Magnitude of Tobacco Use and Control Measures

NATHALIE JOHN
Research Scholar
Career Point University Kota
Kota, Rajasthan

Abstract

Tobacco use is the single most preventable cause of premature death worldwide resulting from non-communicable diseases. An estimated eight million deaths occur every year worldwide due to tobacco use. This premature death of Individuals results in enormous economic cost due to health care cost and lost productivity. India is the third largest tobacco producing nation and second largest consumer of tobacco world-wide. Mortality due to tobacco in India is estimated at upwards of 1.3 million. India has the high incidence of oral cancer accounting for almost half of all oral cancers in the world.

The Framework Convention on Tobacco Control (FCTC) is the most important global initiative for tobacco control through MPOWER strategy. Govt of India's regulatory action towards tobacco control began in 2003 with enactment of Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act, 2003 (COTPA), ratified World Health Organization Framework Convention on Tobacco Control (WHO FCTC) in 2004, launched National Tobacco Control Program in 2007-08 and undertaken Global tobacco surveys as part of Global Tobacco Surveillance System (GTSS).

Introduction

Tobacco use is the single most preventable cause of premature death worldwide resulting from non-communicable diseases. An estimated eight million deaths occur every year worldwide due to tobacco use. On an average, tobacco users lose 15 years of life. This premature death of Individuals results in enormous economic cost due to health care cost and lost productivity. The economic burden also prevents the poor from coming out of the poverty zone. Yet tobacco remains the single most widely available and purchasable addictive substance whose purchase is legal everywhere. India is the third largest tobacco producing nation and second largest consumer of tobacco world-wide. An estimate of more than 1.3 million mortality is

reported every year due to tobacco use. One million is due to tobacco smoking and the rest due to extensive use of smokeless tobacco (SLT) which result in high incidence of Oral Cancer. India is also having highest incidence of oral cancer accounting for almost half of all oral cancers in the world due to extensive use of smokeless tobacco. Half of cancers among males and one fourth of cancers among females are tobacco related. The relative risk of death due to tobacco use can be

* 40-80 percent higher for any tobacco use,
* 50-60 percent higher for smoking,
* 90 percent higher for reverse smoking,
* 15-30 higher for chewing tobacco, and
* 40 percent higher for chewing and tobacco combined.

Tobacco is consumed by smoking and also in smokeless form. Examples are bidi, ghutka, khaini, paan masala, hookah, cigarettes, cigars, chillum, chutta, gul, mawa, misri, etc. An Individual can be using tobacco in smoking form, smokeless form and dual use (both smoking and smokeless form). Cigarette smoking is the most dominant smoking form of tobacco use around the world. In India, bidi is the most popular product (rural areas) followed by Cigarette smoking (urban areas). Other smoking form of tobacco use are Hootah, chuttas, dhumti, chillum, cigars, cheroots and pipes. In smokeless form, the most common form of chewable tobacco is Paan (betel quid). Other popular dry tobacco areca-nut preparations are paan masala, gutkha and mawa. The tobacco products - Mishri, gul, bajjar, gudakhu, etc. – are mostly used as application to teeth and gums.

WHO report on Tobacco: Deadly in any form (World No Tobacco Day 2006) states that ***"Tobacco addiction is a global epidemic that is ravaging countries and regions that can least afford its toll of disability, disease, lost productivity and death."*** All tobacco products are dangerous and addictive. Premature death generally follows several years or more of excess disease and disability in tobacco users. This suffering and disease, in turn, contributes to the enormous tobacco related costs. This is especially damaging to the economic development of countries with emerging economies. The WHO Framework convention on Tobacco Control was the global response of countries to the globalization of the tobacco epidemic.

Tobacco Products

Three types of tobacco preparations are:

- rolls of tobacco which are smoked (e.g. bidi, cigars, cigarette)
- pipes (including water pipes – hookahs, bhangs, narghiles, shishas)
- oral preparation for chewing and holding in the mouth or placing in the nose (e.g. snuff, snus, betel quid)

Non-combusted "oral" or "smokeless" Tobacco Products

These tobacco products contain addictive level of nicotine, many carcinogens, heavy metals, and other toxins. In general, oral tobacco products are highly addictive, and typically contain several carcinogens that cause head, neck and throat cancer with high rates of premature mortality.

