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This chapter gives a global overview of prevalence and patterns of tobacco consumption with special focus on India. It also highlights the risks of exposure of tobacco for both adults and adolescents.

1.0 DRUG ABUSE, TOBACCO USE AND SOCIETY

Abuse of drugs is one of the biggest curses that modern society has come across. It is not confined to any one country or region alone, but has widely afflicted the globe. Today, no part of the world is free from the curse of drug trafficking and drug addiction. With a turnover of around $500 billion, it is the third largest business in the world next to petroleum and arms trade. About 190 million people all over the world consume one drug or the other, such as heroin, smack, ganja, affeem, bhang, tobacco, etc. (Reddy & Arora, 2005). Recorded history indicates that some of these drugs were used not just for their presumed therapeutic effects, but also for recreational purposes to enhance pleasure and relieve stress (NYST, 2009). Drug use, misuse or abuse is primarily due to the nature of the drug abused, the personality of the individual and the addict’s immediate environment.

Of the various drugs abused, the most widely distributed and commonly used drug in the world is ‘Tobacco’. Many social, economic and political factors have contributed to the global spread of tobacco consumption. The fast changing social milieu, social sanctions and other factors are mainly contributing to this proliferation and has posed serious challenge to individuals, families, societies and nations (Reddy, 2005).

Over the past four decades, tobacco use has caused an estimated 12 million deaths in the world, including 4.1 million deaths from cancer, 5.5 million deaths from cardiovascular diseases, 2.1 million deaths from respiratory diseases, and 94,000 infant deaths related to mothers smoking during pregnancy (Choudhary, 2001). According to WHO (2009) consumption of tobacco has been growing at the rate of 2% to 5% per annum. It is
estimated that number of deaths due to tobacco will increase from 3 million per year worldwide to 70 million per year by 2025 (NFHS-2, 1999).

Global estimates indicate that about 12% of the women smoke compared to about 47% of men. It was estimated that about 22% of women in developed countries and 10% of women above 15 years of age in developing countries smoke tobacco. Even though women consume much less in proportion to men, the effects of environmental tobacco smoke on women and children are of major concern which needs attention.

The effects of passive smoking are more pronounced in the South-East Asia Region where high level of nicotine and tar levels in cigarettes, beedis and kreteks, poor implementation of laws banning smoking at public places and high incidence of indoor smoking put non-smokers as well as women and children at a high risk of tobacco-related diseases. Whether it is inhaled, sniffed, sucked or chewed, or whether it is mixed with other ingredients, there is no safe way of using tobacco (Kyaing 2003). Thus, women and children are the two most vulnerable groups which are affected by tobacco – not necessarily by consuming tobacco themselves but also by being around people and in environments which are filled with tobacco smoke. Then there are those women and children who work on tobacco plantations and those who work for the beedi industry. In either of the cases, they get affected, they suffer and many die (Aghi, 2001).

In India majority of the people engaged in tobacco employment are women. It is estimated that of the 10 million workers employed in the tobacco industry, approximately 60% of them are women and 12% to 15% of them are children mainly young girls (Kyaing, 2003). Women are involved in a whole range of jobs associated with tobacco like planting, weeding, making and maintaining beds, picking tobacco leaves, tying leaves, and removing leaves after drying, grading of tobacco and rolling of beedis (John & Vaite, 2002). Beedi industry is the largest employer after agriculture and construction sector, at times the biggest and occasionally the only employer in the area. Beedi industry is a cottage industry whether it is in rural or urban area and is a source of livelihood for many families. For instance, in some families, everyone – including children – help make beedis. The frequent inhalation of tobacco flakes has similar effects as that of actual use
of the tobacco product. Workers engaged in tobacco cultivation suffer from an occupational illness known as green tobacco sickness (GTS). The illness was first reported among tobacco workers in Florida in 1970, as cropper sickness. Later, it was found to be caused by the absorption of nicotine from wet tobacco plants and was reported as GTS. Since the sickness is self-limiting, therefore, treatment is not always necessary (Weizenecker & Deal, 1970). However, these families have an increased risk of lung diseases and cancers of the digestive tract and addiction is common among these families. Nearly 10 million workers are employed in the beedi industry (6 million rolling beedi and 4 million collecting leaves). Working conditions in beedi and cheroot industries are poor, the places are poorly ventilated, crowded with tobacco dust and bad smell. Inhalation of tobacco dust for prolonged periods induces chronic asthma among the workers. Tuberculosis is also a common finding among the beedi workers in India. Lack of space and crowded working conditions led to easy spread of infection among the workers (Aghi, 2001).

