COMMENTARY

Tobacco Cessation in India: How Can Oral Health Professionals Contribute?

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Abstract

Tobacco use is described as the single most preventable cause of morbidity and mortality globally, with the World Bank predicting over 450 million tobacco-related deaths in the next fifty years. In India, the proportion of all deaths that can be attributed to tobacco use is expected to rise from 1.4% in 1990 to 13.3% in 2020 of which smoking alone will cause about 930,000 adult deaths by 2010. Many studies have shown that counseling from a health professional is an effective method of helping patients quit the tobacco habit. Tobacco cessation needs to be urgently expanded by training health professionals in providing routine clinical interventions, increasing availability and subsidies of pharmacotherapy, developing wide-reaching strategies such as quitlines, and cost-effective strategies, including group interventions. The WHO Framework Convention on Tobacco Control (FCTC) emphasizes the vital contribution of participation of health professional bodies, as well as training and healthcare institutions in tobacco control efforts. Dentists can play an important role in helping patients quit using tobacco. One of the key strategies to reduce tobacco-related morbidity and mortality is to encourage the involvement of health professionals in tobacco-use prevention and cessation counselling. The dental office is an ideal setting for tobacco cessation services since preventive treatment services, oral screening, and patient education have always been a large part of the dental practice.

Keywords: Morbidity, mortality - framework convention on tobacco control - tobacco cessation services

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Introduction

It is an established fact that tobacco usage is associated with many of the fatal but preventable diseases (World Health Organization, 2009; U.S. Department of Health and Human Services, 2012). Tobacco use is a major modifiable risk factor for health globally. Tobacco abuse and its hostile effects are known medical, dental and social concerns of global significance. (Mohanty et al., 2011) Tobacco usage increases the risk of many of the fatal diseases such as cancer (Johnson, 2001; Winn, 2001; Ezzati et al, 2005; Kanavos, 2006; Mellsted, 2006, stroke (Murray and Lopez, 1997; Lloyd-Jones et al., 2010), cardiovascular (Ezzati et al., 2005; White 2007; Deatona et al., 2011), and respiratory diseases (Zhang and Cai, 2003; Zhang et al., 2011) etc. Tobacco related morbidity and mortality accounts for high economic burden worldwide (John et al., 2009; WHO, 2011; Wu and Sin, 2011).

Tobacco related morbidity and mortality is on the rise in spite of advances in the diagnosis and treatment (Ezzati and Lopez, 2004; Murthy and Mathew, 2004; Danaei et al., 2005). Presently, it has been estimated that tobacco usage causes more than five million deaths worldwide, which is expected to rise up to more than eight million per year by 2030 (Mathers and Loncar, 2006; WHO, 2009).

In the South-East Asia Region (SEAR), smoking prevalence ranges from 29.8% to 63.1% among men and 0.4% to 15% among women. The practice of tobacco chewing also needs attention. Smokeless tobacco use ranges from 1.3% to 38% among men and 4.6% to 27.9% among women. (Varghese et al., 2012)

Tobacco use is a global epidemic that kills 5.4 million people annually, tragically, more than 80% of those deaths occurs in the developing world (Jiloha, 2008; WHO, 2008). Tobacco related mortality in India is among the highest in the world (Shah et al., 2008; Murthy and Saddicchha, 2010). In developing countries like India, one can observe increasing trends in consumption of tobacco, leading to rising incidences of tobacco related cancers and other illnesses (Gajalakshmi et al., 2003; Murthy and Saddicchha, 2010).

In India, the National Family Household Survey (NFHS 3) figures for 2005-06 reveal that 57% of males and 10.8% of females use some form of tobacco and there are about 194 million users of both smokeless and smoking forms. (Rani et al, 2003) Tobacco-related mortality in India is among the highest in the world, with about 700,000 annual deaths attributable to smoking in the last

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decade (Gajalakshmi et al., 2003), expected to increase to 1million in the current decade. In India, the proportion of all deaths that can be attributed to tobacco use is expected to rise from 1.4% in 1990 to 13.3% in 2020 (Reddy and Gupta, 2004) of which smoking alone will cause about 930,000 adult deaths by 2010 (Jha et al., 2008). Annual oral cancer incidence in the Indian subcontinent has been estimated to be as high as 10 per 100,000 among males (Moore SR et al, 2000) and oral cancer rates are steadily increasing among young tobacco users.

