

## **HOW ECONOMICS CAN CHANGE THE TOBACCO CONSUMPTION IN INDIA?**

Nipurn Bhoopal

The Doon School

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### **ABSTRACT**

Tobacco consumption is a serious health concern and a major problem in India due to its devastating impact to the poor section of society. Effective control on tobacco use must be the priority, both as an approach to eradicate poverty and a health concern. Use of tobacco is deeply entrenched as a cultural practice as it is consumed in different forms. This study is aimed to discuss the economic impact on tobacco use in India along with adverse health consequences.

In order to fulfil this objective, this study is based on secondary data collected from various sources like recent studies published in peer-reviewed journals, government reports, records, and media sources. Tobacco consumption is constantly rising irrespective of having tobacco control policy. More aggressive and popular anti-tobacco campaigns are required to improve public awareness of harms caused by tobacco and active engagements of health experts and worksites to encourage tobacco cessation. Either consumed smoke less or as smoke, tobacco is toxic to human body. Tobacco kills over 6.4 million people every year globally, and death toll is rising significantly. Tobacco consumption has been associated with different factors like culture, geographical changes, and other factors. Tobacco was once known as a taboo. With the commercialization and advancements of modern world, it has been common among adults and teenagers.

**Keywords:** tobacco consumption, cigarettes, smoking, economic impact, tobacco use in India

### **1. Introduction**

The linkages between poverty and consumption of tobacco have been studied well but control measures are applied uniformly without considering the vulnerable group. Around 300 million people are surviving in extreme poverty in India (UNDP,2017). Tobacco is consumed by around 28.6% people (GATS, 2017). With community-based studies and representative surveys, it is

observed that consumption of tobacco has been continued among poor population. The cyclical relation between consumption of tobacco and aggravation of poverty because of tobacco-associated disease is studied well. Healthcare expenses consist of both direct medical expenses and indirect costs of mortality and morbidity (John et al., 2015).

India is a “low- and middle-income country (LMIC).” Government expenses have declined consistently on health and public spending is 1.15% of GDP on health care (John, 2005; Mo HFW, 2017). Health expenses are usually out of budget in India and it constantly worsens the poverty because of high expenses out of pocket to treat tobacco-associated diseases. Health and socio-economic disparities are rampant in India (Subramanian et al., 2008). Tobacco-associated diseases are the effects and cause of poverty. It is more than a cultural and social problem. It also consists of economic, biomedical, and geopolitical aspects (US NCI, 2016). All in all, tobacco consumption is supposed to have damaging effects in India.

Tobacco control policies can stop the malicious cycle. Tobacco control must be considered not just as health concern but also a mechanism to reduce poverty. India has an opportunity to meet its SDG of good health and poverty reduction by 2030 by implementing policies to control tobacco consumption effectively. Irrespective of all the efforts, tobacco consumption is a serious health concern across the world and tobacco is used by 1/3<sup>rd</sup> of population in India (IIPS,2010). It is vital to measure epidemic of tobacco consumption for targeted intervention and determine governing policies. Hence, this study is aimed to discuss the economic impact on tobacco consumption in India and its serious health hazards to determine the magnitude of the problem and review tobacco control policy as well as its impact on macro-and micro-level of controlling tobacco in India. It is vital to understand the pattern of tobacco-consumption, gaps, and control policies which should be managed for comprehensive evaluation.

## **1.1 Background**

India has different patterns of tobacco consumption and it reflects cultural practices which are prevalent in the long term (Sonaliya, 2012). India is ranked third among the leading producer of tobacco and 5<sup>th</sup> as exporter in the world which contribute widely in its economy (Tobacco Board India, 2014). The economic and human losses because of the use are also large on the other side. Over 35% of adults consume tobacco in different ways in India, according to the “Global Adults Tobacco Survey, India” (Ram et al., 2010). In India, the total deaths associated with tobacco are around 9 million in 2009 and it has reached 13% in 2020 (Mishra et al., 2012). The existing economic situation hence needs innovative, thoughtful solutions to deal with the burden of tobacco without affecting income.