Tobacco problem in India is more complex than probably that of any other country in the world because of the diverse patterns of tobacco consumption: smoking, chewing, applying, sucking, gargling, etc. and a large consequential burden of tobacco related diseases and death (Gupta & Ray, 2004). In the late 1980s, the number of tobacco-attributable deaths in India was estimated to be 630,000 per year (Arora, 2003). Currently, conservative estimates of tobacco-attributable deaths range between 800,000 and 900,000 per year. Indian Council of Medical Research (ICMR, 2000) puts the figure to approximately 1, 60,000 people who develop cancer each year as a result of tobacco consumption. The greatest challenge that India faces is with regard to the highest rates of oral cancer in the world which constitutes 12% of all cancers in men and 8% of cancers among women. This is due to easy availability of variant smoking and smokeless tobacco products which include pan masala, snuff, gutkha, cigar, hukka, and cigarettes/beedis. Mouth cancer is one of the most common cancers in India due to the use of tobacco. Every year some 4.5 million Indian smokers suffer from angina or heart disease and about 3.9 million people get lung disease. Approximately half of all cancers in men are tobacco related, while over 60% of those suffering from heart disease below the age of 40 are smokers. There is an estimated
12 million cases of preventable tobacco related illnesses each year, in India (Kyaing, 2003). Researchers at the Tata Institute of Fundamental Research (2006), Mumbai believe that the real number of cases at any given time might be 2.5 to 3 times higher than this number, because so far no proper epidemiological data is available in India. The World Health Organization predicts that tobacco deaths in India may exceed 1.5 million annually by 2020. Thus, with its 250 million tobacco consumers, India is sitting on the verge of an unparalleled health crisis (ICMR, 2006).

National Health Survey 2005-2006 shows that 57% of Indian men and 11% of women are tobacco consumers and that an estimated 55,000 children are initiated into tobacco use every day. There is an increasing concern regarding the usage of tobacco among our youth who succumb to the habit due to peer pressure and lack of awareness. According to the Global Youth Tobacco Survey (GYTS), 17.5% of adolescents in India aged 13-15 years were using tobacco in some form or the other.

Every form of tobacco like cigarettes, cigars, pipe tobacco, snuff, and chewing tobacco contain nicotine which is highly addictive and is readily absorbed into the bloodstream when a tobacco product is chewed, inhaled, or smoked (Sinha & Gupta, 2003). Like cocaine, heroin, and marijuana, nicotine increases levels of the neurotransmitter dopamine, which affects the brain pathways that control reward and pleasure. Long-term exposure of nicotine induced brain changes may result in addiction—a condition of compulsive drug seeking and use. Even a short-term exposure to nicotine has been shown to induce long-lasting changes of the excitatory input into the brain’s reward system, which may be an important early step in the path to addiction. The ready availability of tobacco influences the uptake as well as the development and maintenance of dependence (Laviolette & Van der Kooy, 2004). Studies suggest that additional compounds in tobacco smoke, such as acetaldehyde, may enhance nicotine’s effects on the brain (Markou & Henningfield, 2003). Clinicians, behavioural scientists, researchers and public health experts have increasingly recognized that manufactured tobacco products are some of the most addictive and deadly dependence-producing substances available (American Cancer Society, 2009). Number of studies (Botvin, 2000 & Center for Disease Control and Prevention, 2004)
indicate that adolescents are especially vulnerable to these effects and may be more likely than adults to develop an addiction to tobacco.