There are four major forms of oral smokeless tobacco:

- **Chewing tobacco**: shredded like short cut grass, generally mildly acidic and intended to be chewed throughout the day as desired.
- **Snuff**: chopped into particles like large coffee grounds, moistened and used by holding between gum and cheek.
- **Swedish snus**: variant of snuff that are processed differently so that some variants must be kept refrigerated. Typically more moist.
- **gutkha and other oral smokeless tobacco products** – used in India and South-East Asia.

Oral smokeless tobacco is the dominant form of tobacco use in India. Most commonly, tobacco is added to paan, a betel quid mixture. Areca nut, a common component of betel quid, contains the alkaloid drugs arecoline, muscarine and pilocarpine, which in small doses can produce calming and sometimes mildly stimulating effects. The mixtures are also considered to aid digestion and are commonly taken after meals. The incorporation of tobacco into paan increases its addiction potential and contributes to its adverse health effects because of the more persistent use caused by the addiction.

The speed of nicotine absorption is pH-dependent. Often, buffering substances, such as ashes, historically, or calcium hydroxide (slaked lime) or sodium carbonate more recently, are added to raise the pHand enable more rapid absorption and hence a stronger nicotine effect or "kick".

Tobacco use, including smokeless tobacco, and excessive alcohol consumption are prominent risk factors in oral cancer, being estimated to account for about 90% of oral cancer. India has a high incidence of oral cancer, accounting for one third of the world burden.

Gutkha (Oral smokeless tobacco product) is a flavoured and sweetened dry mixture of areca nut, catechu, slaked lime with tobacco and other condiments. Gutkha and paan masala (areca nut products without tobacco) have been strongly implicated in the incidence of oral submucous fibrosis, especially in the very young even after a short period of use. The condition has a high rate of malignant transformation, is extremely debilitating and has no known cure.

WHO Report on the Global Tobacco Epidemic, 2021

WHO report on the Global Tobacco Epidemic, 2021 reported upon addressing new and emerging (e-cigarettes) products such as Electronic Nicotine Delivery System (ENDS) and Electronic Non-Nicotine Delivery System (ENNDS). **These products are addictive and not without harms.**

The eighth *WHO report on the global tobacco epidemic* tracks the progress made by countries in tobacco control since 2008 and, for the first time, presents data on electronic nicotine delivery systems, such as ‘e-cigarettes’. The report shows that many countries are making progress in the fight against tobacco, but some are not addressing emerging nicotine and tobacco products and failing to regulate them.

WHO FCTC (Framework Convention of Tobacco Control)

The WHO FCTC (Framework Convention of Tobacco Control) is evidence-based treaty that reaffirms the rights of all people to the highest standard of health and was developed in response to globalization of tobacco epidemic for tobacco control. The key strategy is MPOWER consisting of six evidence-based tobacco demand and supply reduction measures as follows:

M Monitor tobacco use & prevention policies
P Protect people from tobacco smoke
O Offer help to quit tobacco use
W Warn about the dangers of tobacco
E Enforce ban on tobacco advertising, promotion & sponsorship
R Raise taxes on tobacco

However, 2.7 billion people still have no protection from the illness, disability and death caused by tobacco use and second-hand smoke exposure, or from associated economic, environmental and social harms.

Economic Impact of tobacco use

The economic implications of tobacco use are due to direct cost of the tobacco products and indirect cost due to resulting adverse health effect. In 2002-03, the health cost of three tobacco related diseases, cancer, coronary artery disease (CAD) and chronic obstructive lung disease (COLD), was more than the total combined revenue and capital expenditure by the centre and states on medical, public health, water supply and sanitation. The economic implications also lead to impoverishment due to borrowing and distress sale of assets during hospitalization preventing the poorer household to overcome poverty. This interferes with poverty reduction strategies and development framework in developing nations.