Research into tobacco cessation measures worldwide has shown many benefits, further strengthening the requirement of aggressive measures to stop tobacco usage (U.S. Department of Health and Human Services, 1990; Samet, 1992; Pelkonen et al., 2001; Kenfield et al., 2008; Jang et al., 2010; Murthy and Saddicchha, 2010; Wu and Sin, 2011).

Limited resources to tackle these problems can also be observed in India. Hence, involving health professionals other than conventional medical personnel might be a crucial step in enhancing the effectiveness of tobacco cessation activities (Murthy and Saddicchha, 2010). Evidence shows that clinical interventions during dental care are as effective as in other healthcare settings (World Health Organization, 2010).

India has a vast resource of oral health professionals in the form of the private practitioners, faculty in the teaching institutions and dentists in the government hospitals. The present review paper tries to understand the role of oral health professionals and provides future directives to improve their contribution in controlling this public health problem.

Tobacco Cessation Measures: How Effective are they?

Aggressive tobacco cessation measures result in several benefits that have been well documented. It has been estimated that if adult consumption were to decrease by 50% by the year 2020, approximately 180 million tobacco-related deaths could be avoided. (Mackay and Eriksen, 2002)

Not only is tobacco cessation important in its own right, but it also contributes to tobacco prevention in countries where tobacco use is considered to be a part of the cultural norm. (Slama, 2004) Tobacco cessation leads to short-term health benefits and curbs the tobacco death burden in the long-term. (US, 1990; Kulik et al., 2012; Peto et al., 1994)

Both smokers and smokeless tobacco users have substantial benefits from cessation. Smokers who quit before 50 years of age reduce their risk of dying in the next 15 years to half that of a continuing smoker. Even those who quit at 60 years of age reduce their risk of dying by 10% compared with regular smokers. Smoking cessation is known to produce an immediate decline in the blood carbon monoxide levels, normalization of pulse rate, blood pressure, and restoration of sense of taste and smell. (U.S. Department of Health and Human Services, 1990) Cessation of smokeless tobacco use is associated with reduced risks of oral cancer and precancerous lesions, cardiovascular diseases, and dental problems. (Goldman et al., 2000)

A significant reduction of risk for oral cancer has been shown among quitters and follow up studies indicate that the level of risk approaches that of never smokers approximately 10 years after cessation. In a metaanalysis, pooled risk estimates for ex-smokers (OR: 1.40, 95%CI 0.99, 2.00) were significantly lower compared with current smokers (OR: 3.43, 95%CI 2.37,-4.94). (Gandini et al., 2008)

Risks for lung cancer, coronary heart disease, and chronic obstructive pulmonary disease are also markedly reduced by smoking cessation. (U.S. Department of Health and Human Services, 1990; Campaign for Tobacco Free Kids; McBride, 1992; Samet, 1992) The risk of stroke decreased after 2 years of smoking cessation and was at the level of a non-smoker after 5 years of quitting. (Wolf et al., 1988) If potential mothers quit smoking before becoming pregnant, or within the first trimester of pregnancy, infant birth weight is likely to be the same as nonsmokers. Even among pregnant women who quit smoking later in pregnancy, infant birth weights are higher than among women who continue to smoke. Smoking cessation also causes favorable changes in the lipid profile and body fat deposition. Smoking cessation reduces or eliminates the risk of passive smoking-induced diseases, especially in children: pneumonia, bronchitis, middle ear infections, and exacerbations of bronchial asthma. (U.S. Department of Health and Human Services, 1990; Campaign for Tobacco Free Kids; McBride, 1992; Samet, 1992)

Efforts Towards Tobacco Cessation in India: The Efforts and The Achievements

India has a short history of tobacco-related legislation. The first national level bills were introduced not to curtail but to build a foundation for the tobacco industry and enable it to be competitive in the international market. Only recently has been there been significant impetus to come up with a tobacco control and prevention in India.