Today, more and more tobacco companies (cigarettes, beedis, and chewing tobacco) are entering the market each day and the number of small manufactures controlling such localized market is on the rise. Sustained production of different types of tobacco is being facilitated by the Tobacco Board, Agricultural Research Institutes located in different parts of India and the tobacco industry, particularly Indian Tobacco Company. In addition, research institutes affiliated to the Indian Council of Agricultural Research (ICAR) and universities are undertaking research on new and improved varieties of tobacco. The Tobacco Institute of India (TII), the Indian Society on Tobacco Science (ISTS) and the Directorate of Tobacco Development (DTD) are promoting tobacco by providing information on production, prices, market, tax rates, government policies, etc. The Ministry of Commerce, Government of India provides assistance for study/business tours, conferences and exhibitions related to tobacco trade.

The immediate and tangible benefits accruing from tobacco cultivation, manufacture and marketing act as incentives for farmers to grow tobacco and for the government to encourage tobacco cultivation and manufacture. In 2000-2001, the contribution of tobacco to the Indian economy was to the extent of Rs 81,820 million, which accounted for about 12% of the total excise collections. But the other side of the economics is that it harms not only the individual but the nation as well. Indian Council of Medical Research (ICMR, 2006) reported three tobaccos related disease groups namely, cancers, coronary heart disease and chronic obstructive lung disease which had cost the country Rs. 277.61 billion (or $6.5 billion) in 2004. Whereas the nationwide sale value of all tobacco products was only Rs. 244 billion. These factors present policy-makers with an unenviable dilemma. In spite of its proven adverse implications for public health, the industry sustains itself in many quarters on the grounds of its contribution to employment and national production. The organized sector of the industry, dominated by multinational corporations, is at the forefront of canvassing support for the sector. The unorganized sector too exploits its emotive appeal as a mass employer of the poor, especially the rural women (GYTS, 2002).
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1.1 ECOLOGICAL AND ENVIRONMENTAL EFFECTS OF TOBACCO USE

The environmental effects of tobacco are seldom mentioned when the harm done by tobacco is discussed in policy documents. Even in the public mind, it is only the second-hand smoke that has come to be recognized as an environmental hazard in recent years. The environmental impact of tobacco agriculture and manufacture is less well known (Sinha & Gupta, 2004).

Growing tobacco impacts the environment in different ways. Like all plantation crops tobacco requires clearing of fertile land. Since it is a remunerative cash crop it lures farmers to clear more forests to reap more profits. This means that farmers may forsake planting subsistence crops, often risking far too much in anticipation of earning money. As tobacco is processed in stages, it consumes fuel wood, causing deterioration of forest cover. It grows in dry lands, is water-demanding, and consumes large quantities of fertilizers and pesticides which eventually degrade the land and pollute the water-bodies. The making of cigarettes and cigars also produces large quantities of waste in the form of tobacco slurries, solvents, oils and greases, paper, wood, plastic, packaging materials and results in air pollution (Novotny, 1999). Tobacco-related deforestation is substantial and much larger than what had been anticipated by local communities and governments. Approximately 200,000 hectare of forests/woodlands is removed by tobacco farming each year (Geist, 1999). A study assessing the amount of forest and woodland consumed annually for curing tobacco concluded that nearly 5% of deforestation in developing countries where tobacco was grown was due to tobacco cultivation (WHO –Tobacco Free Initiative).

1.2 TOBACCO CONTROL AND HUMAN RIGHTS

In 2001, the National Human Rights Commission (NHRC) of India considered the issues related to tobacco control from the perspective of human rights. The commission concluded that the following rights of an individual are violated due to lack of tobacco control mechanisms in India, mainly:

1. **Right to clean air**: A non-smoker is forced to inhale tobacco smoke in public areas.

2. **Rights of children**: Rights of born and unborn children are violated when they are exposed to tobacco smoke (active and passive) in the home or public areas. They are the most vulnerable and worst affected.
3. Right to information: Both the smoker and non-smoker are not provided with adequate information about the harmful effects of tobacco products and in fact, are bombarded with misinformation about tobacco products through advertisements/events/celebrity and role model-linked promotion.

4. Right to education: Both the smoker and non-smoker are not adequately educated about the drastic ill-effects of tobacco on their personal and public health.