India enjoys a popular position in producing tobacco globally because of several agroclimatic

conditions and various kinds of tobacco produced by the same. In India, the area of arable land consists of 54.3% where tobacco is being refined in around 0.24% of arable land, i.e., 4.93 lakh hectares. Various types or styles of tobacco are produced with over 800 million kg of production in 2013-14, especially from the states of Gujarat, Andhra Pradesh, and Karnataka (Tobacco Board India, 2014). Established by the "Government of India" and the "Tobacco Board," the "Tobacco Board Act, 1975" plays a vital role in economy by generating employment in manufacturing, agriculture, and revenues in the form of taxes and exports (Tobacco Board India, 2014). Around 33 million people are employed in tobacco farming in the world and 3.5 million in India, as claimed by the "World Bank Report" (Mishra et al., 2012). The tobacco industry provided direct and indirect employment to over 36 million people, including 7 million farmers, in India by 2012-13. It has also contributed around Rs. 19,891 Cr of Excise duty and INR 4979 Cr of foreign exchange in 2012-13 (Tobacco Board India, 2014).

## **2. Literature Reviews**

It is the right time to accept the unacceptability of damage caused by tobacco industry and work for the world free from legal and illegal trade of tobacco items. Getting the world "tobacco-free" by the year 2040, where only 5% of the adult population of the world would be using tobacco, is technically feasible, socially needed, and can be politically possible. A lot of nations are adopting the provisions of the "WHO Framework Convention on Tobacco Control (FCTC)" steadily and have promoted implementing the FCTC by all nations. Only the aggressive approach can achieve this goal by 2040 when tobacco will be out of fashion, out of mind, and out of sight without prohibition (Beaglehole et al., 2015).

The FCTC was initiated against the tobacco epidemic across the world and has turned out to be the most vital tool to control tobacco across the world. Recognizing the use of tobacco properly is a global public health concern with the increasing mortality and prevalence of tobacco use. The WHO FCTC has been ratified and signed by all the "Member States of South-East Asia Region." Member countries have issued the tobacco control laws after this ratification. A lot of nations have some major provisions like price and tax measures, health warnings, smoke-free areas, ban on promotion and advertising of tobacco, and ban on sales of tobacco for minors. Member countries are doing well to enforce the laws and regulations effectively along with innumerable challenges and limitations, especially financial, human, and infrastructural resources (Sinha et al., 2011).

Guindon & Boisclair (2003) estimated the population of tobacco users in the year 2000 and consumption of cigarette by levels of development and regions from 1970 to 2000 and discussed the pros and cons of evaluating tobacco consumption as per the aggregate data/prevalence studies. In addition, cigarette consumption and prevalence (and total smokers) are projected with

various situations of changes in the use of tobacco along with assumptions about income growth and population. It is observed that even though all the nations implement a complete range of policies for tobacco control, there will be a gradual reduction in total cigarette consumption and number of tobacco users.

Di Franza et al. (2006) determined the causality between initiation of use of tobacco by children and exposure to promotion of tobacco products. It is found that promotions promote beliefs, positive behavior, and expectations from using tobacco. It promotes likelihood to start using tobacco and intentions to use. Higher exposure to promotion causes higher risk and it is observed in different cultures and persists when socioeconomic status, peer and parental smoking are managed. Causality is the only evidence to explain the data scientifically. It shows that promotion exposure leads to initiation of tobacco use among children.

Over 356 million people consume smokeless tobacco (ST) across the world, as of 2017. It is found that consumption of smokeless tobacco caused around 652,494 deaths worldwide due to different causes. In 2003, the “WHO Framework Convention on Tobacco Control (FCTC)” and established in 2005 to initiate proper measures for tobacco control. Though the policy measures were established with various laws have been ideal to control the prevalence and incidence of smoking, the impact of policies related to smokeless tobacco on the use of ST is about to be researched. Arora et al. (2020) conducted a systematic review on all the ST policies which are available and implemented in different countries to determine the effect of use of smokeless tobacco.

