Similar observations were made in a study by Mohan et al. in which female physicians were less prepared for tobacco cessation intervention. We argue that female physicians should not only use their judgment to provide advice for quitting smokeless tobacco but also use this as an opportunity for raising awareness against the deleterious effects of second hand smoke.

In our study, physicians stated that patient equate counseling as nagging and may not revisit if counseled in tobacco cessation. Such negative attitude of physicians is a point of concern as studies documented that residents report low professional satisfaction in treating addictions owing to poor attitudes (Saitz et al., 2002). Thus, capacity building initiatives in tobacco control should envisage improving attitudes in addition to improving knowledge among physicians.

Another point of serious concern is that physicians advocate for switching to smokeless tobacco as a harm reduction strategy against smoking. Smokeless tobacco also serves as a trajectory for dual use. However, dual users have also been shown to have a steeper trajectory of a more prolonged increase of tobacco consumption than do exclusive users of smokeless tobacco or exclusive smokers (Robert et al., 2011). Data from a world-wide case-control study suggest that compared with cigarette smokers, dual users are at higher risk for cardio-vascular diseases (Wetter et al., 2002).In addition, dual users have higher levels of nicotine exposure and may be less likely to stop tobacco use (Hatsukami and Severson, 1999; Severson et al., 2000; Tomar, 2002). It is disappointing to note that physicians who are regarded as a role model by the patient and whose advices are largely followed by

the patient serves as an agent to propagate initiation of smokeless tobacco use.

The few limitations of the study is the fact that the study relied on physicians' self report of their knowledge and practices which in the medical literature has generally been found to exaggerate communication. However, the data is still compelling given the low number of physicians who reported routinely asking patients about tobacco use.

In conclusion, the study revealed low level of knowledge of physicians about harmful effects of tobacco and their suboptimal engagement in tobacco control practices. The study indicates that capacity building initiatives to equip physicians with skills in tobacco cessation needs to be taken. The initiatives must address attitudes towards smokeless tobacco use, impart knowledge and skills required for intervention, address the therapeutic nihilism that often surrounds smokeless tobacco cessation.

Smokeless tobacco use is a growing public health concern in Indian context. The high prevalence of smokeless tobacco among vulnerable group such as children, women and youth, the complexities of myriad varieties and usage, and its recent use as a harm reduction strategy is a fact of concern. There is an urgent need to design targeted and context-specific strategies to curb the rising smokeless tobacco epidemic in the country. Medical professionals play an important role in tobacco control. This is more so in the South Asian region where physicians are treated as role models and patients are very likely to heed advice given by physicians at opportunistic clinical consultations. To foster practices in tobacco control and to capture tobacco-related information of tobacco users, tobacco use information system needs to be adopted in primary health care settings so that large populations benefit from prevention advice as well as treatment of addiction. Institutionalization of system reminders for physicians will help in both capturing history from patients as well as serve as a reminder for brief intervention. Evidence-based standard protocols need to be adapted to promote smokeless tobacco cessation. We hope that findings will alert the concerned authorities not only in the two states but also in the nation to prioritize the development of a strategy for comprehensive tobacco control program where smokeless tobacco is also addressed appropriately.

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