5. Right to redressal: Both the smoker/non-smoker does not have any redressal mechanism for the injuries/ill-effects suffered by them due to tobacco products.

6. Right to tobacco cessation programme/activities (as part of right to health): The smoker and his/her family have a right to have access to various cessation strategies. Although there are some rights of the smoker which may be violated by regulatory measures intended for tobacco control but these have to be superseded in the interest of public health and human rights of the larger community. Based on this assessment, the National Human Rights Commission (NHRC) recommended that:

   - A comprehensive national tobacco policy should be evolved at the highest level, in consultation with all the stakeholders in public health.

   - A multi-sectoral national-level nodal agency should be established for tobacco control with strong representation from the legal, medical and scientific communities. The right of people to access correct information related to the effects of tobacco consumption must be promoted through programmes of information, education and communication. Such programmes should be adequately supported through dedicated resource allocation. Assistance for smoking cessation should be integrated into the health care services.

   - Maintenance of health and environment falls within the purview of Article 21, as their degradation adversely affects the life of citizens. Exposing unsuspecting individuals to second-hand smoke, with ominous consequences, amounts to taking away their life, by a slow and gradual process. In the light of the above, the Supreme Court held that public
smoking of tobacco, whether in the form of cigarettes, cigars, beedis or otherwise, is illegal, unconstitutional and violative of Article 21. Tobacco smoking in public places falls within the purview of the penal provisions relating to public nuisance as contained in the Indian Penal Code and also the definition of air pollution as contained in the statutes dealing with the protection and preservation of the environment, in particular the Air Prevention and Control of Pollution Act, 1981. The Court further directed the print and electronic media to take note of the judgment and caution the public about the penal consequences of violation of the ban on smoking in public places.

1.3 PREVALENCE OF TOBACCO USE IN INDIA

Surveys covering prevalence of tobacco use are rare in India. Information on tobacco use has been provided by the population-based surveys conducted in limited areas to study risk factors for various diseases and mortality. Additionally, two major national surveys have also collected limited tobacco use information. The prevalence and trends of tobacco use will be discussed based on these studies conducted mostly on populations 15 years of age and above.

In India, the National Sample Survey Organization (NSSO) has been conducting yearly surveys since 1950-1951. Tobacco use is part of the consumer behaviour component of the National Sample Survey (NSS), conducted every five years. The nationwide survey was undertaken as the 50th round of the National Sample Survey (NSS, 1993-1994) and a total of 115,354 households located in 6951 villages and 4650 urban blocks were visited and information on tobacco use including product types were obtained for all members aged 10 years and above residing in each surveyed household. This information was obtained from one member of the household, usually the male head. The NSSO tabulated the survey results for urban and rural resident’s gender - wise and age - wise for 32 states and union territories. In the report the age groupings were as follows: 10-14, 15-29, 30-44, 45-60 and 60 + years. The NSSO survey showed that 432,393 individuals of all ages were tobacco users. The major findings were 51.3% males and 10.3% of females were regular
tobacco users; 35.3% males and 2.6% females were regular smokers; 24.0% males and 8.6% females were regular users of smokeless tobacco and about 250 million users were aged 10 + years in the country. Thus among males smoking remained by far the most common form of tobacco consumption and among females chewing of zarda, dokta, etc. was the most common form of tobacco consumption in most parts of the country.

Another nationwide household survey, the National Family Health Survey (NFHS), in its second round (1998-1999), collected information on tobacco use and health-related practices and behaviour in 26 states. Over 90,000 households were surveyed and information on paan/tobacco chewing and tobacco smoking were obtained for 315,597 persons aged 15 years and above. In the NFHS-2 report, the age categorization adopted was 15-19, 20-24, 25-29, 30-39, 40-49, 50-59 and 60 years and above. It found that tobacco use among men was 46.5% and among women 13.8%. The prevalence of smoking and chewing varied widely between different states and had a strong association with individual’s socio-cultural characteristics.

