

## Tobacco Problem in India

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### Abstract

Tobacco is a leading preventable cause of death. Worldwide it kills nearly six million people every year. The global tobacco epidemic kills more people than TB, HIV/AIDS and malaria combined. India is the second largest tobacco consumer in the world, and accounts for the 1/6<sup>th</sup> of the world's tobacco related deaths. In India the problem is more complex because of the consumption of a variety of smokeless and smoking forms. Understanding the tobacco problem in India, focusing on the methods that work and working out the impact of various socio-cultural diversity and cost-effectiveness of various modalities of tobacco control should be our main aim.

**Keywords:** Smoking, Smokeless Tobacco, Cancer.

### Introduction

Approximately nearly six million people lose their lives each year, due to tobacco. Tobacco claimed an estimated 100 million lives in the 20<sup>th</sup> century, and with the prevailing trend, it might end up with approximately 1 billion lives in the 21<sup>st</sup> century.<sup>(1)</sup>

According to a study done on men and women in Mumbai, nearly 23.7% of the deaths in men (5,27,500) and 5.7% of the deaths among women (83,000) aged 35-69 years were due to tobacco related illnesses.<sup>(2)</sup> Jha *et al.* concluded that around one million deaths per year in India would be attributable to tobacco smoking by 2010.<sup>(3)</sup> Ramadas *et al* in their cohort study reported mortality risk of 0.98(0.86-0.94) and 1.22(1.04-1.44) for all cause and tobacco-related cancer mortality, respectively. For tobacco chewing, while with smoking, the respective risk were 1.31(1.24-1.39) and 1.68 (1.36-2.08).<sup>(4)</sup> According to the Global Adult Tobacco Survey 2009-10, conducted in people aged 15 years or older, nearly 34.6% (47.9% males and 20.3% females) of adults were current tobacco users; of this 14% (24.3% males and 2.9% females) smoke and 25.9% (32.9% males and 18.4% females) used tobacco in other form.<sup>(5)</sup> According to the Global Youth Tobacco Survey(GYTS) conducted in students aged 13-15 years in 2009, 14.6% students were tobacco users.<sup>(6)</sup> In India, a large variety of smoking forms and an even larger variety of smokeless tobacco products are used. Many of these products are manufactured as cottage and small scale industries, with varying mixtures and widely differing process of manufacturing.<sup>(7)</sup>

**III effects of tobacco use:** Any form of tobacco is dangerous. Based on scientific evidence it is unquestionably established that tobacco causes disease, disability and death.<sup>(8)</sup> 90% of all lung cancer deaths in men and 80% in women are caused by smoking.<sup>(8)</sup> Studies show a strong association between *bidi* smoking

and cancers of oral cavity, pharynx, larynx, esophagus, lung and stomach. The risk increasing with the duration of *bidi* smoking and the number of *bidi* smoked.<sup>(9)</sup> International Agency For Research on Cancer states that, there is sufficient evidence in humans that tobacco smoking causes malignancy of the lungs, oral cavity, naso-, oro-, and hypopharynx, nasal cavity, nasal sinuses, larynx, esophagus, stomach, pancreas, liver, kidney, ureter, urinary bladder, uterine cavity and bone marrow.<sup>(9)</sup> A significant association has been seen between tuberculosis infection or disease and active or passive exposure to tobacco smoke.<sup>(10)</sup> The risk of death in tuberculosis patients was 2.6 times higher in smokers, than in those who have never smoked.<sup>(11)</sup> An excess death was seen in smokers between 30-69 years, mainly from tuberculosis and also due to respiratory, vascular and neoplastic diseases.<sup>(3)</sup> An acute form of nicotine toxicity, resulting from systemic absorption of nicotine through the skin, known as green tobacco sickness, is seen in people involved in tobacco cultivation.<sup>(7)</sup>