Much of the early efforts on tobacco cessation occurred in the context of primary, community-based interventions for cancer control in the 1980s and 1990s. The efficacy of an antitobacco community education program was evaluated in Karnataka after 2 years in a case-control design. (Anantha et al., 1995)

Global support for tobacco control policies and national data on mortality and morbidity related to tobacco use began to have its impact on policy and programming for tobacco control in India. (Reddy, 2005) The Cable Television Networks Amendment Act of 2000 prohibited the transmission of tobacco commercials on cable television across the country. In February 2001, Indian Prime Minister Vajpayee's union cabinet introduced Cigarettes and other Tobacco Products Bill. This was a multifaceted anti-tobacco legislation to replace the Cigarettes Act of 1975. According to this bill, smoking in public places would be outlawed, sale of tobacco to people under 18 years of age would be prohibited, tobacco

packages required to have warnings and it also prohibited tobacco companies from advertising and sponsoring sports and cultural events. (Shimkhada and Peabody, 2003)

In 2002, formal tobacco cessation facilities were set up for the first time. (Varghese et al., 2012) Thirteen clinics were set up in oncology, cardiology, psychiatry, surgery and in NGO settings, and later expanded to 19. They were supported by the World Health Organization Country Office and the Ministry of Health and Family Welfare, Government of India. (WHO SEARO, 2009) The purpose of the tobacco cessation clinics was to develop simple intervention models for tobacco cessation for smokers and smokeless tobacco users, to generate experience in the delivery of these interventions that can be applied in the primary care setting, and finally, to study the feasibility of implementing these interventions and their acceptability in general primary health care settings. (Varghese et al., 2012)

The Government of India initiated the National Tobacco Control Programme in 2007-08. Taking into account the widespread use of tobacco and need for assisting tobacco users to quit, provision was made to establish tobacco cessation facilities at the district hospital level. This was a major step forward in establishing tobacco cessation facilities as near the community as possible. A psychologist and a social worker are provided at the District Tobacco Control Cell to undertake tobacco cessation activities. (Varghese et al., 2012)

On October 2, 2008, Section 4 of India's Ciga¬rette and Other Tobacco Products Act went into effect, prohibiting smoking in all public and work places. This act also stipulated that there should be a visible board at every entrance and every floor of a public place that reads, "No Smoking Area. Smoking Is an Offence." As per this legislation, most of the dental colleges in India adopted official policies banning smoking in buildings, clinics, and indoor public and common areas, although it has been reported that less than 10 percent enforce it. (Shah, 2005)

The Government of India has decided to make most of the TCCs self-sufficient and continue their activities in a sustainable manner from 2010-11 onwards. The focus of these RCTCs would be to build capacity of the states in tobacco cessation by conducting training of health professionals and also to focus on setting up cessation facilities in medical and dental institutions. National Guidelines for Tobacco Dependence Treatment have taken care of smokeless tobacco cessation along with the focus on smoking cessation. Training modules for doctors and health workers were also developed in 2010-11 emphasizing the "brief advice" for tobacco cessation. (Varghese et al., 2012)

The Indian Dental Association (IDA) has been resourceful and taken up the initiative of training dental professionals and establishing network tobacco cessation clinics in collaboration with existing dental clinics across the country, but the efforts are still in their early stages. The Tobacco Intervention Initiative (TII) is a professionally-led "call to action" programme to eradicate tobacco addiction while striving for a `tobacco free India' and thus improving the oral health of Indians by the year 2020. They have launched 115 Tobacco Intervention Initiative (TII) centers across 16 states in India over the last one year and plan to increase this number to 5,000 by 2013. These centers are mostly run by private dental practitioners who are trained through a one day training program by the Association in tobacco intervention (Indian Dental Association, 2011).

The Tobacco Cessation Centre under Centre for Addiction Medicine of the National Institute of Mental Health and Neurosciences (NIMHANS) Bangalore offers a one month orientation course for health professionals in substance abuse treatment, which also incorporates tobacco and related issues (NIMHANS, 2011).