## **2.1 Research Gap**

Majority of studies were conducted related to policies and measures for tobacco control in India and across the world. This study fills the research gap by discussing the economic impact on tobacco consumption and hazards of using tobacco to public health in India.

## **2.2 Research Question**

- What are the economic impacts on tobacco consumption in India?
- What are the health risks associated with tobacco consumption?

## **2.3 Research Objectives**

- To discuss public health risks associated with tobacco use
- To discuss economic impacts on tobacco consumption in India

### **3. Research Methodology**

This study is based on secondary data collected from various sources like government reports, media sources, public libraries, and studies published on peer-reviewed journals related to tobacco consumption in India and its economic impacts.

### **4. Analysis of Study**

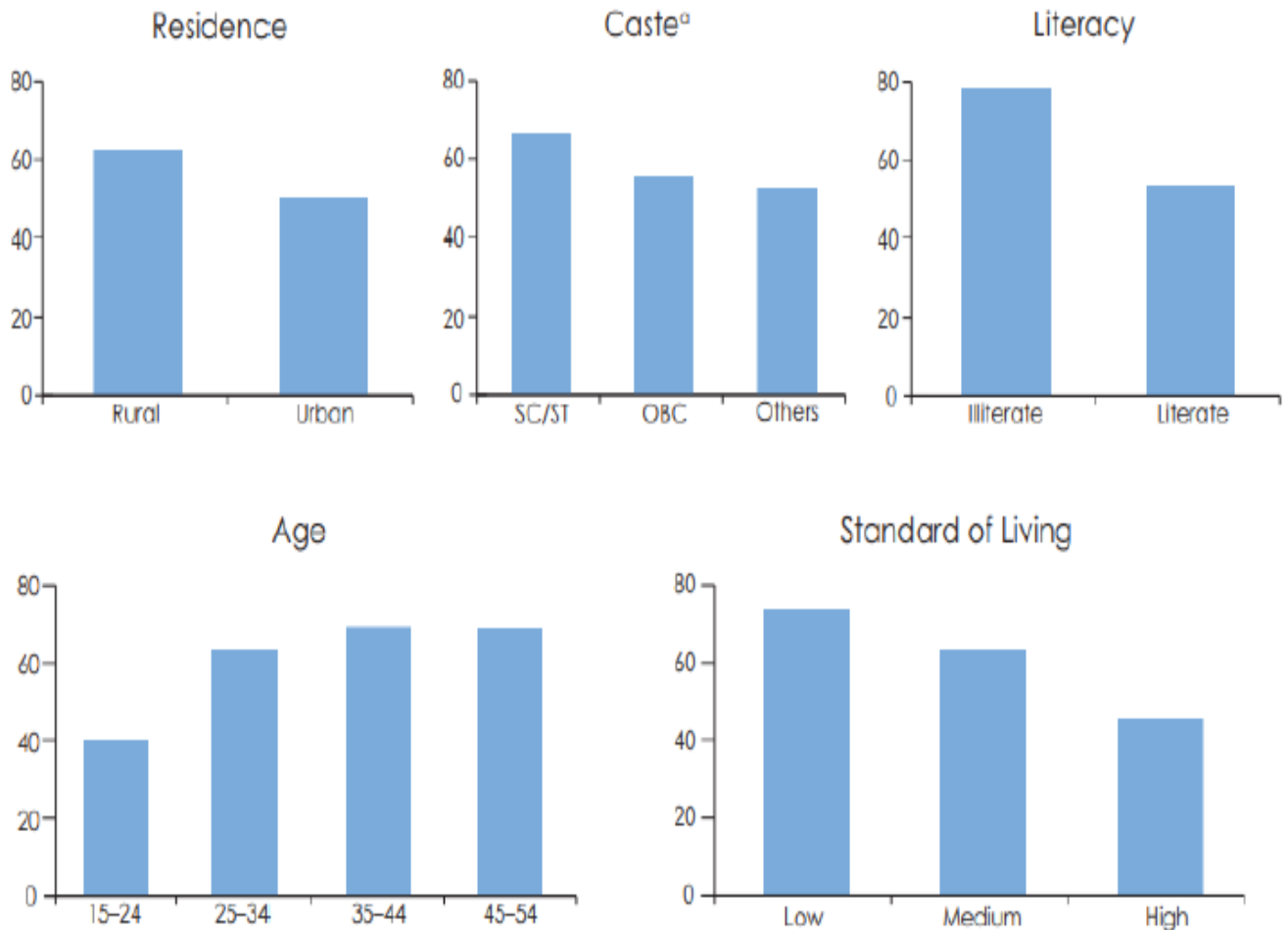
#### **4.1 Economic Impacts on Tobacco Consumption in India**