Pednekar *et. al* found that smokeless tobacco (chewable forms of tobacco) was associated with cancers of the lip, oral cavity, pharynx, GI tract, respiratory and other intrathoracic organs.<sup>(12)</sup> Oral cancers was 42% higher among *bidi* smokers than among cigarette smokers.<sup>(12)</sup> India has the highest overall oral cancer rates in the world, with over 50% due to smokeless/chewable tobacco use.<sup>(13)</sup> Another study found a significant association between chewing of tobacco and oral cancer, with direct association between quantity chewed and duration of use.<sup>(14)</sup> Smokeless tobacco causes an increase in heart rate and blood pressure, and is associated with a small increase in cardiovascular disease risk. It also affects insulin sensitivity, glucose tolerance and increases the risk of diabetes.<sup>(15)</sup> It's use during pregnancy increases the risk of pre-eclampsia, causes increase placental weight, reduces mean birth weight and

leads to premature birth. Smokeless tobacco use in men reduces sperm count, sperm motility and semen volume and leads to increased frequency of abnormal spermatozoa.<sup>(15)</sup>

**Passive smoking** or second-hand tobacco smoke (SHS) kills nearly 6,00,000 people each year. SHS affects nearly 1/3<sup>rd</sup> of adults globally. The GATS-India showed that 52% of adults (rural 58%, urban 39%) were exposed to SHS in their houses.<sup>(5)</sup> As compared to mainstream tobacco smoke, SHS is 3-4 times more toxic per gram of particulate matter. At least 250 harmful chemicals have been found in tobacco smoke. Toxic chemicals from SHS stick to clothes, upholstery, carpets, furniture etc. These toxins remain even in the presence of windows, fans and air filters. They cover the surfaces, materials and smokers' belongings, and are sometimes referred to as "third hand smoke."<sup>(16)</sup> There is good amount of evidence that passive smoking causes increased risk of cardiovascular disease, lung cancer, asthma and other respiratory diseases in adults. Ear infection and sudden infant death syndrome are few ill effects of passive smoking in children.<sup>(7,16)</sup>

**Legislation:** Legislation is one of the most important parameter in tobacco control. The WHO Convention on Tobacco Control (WHO FCTC) is a global public health treaty developed to combat the global tobacco epidemic. It was adopted by the World Health Assembly in May 2003. India ratified it on 5 February 2004. FCTC frames guidelines, based on scientific evidence-based approaches that would encourage smokers to quit and inhibit non-smokers from taking up the habit.

Since 1975, because of the Cigarette (Regulation of Production, Supply and Distribution) Act, it is mandatory, in India, to display a statutory health warning on the packages and advertisement of cigarette. The Indian Parliament passed the Cigarette and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) BILL, 2003 in April 2003, which later became an Act in 18<sup>th</sup> May 2003-COPTA. The key points of COPTA 2003 are-

- Prohibition of smoking in public places (including indoor workplaces). This has been implemented in the whole of India since 2<sup>nd</sup> October 2008.
- Prohibition of advertisement, direct and indirect, sponsorship and the promotion of tobacco products.
- Prohibition of sale to minor.
- Regulation of health warning in tobacco products pack. One or more Indian language and English to be used for health warnings in tobacco packs, also to be included are pictorial health warnings.
- Regulation of tar and nicotine contents of tobacco products and declaring on tobacco products packages.

### National Tobacco Control Program

The Ministry of Health and Family Welfare, GOI, has launched the National Tobacco Control Program (NTCP)<sup>(17)</sup> in the XI Five Year Plan. It is a centrally sponsored scheme. The main aim is overall policy formulation, planning, implementation; monitoring and evaluation of the different activities envisaged under the National Tobacco Control Programme (NTCP). Benefits to be derived from it are –

- To bring about greater awareness about the harmful effects of tobacco use and about the Tobacco Control Laws.
- To facilitate effective implementation of the Tobacco Control Laws (COTPA 2003).