There a few known certified programs that are provided, one by Directorate of Distance Education Annamalai University, Tamilnadu, post graduate diploma program in health sciences (Tobacco Control) (Annamalai University, 2011). The Public Health Foundation of India (PHFI), a public private organization in collaboration with John Hopkins Bloomberg School of Public Health and University of Southern California, USA has introduced six month short term courses on tobacco control for health professionals, administrators and law enforcers and a and one year diploma program on health promotion with special emphasis on tobacco control in a distance learning mode through e-learning (PHFI, 2011).

For the first time, tobacco cessation was also incorporated in the training modules of doctors under the Revised National Tuberculosis Control Programme (RNTCP). All medical and dental colleges, general hospitals and tuberculosis hospitals have been encouraged to set up tobacco cessation facilities as part of care giving, using existing infrastructure and resources to make these sustainable. (Varghese et al., 2012)

Role of Health Professionals

One of the strategies to reduce morbidity and the number of smoking-related deaths is to encourage the involvement of health professionals in tobacco use prevention and cessation counseling. (Needleman et al., 2010) Randomized, controlled trials conducted in primary care settings have demonstrated that simple advice from a physician increases abstinence rates significantly (by 30%) compared to no advice (Fiore et al., 2000). Therefore, physicians can and should utilize the window of opportunity available during their contact with patients to offer tobacco cessation interventions actively in their routine clinical practice (Richmond et al., 1999).

The majority of Health Care Providers Cessation enquired and recorded patients smoking status on the medical chart, although these practices vary by patient's age, attitude, gender, new patient visits and professionals who have been in practice for fewer years (Gorin and Heck, 2004).

Many studies have shown that counseling with a health professional is an effective method of helping smokers quit. A survey of smokers in the United States found that if given a choice, they would prefer to receive smoking cessation counseling from a health professional. (Owen et al., 1990) Cessation rates of 10 to 20 percent have been found after patients received professional advice

and appropriate assistance from their physicians. (Glynn, 1988) A recent survey in Hungary found that advice from health care professionals to quit ranked second in effectiveness after requests by the smoker's own family. (Nagy et al., 2004)

The Global Adult Tobacco Survey, India 2009-10 revealed that among smokers and users of smokeless tobacco who visited a health care provider, 46.3% of smokers and 26.7% of users of smokeless tobacco were advised to quit (GATS, 2009; 2010).

How Oral Health Professionals Can contribute

Tobacco use cessation in dentistry is critical to reducing the effect of a major risk factor for both oral and systematic diseases. (Needleman et al., 2010) The hazards associated with cigarette smoking and smokeless tobacco use have been well documented. In addition to its association with many cancers and coronary conditions, tobacco plays a role in the etiology of a number of oral morbidities. Dental care practitioners are a largely untapped resource for providing advice and brief counselling to tobacco-using patients, and there are good reasons to believe that they can be effective. (Gordon, 2006)

While taxation and prohibition of advertising have been effective, non-legislative and cost-effective approaches to cessation should be utilized as well. (John, 2006) Dental health care providers (particularly dentists and dental hygienists but also including other dental care professionals) may see their patients on a frequent and recurring basis. As a result, it has been suggested that dental personnel have unparalleled opportunities to educate and help those who use tobacco to quit (Christen et al., 1990).

Randomized clinical trials have found that even brief dental office-based interventions can be effective in motivating and assisting tobacco users to quit (Carr and Ebbert, 2006). Dentists play an important role in educating patients about health risks of tobacco use and tobacco cessation because of the regular contact many patients have with their dentists (Uti and Sofola, 2011).

Research from the developed world has found that dentists are in an ideal position to assist patients to reduce or stop smoking altogether (Warnakulasuriya et al., 2006). This is because of the regular contact many patients have with their dentists. In the United States, the American Dental Association has promoted tobacco use prevention activities and the Centers for Disease Control and Prevention has highlighted tobacco control activities as a critical element in the effort to reduce oral and pharyngeal cancers, (U.S. Department of Health and Human Services (2012).) but smoking cessation programs are uncommon among the Indian dental clinics and as such have not been incorporated as a routine component of dental care.