India has around 10% of tobacco smokers of global population, followed only by China, having second largest population of smokers globally (World Health Organization, 2008). India also ranks third among the biggest producers of tobacco leaves in India. The pattern of tobacco consumption in India consists of vast demand for non-smoking tobacco, especially as bidis, pan masalas, and tobacco chewing. Around 85% of total tobacco is smoked through bidis. Per capita demand for cigarettes is supposed to rise with the growth in disposable incomes. In addition, quitting is still not common and only 2% adults have managed to quit smoking (Jha et al., 2008).

There is varied prevalence in number of smokers, partly because of problems in comparing questions asked in sample surveys in India. The “National Family Health Survey-3 (NFHS-3) 2005-06” is the most direct estimation (IIPS, 2007). However, all adults are not covered in NFHS-3 as it collected data from women aged 15 to 49 years and men aged 15 to 54 years. Analyzing the sources, it is observed that 120 million Indians smoke tobacco of some kind, including 5 to 6 million female and 115 million male smokers (IIPS, 2007).

Around 1/3<sup>rd</sup> of all men aged 15 to 54 years smoke either bidis or cigarettes or both, with changes in use of tobacco by literacy, age, and other socioeconomic factors (Figure 1). Over 1/3<sup>rd</sup> of men and 8% of women in India aged 15 to 49 years were chewing tobacco as gutka and pan masala (Gutka is prepared by crushing tobacco, betel nut, lime, catechu, and savory/sweet flavors and pan masala is an ingredient with betel quid which may or may not have tobacco). Chewing tobacco is the most common and prevalent form of consumption of tobacco in India. Around 30% of urban and 40% of rural men chew tobacco, along with 5.5% urban and 10% rural women (IIPS, 2007).

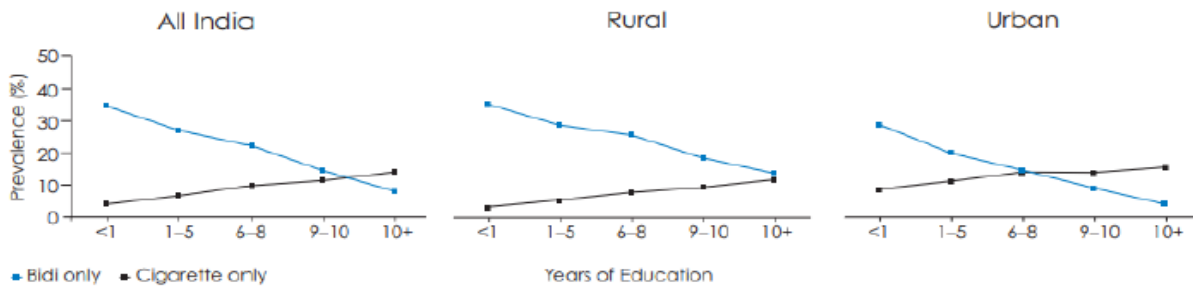
**Figure1 – Prevalence (in %) of tobacco consumption among males (15 to 54 years old) 2005-06**



Source—“IIPS(2007)”

With the rise in education level, overall consumption of tobacco declines. There are major differences between smoking bidi and cigarette as per education group. Higher education leads to a rise in cigarette smoking among males, while bidi consumption declines among males as they reach higher education (Figure 2). However, there is no clear pattern among women. Higher prevalence of cigarette consumption is reported among educated men in a recent study by Jha (2009). The preferences of tobacco consumption are segmented as per demographic group more generally and it suggests that increasing taxes on cigarettes could reduce the use of cigarettes but may not cause switching behavior towards bidis.