Numerous voluntary organizations like the HRIDAY-SHAN, Cancer patients aids association (CPAA), the Salaam Mumbai foundation, Health bridge etc. are actively involved in tobacco control activity in India. Public Health Foundation of India (PHFI) has launched a multi-faceted website to help in tobacco control in the country. The web portal offers training, resources and research evidence with regard to tobacco control.<sup>(18)</sup>

### Tobacco Cessation Services

It has been estimated that with a lack of cessation services, there may be an additional 160 million deaths, globally, among tobacco users by 2050. Nicotine in tobacco is very addictive, making quitting very difficult. Nearly 70% of tobacco users wish to quit, but only 3-5% succeed in doing so. WHO in collaboration with MHFW, GOI set up 13 tobacco cessation centres in 2002, across India. This number has now increased to 19. The steps for tobacco cessation, as advised by WHO consist of following-simple advice, behavioral counselling and pharmaceutical treatment.<sup>(19)</sup> It has been seen that simple advice of as little as 30 seconds, can produce quit rates of 5-10% per year. The method of 5 'A' can be offered to every tobacco user.

- ASK-about tobacco use
- ADVICE-to quit
- ASSESS- the commitment and barriers to change
- ASSIST- the users who are committed to change
- ARRANGE- for follow up to monitor progress

Model of Prochaska and Di Clemente can be used to assess the tobacco users' readiness to change. According to this model the stages of change are pre-contemplation, contemplation, preparation, action, maintenance and termination. Pharmacological intervention together with the behavioral methods can produce quit rates of 25-30%. Pharmacological interventions are:

- (a) Those which decrease craving- Bupropion, Nortryptiline, Selegeline
- (b) Substitute nicotine: Nicotine gum, nicotine patch, nicotine inhaler/nasal spray. Such NRT(nicotine replacement therapy) provide a continuous supply of nicotine, reducing the craving and withdrawal symptoms, producing a quit rates of 23%(as against 13% with placebo)

Several other methods of intervention like group counselling, behavioral intervention in adolescents and pregnant women, technology driven intervention like, telephone counselling, dedicated quit lines and web based methods have gained popularity. Combining different methods achieves greater quit rates than using any single method.<sup>(20)</sup>

### Problem in Tobacco Control

It has been seen, that as taxes on tobacco increase, spread of information about the health risks from tobacco also increases. Increased accesses to cessation therapies are effective in reducing tobacco use. But, globally there implementation is uneven, with higher income countries having more strict anti-smoking laws, then low- and middle-income countries.<sup>(21)</sup> The International Tobacco Control Policy Evaluation Project designed to evaluate the impact of policies implemented under WHO FCTC will provide further evidence to guide future policies framing under the FCTC and also evaluate the effectiveness of these legislative efforts. Effective implementation of the anti-tobacco laws may be affected by the lobbying power of the tobacco industry, political constraints and the level of country's commitment to tobacco control.<sup>(22)</sup>

### Conclusion

Increased taxes on tobacco, a measure that proved very effective in the developed world, should also be enforced in the developing nations.<sup>(23)</sup> Government should try to provide alternate crops for cultivation and other alternate means to earn livelihood, in order to replace employment losses that may come up in future. Health awareness of the masses, mass movement against tobacco, educating all health care professionals for tobacco control and cessation. Lastly expansion of TCC to the periphery, will facilitate millions of current tobacco users, helping them to quit tobacco.