The dental office is an ideal setting for tobacco cessation services (TCS) since preventive treatment services, oral screening, and patient education have always been a large part of the dental practice. More than 60 percent of adults and 83 percent of fifteen-to nineteen-year-olds see their dentist at least once a year. (Centers for Disease Control and Prevention, 1996) Cessation rates of up to 18 percent have been seen when dental professionals counseled their patients to quit. (Campbell, 1999) Surveys of Americans and Canadians have found that 58 percent of smokers made regular appointments with their dentists. (Tomar et al., 1996; Locker, 1992) These regular interactions provide dental teams with the opportunity to provide a range of TCS.

Role of Dental Students and Dental Institutions

Dental students being future of their profession are an inseparable part of initiatives directed towards reducing the ever growing menace of tobacco (Rikard-Bell et al., 2003; Polychonopoulou et al., 2004; Cannick et al., 2006; Vanobbergen et al., 2007; Rajasundaram et al., 2011). Dentists are at a unique position to help their patients quit tobacco. As the requirement of dental manpower in a densely populated country like India is very high, it is essential to look at other best avenues available. Studies conducted worldwide have shown that dental students can bridge this gap by actively participating in tobacco cessation activities (Rikard-Bell et al., 2003; Polychonopoulou et al., 2004; Cannick et al., 2006; Rajasundaram et al., 2011).

Development of definitive guidelines for tobacco cessation activities in dental institutions, among general dental practitioners might have considerable contributions to make towards combating the tobacco menace. (Binnal et al., 2012) All oral health institutions and all continuing education providers should integrate tobacco-related subjects into their programmes. It has been argued that the professional skills required by the dentists to provide smoking cessation counseling to their patients ideally should be learnt during the dental curriculum and reinforced within continuing education. (Rikard-Bell et al., 2003)

Barriers to Quitting

Despite these enormous gains from tobacco cessation, few persons, particularly in developing countries, give up tobacco use spontaneously. Only 5% of smokers had spontaneously given up smoking in India in 1995 (Jha et al., 2002) and in a more recent nationally representative case-control study, (Jha et al., 2008) only 2% of smokers had spontaneously quit. In order for a downward shift in tobacco use to occur, it is imperative that health professionals be at the forefront of tobacco cessation efforts. (Davis, 1993) Several studies in the West have shown that tobacco cessation advice provided by health professionals enhances the quit rate among their patients. (Fiore et al, 2000; Lancaster et al., 2000; US Public Health Service report, 2000; West, 2000; Gorin and Heck, 2004)

Some of the barriers observed by health professionals were time, greater perceived complexity of cessation protocol, their confidence in employing various behavioral management techniques, being pessimistic about patient's ability to quit, provider tobacco habits and strength of provider-patient relationship (Pollak et al., 2001; Bolman

et al., 2002). Misconceptions held by doctors can also influence intervention. In a study conducted in Kerala, about one third of the doctors believed that smoking was harmful to the health, only if the number of cigarettes smoked is 6 or greater (Thankappan et al., 2009).

However, compared to physicians and other health professionals, dentists are less likely to provide tobacco use cessation advice and counseling and feel inadequately prepared to provide tobacco cessation education to their patients. (Cannick et al., 2006) The reasons for not providing it include time and reimbursement issues, poor education and lack of further postgraduate train-ing, and poor coordination of dental and smoking cessation services. (Vanobbergen et al., 2007)

New Initiatives and Re-Direction of The Old Initiatives

The multifaceted tobacco problem in our country needs to be tackled in innovative as well as using sustainable methods. Expansion of tobacco cessation program needs to be implemented along several lines and the following recommendations may be considered.

Incorporation of oral health into tobacco prevention policies (Poul Erik Petersen, 2003)

A number of projects have been initiated in Canada, European Union countries, Japan, New Zealand and the USA and more programmes should be considered in India. The WHO Oral Health Programme will strengthen work for tobacco control in the future, particularly through support to countries having them incorporate oral health in their tobacco prevention policies. Evaluation and sharing experiences from tobacco-cessation programmes are important for such global initiatives and the WHO Oral Health Programme looks forward to effective collaboration with the oral health science community in this activity.