**Figure 2 – Prevalence of smoking among males (aged 25 to 69 years) by years of education (1998)**



Source– Jha (2009)

It is not easy to identify recent trends related to consumption of tobacco in India with surety through available data. Conducted in the years 1998-99 and 2005-06, second and third waves of the “National Family Health Survey” are compared which suggest the rise of the use of all forms of tobacco among men. Table 1 describes the rise in smoking among 15 to 24 years old males, urban residents, and higher income people.

**Table1– Prevalence of tobacco use among men aged 15 to 54 years old (1998 and 2005)**

Variables	Smoking			Smokeless tobacco			Any tobacco		
	Prevalence (%)		Prevalence ratio (2005 /1998)	Prevalence (%)		Prevalence ratio (2005 /1998)	Prevalence (%)		Prevalence ratio (2005 /1998)
	1998	2005		1998	2005		1998	2005	
Age									
15-24	8.6	19.2	2.23	14.3	30.0	2.09	19.4	40.1	2.06
25-34	29.1	36.3	1.24	29.9	42.6	1.42	47.6	63.4	1.33
35-44	42.1	43.7	1.02	35.4	39.9	1.12	62.3	68.9	1.10
45-54	45.8	45.2	0.98	35.1	35.8	1.01	65.2	68.4	1.04
Residence									
Rural	30.3	36.2	1.19	28.9	39.9	1.38	47.4	61.8	1.30
Urban	19.8	29.3	1.47	20.1	31.3	1.55	33.6	50.3	1.49
Education									
Illiterate	44.9	51.3	1.14	37.1	45.6	1.22	64.0	77.8	1.21
Literate	22.2	29.5	1.33	23.3	34.6	1.48	37.5	52.9	1.40
Caste <sup>a</sup>									
SC/ST	32.6	39.4	1.21	32.1	43.2	1.35	51.3	66.6	1.29
OBC	26.0	32.2	1.23	26.0	35.8	1.38	41.7	55.4	1.32
Others	23.7	29.8	1.25	22.8	32.7	1.43	38.8	52.2	1.34
Standard of Living Index <sup>b</sup>									
Low	37.7	44.0	1.16	35.7	48.2	1.35	57.4	73.3	1.27
Medium	26.6	37.5	1.40	25.4	39.7	1.56	42.6	63.0	1.47
High	14.9	25.7	1.72	16.0	28.1	1.76	26.6	45.6	1.71

Source–“IIPS (2007)”



Table 2 indicates the relation between socioeconomic profile and patterns of tobacco use. There is 20% to 40% higher prevalence among SC and ST people and people who are usually poorer than other castes in social order. The SC and ST together form around 25% of population in India and have significantly higher prevalence in majority of disadvantaged population.

**Table 2 – Consumption pattern of tobacco as per socio-economic aspects (aged 15 to 49 years) (2005-06)**

Socioeconomic characteristics	Percentage who use any kind of tobacco		Percentage who smoke cigarettes or bidis	
	Women	Men	Women	Men
<b>Caste</b>				
Scheduled caste	13.7	63.8	2.3	38.9
Scheduled tribes	26.3	71.2	2.1	36.7
Other backward castes	8.2	54.5	1.2	31.3
Others	8.4	52.4	0.8	29.8
<b>Religion<sup>a</sup></b>				
Hindu	10.9	57.5	1.4	32.8
Muslims	11.2	60.5	1.6	36.2
Christian	11.4	49.4	1.2	32.9
Sikh	0.1	20.8	0.0	9.4
Others	29.8	66.1	1.5	31.2
<b>Education</b>				
No education	18.1	77.5	3.0	50.1
<5 years	14.5	72.7	0.9	44.0
5-7 years	8.2	64.3	0.3	37.7
8-9 years	4.9	55.0	0.1	28.5
10-11 years	2.1	40.8	0.0	20.8
12 or more years	1.4	38.2	0.1	20.1
<b>Wealth Index</b>				
Lowest	21.6	74.0	3.3	42.9
Second lowest	14.9	68.3	2.1	39.5
Middle	10.3	60.0	1.2	35.1
Fourth	6.7	52.0	0.5	29.1
Highest	3.3	38.6	0.2	21.7