### References

1. WHO report on The Global Tobacco Epidemic, 2011. The MPOWER package, warning about the dangers of tobacco. Geneva: WHO;2011.
2. Gupta PC, Pednekar MS, Parkin DM, Sankaranarayanan. Tobacco associated mortality in Mumbai, India. Results of the Bombay cohort study. *Int J Epidemiol* 2005;34:1395-402.
3. Jha P, Jacob B, Gajalakshmi V, Gupta PC, Dhingra N, Kumar R *et al.* A nationally representative case cohort study of smoking and death in India. *N Engl J Med* 2008;358:1137-47.
4. Ramadas K, Sauvaget C, Thomas G, Fayette JM, Thara S, Sankaranarayanan R. Effect of tobacco chewing, tobacco smoking and alcohol on all-cause and cancer mortality: A cohort study from Trivandrum, India. *Cancer Epidemiol* 2010;34,4:405-12.
5. Global Adult Tobacco Survey (GATS) India:2009-2010 available from: [http://www.searo.who.int/LinkFiles/Regional\\_Tobacco\\_Surveillance\\_System\\_GATS\\_India.pdf](http://www.searo.who.int/LinkFiles/Regional_Tobacco_Surveillance_System_GATS_India.pdf) published by IIPS, Mumbai and funded by Ministry of Health and Family Welfare, GOI 2010.
6. Gajalakshmi V, Kanimozhi CV. A survey of 24,000 students aged 13-15 years in India: Global Youth Tobacco Survey 2006 and 2009. *Tobacco Use Insight* 2010;3:23-3.
7. Report on tobacco control in India (New Delhi, India), In: Reddy KS, Gupta PC, Editors, New Delhi, India: Ministry of Health and Family Welfare;2004.
8. A Global Epidemic of addiction and disease, Tobacco: Deadly in any form or disguise. World Health Organization. WHO Tobacco Free Initiative. ISBN 92 4 156322 2 (NLM classification: QV 137) ISBN 978 92 4 156322 World No Tobacco Day 2006.
9. Tobacco smoke and involuntary smoking. IARC monograph on the evaluation of Carcinogenic Risk to Humans. IARC;2002,p.83.
10. WHO/The Union monograph on TB and tobacco control: Joining efforts to control two related global epidemic.2007 p.8-10.
11. Pednekar MS, Gupta PC. Prospective study of smoking and tuberculosis in India. *Prev Med* 2007;44:496-8.
12. Pednekar MS, Gupta PC, Yeole BB, Hébert JR. Association of tobacco habits, including *bidi* smoking, with overall and site specific cancer incidence: Result from Mumbai Cohort Study. *Cancer Causes and Control* 2011;22:859-68.
13. Boffetta P, Hecht S, Gray N, Gupta P, Straif K. Smokeless tobacco and cancer *Lancet Oncol* 2008;9:667-75.
14. Goud ML, Mohapatra SC, Mohapatra P, Gaur SD, Pant GC, Khanna MN. Epidemiological Correlates between Consumption of Indians Chewing Tobacco and Oral Cancers. *Eur J Epidemiol* 1990;6,2:219-22.
15. Smokeless Tobacco. IARC Monograph. *monograph. Iarc. Fr/ENG/Monograph/vol89/mono89-6.*
16. WHO Report on The Global Tobacco Epidemic,2009. Implementing Smoke Free Environment, Fresh and Alive MPOWER, WHO 2009.
17. Ministry of Health and Family Welfare, Government of India. Available from: [http://www.mohfw.nic.in/National%20Program%20for%20Tobacco%](http://www.mohfw.nic.in/National%20Program%20for%20Tobacco%20) Available from : <http://www.phfi.org/>.
18. Manual for Tobacco Cessation. National Cancer Control Program. Directorate General of Health Services Government of India. Ministry of Health and Family Welfare;2005.
19. Murthy P, Saddichha S. Tobacco cessation services in India: Recent development and the need for expansion. *Indian J Cancer* 2010;47:69-74.
20. Carrao MA, Guindon GE, Sharma N, Shokoohi DF. Editors. Tobacco Control Country Profiles. Atlanta, GA: American Cancer Society;2000.
21. Chaloupka F, Jha P, Carrao M, Costa e Silva VL, Ross H, Czart C *et al.* Smoking-Related Mortality WHO Commission on Acro economics and Health Work Paper Series, June 25, 2001.
22. WHO Report on the Global Tobacco Epidemic, 2015. The MPOWER package, raising taxes on tobacco. Geneva: WHO;2015.