Tobacco Control Policies in India

The government of India enacted “Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and distribution) Act, 2003 (COTPA)” and enforced since 01 May 2004. The key features are as follows:

(i) Ban on smoking in public places, including indoor workplaces.
(ii) Ban on direct and indirect advertising of tobacco products.
(iii) Ban on sale of tobacco products to minors (less than 18 years of age).

(iv) Ban on sale of tobacco products within a radius of 100 yards of educational institutions.

(v) Display of mandatory pictorial health warnings on all tobacco product packages.

(vi) Testing of tobacco products for tar and nicotine.

India has been one of the earliest nations to ratify the World Health Organization Framework Convention on Tobacco Control (WHO FCTC) in 2004.

In 2007-08, India launched National tobacco control program.

(i) By legal provisions, smoking is completely banned in most public places and work places.

(ii) All forms of tobacco advertising, promotion and sponsorship are prohibited.

(iii) It is mandatory to have pictorial and text health warning labels on the tobacco product packages. On 15 Oct 2014, the Government notified new larger warnings that increased the warning size from 40 percent on one side of tobacco product packaging to 85 percent of both front and back panels of tobacco packaging.

Addressing tobacco, alcohol and substance abuse have been included in Preventive and Promotive Health under National health Policy, 2017. Under this policy, a target of 30% relative reduction in tobacco use is also set.

Before COPTA 2003, other tobacco control legislations in India:

- The Cigarettes Act, 1975. Statutory Warning on Packaging

"**Cigarette smoking is injurious to health**"

- The prevention and Control of Pollution Act, 1981.

Considered smoking as Air Pollutant.

- The Motor Vehicle Act, 1988.

Smoking illegal in public vehicle.

Global tobacco surveys undertaken by Govt. of India are part of the Global Tobacco Surveillance System (GTSS) which completed three rounds of Global Youth Tobacco Survey (2003, 2006 and 2009) and one round of Global School Health Survey (2007). The major instrument for monitoring adult tobacco use and tracking key tobacco control indicators is the Global Adult Tobacco Survey (GATS). The first round of GATS was implemented in 2009-10 (GATS 1) and the second round was implemented in 2016-17 (GATS 2).

GLOBAL ADULT TOBACCO SURVEY (GATS)

The Global Adult Tobacco Survey India (GATS India) is the global standard for systematically monitoring adult tobacco use (smoking and smokeless) and tracking key tobacco control indicator through standardized household survey of persons age 15 and above. The major objectives of the survey were to obtain estimates of prevalence of tobacco use (smoking and smokeless tobacco); exposure to second-hand smoke; cessation; the economics of tobacco; exposure to media messages on tobacco use; and knowledge, attitudes and perceptions towards tobacco use. GATS also help to design, implement and evaluate effective tobacco control policies and generate comparable data to fulfill the obligations under MPOWER policy package of WHO FCTC (Framework Convention for Tobacco Control).

GATS is part of Global Tobacco Surveillance System (GTSS). The first round of GATS was implemented by Govt of India in 2009-10 (GATS 1) and the second round of GATS was implemented in 2016-17 (GATS 2). Other surveys completed are: three rounds of Global Youth Tobacco Survey (2003, 2006 and 2009) and one round of Global School Health Survey.

GATS1

The Ministry of Health & Family Welfare (MoHFW), Government of India, designated the International Institute for Population Sciences (IIPS), Mumbai, as the nodal agency for conducting GATS in India. Technical assistance was provided by the Centers for Disease Control and Prevention (CDC), the World Health Organization (WHO), the Johns Hopkins Bloomberg School of Public Health, and Research Triangle Institute International (RTI International).

GATS India was the first nationwide survey in which electronic handheld devices were used for data collection and management. The survey was designed to produce internationally comparable data on tobacco use and other tobacco control indicators using a standardized questionnaire, sample design, data collection and

management procedures. A total of 69,296 interviews were completed among which 33,767 and 35,529 were of males and females respectively. Out of all completed interviews, 41,825 interviews were conducted in rural areas and 27,471 interviews in urban areas.

Prevalence of tobacco use according to GATS 1 (2009-10):

- One third (**35%**) of adults in India use tobacco in some form or the other

163.7 million (21%) - smokeless tobacco

68.9 million (9%) - only smoke

42.3 million (5%) - smoke & smokeless tobacco both.