Source–IIPS, 2007

#### **4.1.1 Contributions of Tobacco Industry for Economy of India**

India plays a vital role in tobacco production worldwide because of different kinds of tobacco



produced and agroclimatic conditions. India has around 54.3% of arable land where tobacco is being cultivated in around 0.24% or 4.93 lakh hectares having 800 million kg of different kinds or styles of tobacco produced in 2013-14, especially from the states of Karnataka, Gujarat, and Andhra Pradesh (Tobacco Board India, 2014).

Health economics and burden with tobacco use in India were associated with personal expenses with consumption, cost of extreme health impacts, and their social costs and medical care of tobacco, including damage to environment and loss in productivity (Ekpu & Brown, 2015). India spent around Rs. 300 billion in private and public expenses on treating illnesses related to tobacco in 2002-03 (John et al., 2009). When it comes to tobacco-associated diseases, the direct medical expenses were Rs. 16,800 Cr and indirect costs were Rs. 14,700 and premature deaths were Rs. 73,000 Cr. Around 91% of economic burden comes from male smokers. However, 29% of economic burden comes from females who use smokeless tobacco. There was variable economic burden among various states. There was highest (28%) of burden from the UP followed by 13% of burden from West Bengal and 12% from Andhra Pradesh (Johnetal.,2015).

#### **4.2 Health Risks Associated with Tobacco Consumption**

There is evidence in India and the world about extreme health impacts of tobacco use. Tobacco consumption has caused around 5.4 million deaths all the year round globally, and it is expected that around 80% of such deaths would be in developing nations by 2030 (World Health Organization, 2008). Smoking causes various life-threatening diseases like “chronic obstructive pulmonary disease, lung cancer, and heart disease”. Because of tobacco use, around 50% of deaths took place among 35 to 69 years old people (Mackay et al., 2002).

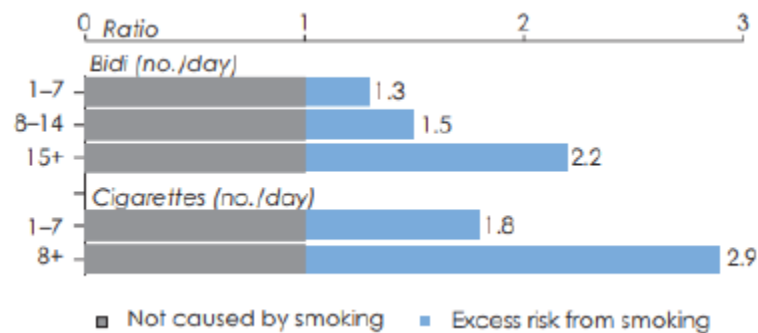
Annual health budgets are often burdened by healthcare expenses related to tobacco consumption, especially in developing economies like India. In 2002-03, around Rs.300 billion was spent in India in private and public spending to treat tobacco-associated diseases (Reddy & Gupta, 2004). It would amount to around 1/4<sup>th</sup> of all health spending in India and health spending related to tobacco consumption is likely to cost 6 to 15 percent of health spending in other emerging economies (Lightwood et al., 2000). Another study has used the data on healthcare expenditure and observed that direct cost to treat 4 key diseases related to tobacco consumption amounted to US\$1.2 billion, such as TB, respiratory disease, neoplasms, and cardiovascular disease in 2004 (John et al., 2009).