The survey found that prevalence of both chewing tobacco/pan masala and smoking tobacco was significantly higher in rural, poorer, and uneducated populations compared to urban, wealthier and more educated populations both in men and women, though the differentials for chewing tobacco were smaller. The socioeconomic gradients (by household wealth as well as by education) were steeper for women than for men for both chewing tobacco/pan masala and smoking tobacco. While the two surveys have similar sampling methods, it should be kept in mind that in the National Sample Survey the male head of the household responded for all members, while in the National Family Health Survey the female head of the household responded for all members, which is an important difference in methodology. Prevalence rates of tobacco use were calculated from both the recent NSS 50th Round and NFHS-2 for the population aged 15 years and above to permit comparison (Rani et al., 2003).

Other than the above two nationwide survey reports, the results of a complete rural population survey have also been used to estimate the national prevalence in this section. This survey was conducted in the entire Karunagappally population located in
Kollam district of Kerala during 1990-1998. These results were also used for estimating prevalence as this was a complete population survey conducted by face-to-face interviews with results tabulated for 5-year age groups by gender, which made it possible to obtain age-specific prevalence rates for males and females. In the rural Karunagappally population, current tobacco use prevalence in the population 15 years of age and above were 53.8% among males and 14.2% among females (Tobacco Control in India, 2004).

According to (Chaudhary, 2001) tobacco use increases with increasing age. It is seen that in areas with a high prevalence of tobacco use, initiation may occur at an early age. The National Household Survey of Drug and Alcohol Abuse in India (NHSDAA), conducted in 2002 among males, covering over 40,000 individuals aged 12-60 years in nearly 20,000 households in 25 states revealed that the overall prevalence of current tobacco use was 55.8% showing an increase in tobacco use with age, levelling off after 50 years of age (Srivastava et al., 2004).

Prevalence studies of tobacco use in India have shown wide variations between urban and rural areas, regions, age, gender, education, and other socio-demographic variables across the country. It is clear that the estimates obtained here suffer from limitations. The most important limitation is that the surveys were not designed to collect information on tobacco use. Surrogate responses were used, which can introduce inaccuracies and biases. Also, the household was used as a sampling unit rather than an individual, and it was not possible to make appropriate statistical adjustments for that while doing the estimation.

1.3.1 Overall Urban and Rural Prevalence

Rural populations tend to use tobacco more heavily than urban ones. The prevalence of tobacco use among men has been reported to be high (generally exceeding 50%) from almost all parts of India (more in rural than in urban areas). Women from most parts of India report smokeless tobacco use and the prevalence varies between 15% and 60% (Bhonsle, Murti, & Gupta, 1992).
In Delhi, a city with a diverse population, two large sample surveys were conducted, one in 1985-1986 and the other in 1992. In the first, with 14,770 persons in the age group of 25-64 years, smoking prevalence among men was 45% and among women it was 7% (Narayan et al., 1996). In the second (10,312 persons, 10 years of age and above), 27.7% of males and 2.7% of females were smokers (Mohan et al., 2002). The lower prevalence reported in the second survey could be due to the inclusion of children in the survey.

In the Sentinel Survey of individuals 10 years and above, in rural Uttar Pradesh (Allahabad, Bijnor and Mainpuri districts), it was seen that 51% of males were tobacco users (28.2% smokers and 24.5% smokeless users), while 9.2% of females used tobacco, mainly in smokeless forms. In the urban areas of the same districts, 45% of males were tobacco users (24% smoked; 22.5% used smokeless tobacco), and 8.2% of the females used smokeless forms. Smoking in these three districts consisted mainly of beedi smoking, especially in rural areas (Chaudhary et al., 2001).

In a survey in rural Nagaur, Rajasthan, 51% of males and 5% of females were tobacco users among 3148 respondents 21 years of age and above (Gupta & Gupta, 1994). In urban Jaipur, in three successive studies about 39% of men and 17% of women 20 years and above were tobacco users (Gupta et al., 1995 & Gupta et al., 2003).