Hence, estimated number of tobacco users in India are **274.9** million.

- Two in five (38%) in rural areas and one in four (25%) adults in urban areas use tobacco in some form
- tobacco use: 48% males and 20% females
- smoking: 24% males and 3% females
- Extent of use of smokeless tobacco products among males (33%) is higher than among females (18%)
- Prevalence of tobacco use among all the states and union territories ranges from the highest of 67 percent in Mizoram to the lowest of 9 percent in Goa.
- More than 75 percent of tobacco users, both smokers as well as users of smokeless tobacco are daily users of tobacco.
- Smokeless tobacco products:
    - Khaini or tobacco-lime mixture - 12% (most commonly used)
    - Gutka, a mixture of tobacco, lime and areca nut mixture – 8%
    - Betel quid with tobacco – 6%, and
    - Applying tobacco as dentifrices – 5%
- Smoking tobacco products:
    - Bidi – 9% (most commonly used),
    - Cigarette – 6%, and
    - Hookah – 1%

GATS2

Ministry of Health and Family Welfare, Government of India designated Tata Institute of Social Sciences, Mumbai as an Implementing agency for carrying out the GATS 2. The technical assistance for GATS 2 was provided by the U.S. Centers for Disease Control and Prevention (CDC), the World Health Organization (WHO), the Johns Hopkins Bloomberg School of Public Health, and RTI International.

Prevalence of tobacco use according to GATS 2 (2016-17):

- **99.5 million** (19.0% of men, 2.0% of women and 10.7% of all adults) currently smoke tobacco.
- **199.4 million (**29.6% of men, 12.8% of women and 21.4% of all adults) currently use **smokeless tobacco**.
- **266.8 million** (42.4% of men, 14.2% of women and **28.6**% of all adults) currently use tobacco (**smoked and/or smokeless tobacco**). Among men, it is 42.4% and among women, it is 14.2%. Across the States and UTs, varied from 64.5% in Tripura to 9.7% in Goa.
- **Second Hand smoke**: 38.7% of adults were exposed to second hand smoke at home, 30.2% of adults who work indoors are exposed to second-hand smoke at their workplace and 7.4% of adults were exposed to second hand smoke at restaurants.
- Use of various **tobacco products**:

(i) **Khaini** – a mixture of tobacco and lime – 11.2%; Use by every ninth adult.
(ii) **bidi** – smoked by 7.7% adult in India.
(iii) **gutka** – a tobacco, lime, areca nut mixture – 6.8%
(iv) **betel quid with tobacco** – 5.8%

- Among men, most common tobacco products used are khaini (17.9%), and bidi (14.0%).
- Among women, the three smokeless tobacco products are

(i) betal quid with tobacco (4.5%),
(ii) khaini (4.2%), and

(iii) oral application products (4.3%) such as mishri, gul, gudakhu

- In Urban areas, commonly used tobacco products are khaini (6.8%) and gutka (6.3%).
- In Rural areas, most common tobacco products are khaini (13.5%) and bidi (9.3%)

From GATS 1 (2009-2010) to GATS 2 (2016-17), prevalence of tobacco use has reduced significantly from 34.6% to 28.6% i.e. by 6% points. The results have been achieved due to Anti-tobacco messaging in media, total ban on the manufacture and sale of gutka and pan masala by many states, hike in taxes on tobacco products, and increase in health warning coverage on tobacco package to 85%, etc.

Conclusion

Although there is reduction in tobacco use as indicated in GATS2 from GATS1, still premature death and prevalence of oral cancer rate due to tobacco use is very high. After the implementation of WHO FCTC, 2.7 billion people still have no protection from the illness, disability and death caused by tobacco use and second-hand smoke exposure, or from associated economic, environmental and social. harms.

References

1. WHO, WHO Framework Convention on Tobacco Control, World Health Organization, Geneva, Switzerland, 2003.
2. Ministry of Law and Justice (Legislative Department), Govt. of India, “The cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and distribution) Act, 2003 (COTPA)”, Govt of India, 2003.