##### ***4.2.1 Mortality in India due to Tobacco consumption***

There is a rise in tobacco-associated deaths and account for around 6<sup>th</sup> of the tobacco-associated deaths in the world. According to Jhaetal. (2008), India reported over 1 million deaths a year by the early 2010s due to smoking. When comparing non-smokers and smokers in India, it is

observed that there is no association between education level and relative mortality risk due to any medical condition but it depends on smoking cigarettes or bidis and how much of them is smoked. As Figure 3 shows, the risk for a specific number of sticks smoked is higher in case of cigarettes than bidis. A large population of smokers who took 1 to 7 cigarettes in a day died earlier than those who smoke same numbers of bidis daily. In addition, researchers observed relationship between mortality and smoking as per dosage, but only among men who smoked cigarettes and the ones who smoked bidis only. Mortality risk increases by smoking more cigarettes (Jha et al., 2008).

**Figure 3 – Risk of death by type and amount of smoked cigarette and bidis (men aged 30 to 69 years old)**



Source– Jha et al. (2008)

On average, males who smoke bidis die around 6 years earlier than non-smokers. Females who smoke bidi die around 8 years earlier and males who smoke cigarettes die around 10 years earlier than non-smokers. Over 50% of tobacco deaths take place among illiterate sub-population and around 80% of deaths are reported in rural areas. Other studies found that chewing tobacco and smoking have higher mortality risk. Cohort studies in villages observed that there is 15% higher mortality risk because of chewing tobacco in men and 30% in females. There is 15% higher mortality risk in users who consume smokeless tobacco, according to research in Mumbai (Gupta & Mehta, 2000).

## 5. Results

India is a vast country where each state is very diverse with its own cultural and regional changes. Socioeconomic factor should be considered as a major determinant of tobacco use in most studies and reports discussed in this article. In rural areas, risk of tobacco smoking is more than urban areas in all states, except Nagaland, Bihar, and Tripura. In India, majority of states had reported the rise in wealth to be the cause behind fall in smoking, with few exceptions (13).

Economic factors are also the factor to predict consumption of tobacco. Social disparities are both the derivative and cause of long-term consumption of tobacco as it usually replaces major expenditures (Sreeramareddy et al., 2014).

Tobacco control and prevention policies have been based highly on behavior change and awareness campaigns in India and their implementation is a lot weaker on effective interventions at population level, for example, smoking banned in public places and rise in taxes. Taxation on bidis and cigarettes must be around 70%, according to the WHO. Even though tobacco prices have been increased in India, there is a vast difference between price of local and branded cigarettes, which encourage substitution of the product, and bidis are still cheap due to low taxes. It is possible to prevent over 0.6 million deaths due to heart stroke and 1 million myocardial deaths by 300% over the next decade, as per a study on tobacco interventions (Asaria et al., 2007).

In terms of sociopolitical context, health promotion and public policy interventions should have the perspective of inequality to have needed impact and alter policies related to tobacco control. A uniform yet population-driven approach is needed for health education. There are tobacco-control measures implemented by the government like banning ads, increasing taxes on tobacco products, interventions, telephone help lines, and free supply of cessation support. Taxation is considered as the best policy measure to control smoking epidemic in under privileged population. All in all, there is no need to bring new tobacco control measures to address tobacco consumption. Instead, it is vital to modify current interventions. To control tobacco morbidity and mortality risk, suitable policy measures are needed like including public health programs in order to provide holistic solution.

## **6. Conclusion**

The level of tobacco consumption is constantly rising. Constant evaluation of pattern of tobacco consumption will be helpful to improve control programs. Majority of studies have implications as information is provided by only one of the members of the family. Community studies are needed where each participant is approached to collect data at different intervals to know the trends. Consumption of tobacco leads to poverty. Cost of tobacco consumption diversifies the household expenses from basic needs like food, etc. to rise in out-of-pocket expenses. Tobacco also causes illness which increases morbidity and mortality in productive age. Tobacco control programs are much needed to overcome the barriers and reduce the economical impact of tobacco.

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