Integration of tobacco cessation techniques into group and community settings (Varghese et al., 2012)

Tobacco cessation must be offered more widely in medical settings in both urban and rural areas. The integration of tobacco cessation with existing national health programmes is a cost-effective strategy to widen the cessation services for effective outreach at the community level. Nurses in primary and community care settings should advise everyone who smokes to stop and refer them to an intensive support service.

Setting up of 24 hour quit-lines (Varghese et al, 2012; Miguez et al., 2002)

Active telephone recruitment ('cold calling') can enrol almost 45 times more smokers to cessation services than media. (Tzelepis et al., 2010) The use of innovative technologies like mobile phones and setting up quit-lines can give a major impetus to the ongoing efforts of the Government of India for providing cessation facilities to a larger population, especially in the remote and rural areas.

Setting up of tobacco cessation clinics at private dental institutions through inclusion into the curriculum of the dental course (Fried JL and Rubinstein-DeVore L, 1990; Rikard-Bell et al., 2003; Chaly, 2007; Davis et al., 2010)

Dental schools should have a curriculum addressing relevant counseling techniques for tobacco cessation. The strategy could include asking patients if they smoke or chew tobacco, counsel patient about the oral effects of tobacco, advise patients to quit, provide written information and self-help material about how to quit suggest nicotine replacement therapy to patients who wish to give up and arrange follow-up visits to discuss their experience.

Incorporation of tobacco cessation into routine dental practice (Carr AB and Ebbert J, 2012; Gordon JS et al, 2006)

Available evidence suggests that behavioral interventions for tobacco cessation conducted by oral health professionals incorporating an oral examination component in the dental office or community setting may increase tobacco abstinence rates among both cigarette smokers and smokeless tobacco users. If dental practitioners provided cessation assistance routinely to their patients and achieved even modest success rates, the public health impact would be enormous.

Dental hygienists are effective in the provision of smoking and spit tobacco use cessation services. (CDHA, 2004)

The dental practice needs to include the involvement of dental auxiliaries in tobacco cessation programmes (Monaghan, 2002; Watt et al., 2004b). As the approach to oral health promotion measures is viewed from a behavioural viewpoint, this may facilitate the effectiveness of dental professionals in both tobacco cessation and other preventive measures, such as oral hygiene. (Monaghan, 2002; Watt et al., 2004b)

Dental hygienists can play an important role in preventing and eliminating tobacco use by identifying tobacco users, documenting tobacco use history, offering brief advice and written materials, as a routine part of clinical practice. Not only do the majority of oral health clients expect dental hygienists to provide tobacco use cessation services, (Campbell HS, 1999; Newton and Palmer, 1997; Douglas-England K, 2004) but dental hygienists are also well suited to providing TCS. They have important skills in health promotion, disease prevention, health education, and behavioural motivation that would allow them to provide effective tobacco use cessation services. (Campbell, 2001)

In addition, contact with a client over an extended period of time, which may be common in dental hygiene practices, allows repeated reinforcement-essential for tobacco users who have a high tendency (Johnson, 2004) to relapse.

Provision and accessibility of Nicotine replacement therapy easily can be one of simplest measure to be taken (Aquilino and Lowe, 2004; Murthy and Sahoo, 2010)

NRT is the most popular and cost-effective

pharmacotherapy currently available and should be made easily accessible and subsidized. The NRT therapy can be made easily accessible to the public by permitting the institutions to support and promote sale of over the counter NRT products at subsidized rates.

Action on the part of policy makers and health authorities

Strategic health authorities, hospital trusts, community pharmacies, local authorities and local community groups should review tobacco cessation policies and practices to take account of the recommendations in this guidance. Local policy makers and commissioners should target hard to reach and deprived communities including minority ethnic groups, paying particular attention to their needs.