3. WHO, Tobacco: Deadly in any form or disguise, World No Tobacco day, 2006, World Health Organization, Geneva, Switzerland, 2006.

4. WHO, WHO Report on the Global Tobacco Epidemic, 2008: The MPOWER Package, World health Organization, Geneva, Switzerland, 2008.

5. Ministry of Health and Family Welfare, "Global Adults Tobacco Survey, GATS India 2009-10", Ministry of Health and Family Welfare, New Delhi, India, 2010. https://ntcp.nhp.gov.in/assets/document/surveys-reports-publications/Global-Adult-Tobacco-Survey-India-2009-2010-Report.pdf

6. Ministry of Health and Family Welfare, "Economic burden of tobacco related diseases in India", Ministry of Health and Family Welfare, New Delhi, India, 2014.

7. Ministry of Health and Family Welfare, "Global Adults Tobacco Survey, Second Round, GATS 2 India 2016-17", Ministry of Health and Family Welfare, New Delhi, India, 2016-17

8. GATS. Global Adult Tobacco Survey: fact sheet, India 2016-17; 2017. http://www. who.int/tobacco/surveillance/survey/gats/GATS_India_2016-17_FactSheet.pdf

9. GATS 2 Global Adult Tobacco Survey FACT SHEET | INDIA 2016-17; https://www.tobaccofreekids.org/assets/global/pdfs/en/GATS_India_2016-17_FactSheet.pdf

10. GATS-2 Global Adult Tobacco Survey FACT SHEET INDIA 2016-17; https://ntcp.nhp.gov.in/assets/document/surveys-reports-publications/GATS-2-FactSheet.pdf

11. Ministry of Health and Family Welfare, "National Health Policy, 2017", Ministry of Health and Family Welfare, New Delhi, India, 2017

12. WHO, "WHO Report on the Global Tobacco Epidemic, 2021, Addressing new and emerging products", World Health Organization, Geneva, Switzerland, 2021 https://www.who.int/teams/health-promotion/tobacco-control/global-tobacco-report-2021

13. Singh Ankur, Arora Monika, English Dallas R., and Mathur Manu R.. Socioeconomic Gradients in Different Types of Tobacco Use in India: Evidence from Global Adult Tobacco Survey 2009-10. Hindawi Publishing Corporation, BioMed Research International Volume 2015, Article ID 837804, 9 pages http://dx.doi.org/10.1155/2015/837804

14. Mohan Priya, Lando Harry A and Panneer Sigamani. Assessment of Tobacco Consumption and Control in India. Indian Journal of Clinical Medicine (2018).

15. Rani M, Bonu S, Jha P, Nguyen S N, Jamjoum L. Tobacco use in India: prevalence and predictors of smoking and chewing in a national cross sectional household survey. Tobacco Control 2003;12:e4 (http://www.tobaccocontrol.com/cgi/content/full/12/4/e4)

16. Mathur Prashant, Shah Bela. Evidence Building for Policy: Tobacco Surveillance/Surveys and Research in India. www.ijph.in

17. Singh A, Ladusingh L (2014) Prevalence and Determinants of Tobacco Use in India: Evidence from Recent Global Adult Tobacco Survey Data. PLoS ONE 9(12): e114073. doi:10. 1371/journal.pone.0114073

18. Islam Md Shariful, Saif-Ur-Rahman K. M., Bulbul Md. Mofijul Islam and Singh Deepak. Prevalence and factors associated with tobacco use among men in India: findings from a nationally representative data. Environmental Health and Preventive Medicine · October 2020. https://www.researchgate.net/publication/344660248

19. Gakidou Emmanuela. Spatial, temporal, and demographic patterns in prevalence of chewing tobacco use in 204 countries and territories, 1990–2019: a systematic analysis from the Global Burden of Disease Study 2019. GBD 2019 Chewing Tobacco Collaborators. thelancet.com/public-health on June 2, 2021

20. Balram Rai1, Mahadev Bramhankar. Tobacco use among Indian states: Key findings from the latest demographic health survey 2019–2020. Tob. Prev. Cessation 2021;7(March):19 https://doi.org/10.18332/tpc/132466