Certified courses on tobacco cessation (NIMHANS, 2011)

There can be certified courses on tobacco cessation and theses courses of short-term duration can be developed to provide basic knowledge of tobacco cessation including the pharmacotherapy. Although there are few courses on tobacco cessation, they are not much to the knowledge of the dentist.

Team approach in tobacco cessation (Chaly, 2007)

The best smoking cessation strategies will include the training of all health professionals, including doctors, nurses, pharmacists and dentists, in the technique of providing smoking cessation counseling and advice. It would also be desirable to make available a broad range of smoking cessation strategies, including group counseling and physician advice.

Financial measures to discourage tobacco consumption (WHO, 1997)

Studies have shown that for every 10% increase in the price of tobacco products, consumption can be expected to decline by 2-8%. (WHO, 1997) The two key target groups are the adolescents and people of lower socioeconomic status. Tobacco taxes can serve many useful purposes like reducing consumption, and increasing the government revenue.

Tobacco awareness campaigning at school and colleges - Creating Policies for a Tobacco-Free Campus

Very few people first begin to use tobacco in adulthood, with most using tobacco for the first time before graduating from high school. The earlier young people begin using tobacco, the more likely it is that they will continue when they are adults, which in turn means that they are exposed to tobacco for a longer period of time. Nicotine addiction further ensures that many adolescent smokers will regularly use tobacco until adulthood.

Therefore, preventing tobacco use among young people is critical to eliminating tobacco use (Centers for Disease Control and Prevention, 1994). The tobacco cessation programmes should be initiated at the level of the schools and colleges and can be effective in saving a large proportion of young generation from initiating these practices.

A campus tobacco control task force should be created to address the administration and student government to create a policy that prohibits the selling of any tobacco products on campus. The institutional administration should work with local tobacco control coalitions to pass an ordinance prohibiting tobacco products in the campus of schools and colleges.

Extension of tobacco cessation services to the rural areas through primary health care centers

The tobacco cessation services should be extended to the rural areas through the primary health centers. In a recent revised guideline, Indian Public Health Standard (IPHS) mandated tobacco cessation as an essential service at primary care public health facilities. This situation presents a window of opportunity for expansion of tobacco cessation services to the vulnerable rural population. (Director General of Health Service, 2012).

Setting up of mobile oral health services with multi-disciplinary teams and suitable IEC materials for people in the rural areas

Primary prevention, which includes imparting the tobacco related education and promotion of oral health in line with awareness about the ill effects of tobacco on oral health to the people in the underserved communities. This needs to be implemented by outreach activities of the public health professionals and setting up of mobile oral health services involving multi-disciplinary teams.

Discussion

Given the high global morbidity and mortality from tobacco use in India, there is a need to develop evidence-based, cost-effective interventions for both smoking and smokeless tobacco use. Tobacco addiction produces neurobiological and behavioral changes, and optimal approaches combining behavioral methods and pharmacotherapy need to be developed. (Murthy and Subodh, 2010)

There are numerous barriers to practice of tobacco cessation activities among health professionals. Tobacco dependence is a chronic condition that often requires repeated intervention. However effective treatments exist that can produce long term or even permanent abstinence (Fiore et al., 2000; Jiloha, 2008; World Health Organization, 2010). Once these barriers are identified, they can be eliminated or their effect can be minimized for effective tobacco cessation activities. (Binnal et al., 2012)

Healthcare givers at all levels of the healthcare delivery system must be trained in tobacco dependence treatment including behaviour counselling and pharmacotherapy. The use of innovative technologies like mobile phones and setting up quit-lines can give a major impetus to the ongoing efforts of the Government of India for providing cessation facilities to a larger population, especially in the remote and rural areas. A clear and definite need for well-designed studies to examine the longer-term impact of tobacco cessation interventions in low-and middle-income settings is important for further expansion of these services.

The WHO Framework Convention on Tobacco Control (FCTC) recommends comprehensive policies

for tobacco control, including cessation or treatment of tobacco dependence. The text of WHO Framework Convention on Tobacco Control (FCTC) covers tobacco taxation, smoking prevention and treatment, illicit trade, advertising, sponsorship and promotion, and product regulation (WHO Framework Convention on Tobacco Control, 2003).

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