Low rates in Punjab contrast with the high rates in other areas of north India. In rural Amritsar, Ferozepur and Gurdaspur districts, among 3600 persons 15 years and above, 19.3% of males and 4% of females were tobacco users (Mohan, Sundaram & Sharma, 1986). In two large house-to-house surveys of over 10,000 persons in rural Bihar conducted during 1966-1969, about 80% of the men 15 years and above were tobacco users. Among villagers in Singhbhum district, 64% of the men smoked and less than a third of smokers also chewed while in Darbhanga district, 50% men smoked and about half the male smokers also chewed tobacco demonstrating that combined use was common. For women, chewing was more common in Singhbhum and smoking in Darbhanga (Mehta, 1971 & Gupta, 1989). Thus, Bihar showed a high prevalence of tobacco use.
In a survey of 12,000 individuals aged 18 years and above in urban Kolkata, smoking among men was 38% and chewing 36% whereas women users (19%) were nearly exclusively chewers (Sen, 2002). In the Sentinel Survey in three districts of Karnataka of persons 10 years of age and above, 49.2% of males and 16.4% of females in the rural areas were tobacco users. In the urban areas, 32.7% of males and 8.5% of females were tobacco users. In both urban and rural areas, about two-thirds of male users smoked, while most female users chewed tobacco (Chaudhary, 2001). In another study in Kolar district, 30.9% of males were tobacco users with nearly equal prevalence of smoking and chewing whereas 38.5% of females reported chewing tobacco (Anantha et al., 1995).

Among rural inhabitants, 15 years of age and above (Ernakulam district, Kerala during 1966-1969), 81% of males and 39% of females used tobacco in some form (Mehta & Pindborg, 1971 & Gupta, 1998). Smoking by itself was practised by 45% of males (15+ years), additionally, 22% both smoked and chewed, and only 14% chewed tobacco. Women’s tobacco use was essentially confined to chewing (38%). Another survey in Ernakulam in 1971 showed very similar results (Daftary & Bhonsle, 1980) that Kerala is one of high levels of tobacco use, where at least three-fourths of men use tobacco in some form: about half the men smoke and about one-fourth use smokeless tobacco; and among women, a third to one-fifth chew paan (betel quid) while smoking is almost negligible among them.

In two large surveys in Bhavnagar, Gujarat, conducted in the late 1960s (Mehta & Pindborg, 1971 & Gupta, 1998) and late 1990s, (Gupta et al., 1998) overall tobacco use prevalence among men aged 15 years and above was around 70% in both surveys (71% and 67.6%). Smoking by men, however, appeared to have significantly decreased over the years (56% to 35%) and smokeless tobacco use to have increased (9% to 27%), while mixed use remained nearly the same (6% and 4.8%). In women, where smoking remained negligible, smokeless use may have decreased slightly (15% to 12%). Mawa chewing was found to have become highly popular among young men (15-35 years).
In a large survey conducted in rural Pune district in Maharashtra in the late 1960s, total tobacco use was 62% among men and 49% among women aged 15 years and above (Gowda, 1951). Most tobacco use consisted of smokeless forms. In the Global School Personnel Survey (GSPS), carried out in 2000 in Bihar, 74.6% of the 502 male school personnel interviewed and 57% out of the 430 female personnel interviewed said they were tobacco users. The break-up by type of tobacco use was smoking: 47.4% of men (cigarette smoking: 40.5%) and 31.0% of women (cigarette smoking: 26.9%). Some 58.7% of men and 53.4% of women said they used smokeless products (Sinha et al., 2002).

The Global School Personnel Survey was also conducted in eight north eastern states of India during January-March 2001. The prevalence of beedi smoking varied from 10% to 40% among school personnel in this region. In four of the states, (Assam, Nagaland, Manipur and Mizoram) cigarette smoking predominated, while in four other states (Arunachal Pradesh, Meghalaya, Sikkim and Tripura) beedi smoking predominated. Other forms of smoking were also found in the region, like kamchung (a small pipe) smoking in 6 states and hookah smoking as well as marijuana smoking with tobacco (Sinha et al., 2003).

Types of tobacco use also change with time in succeeding generations. Traditional forms of tobacco chewing such as paan now appears to be mainly consumed by the older generation and the younger generation is taking up newer forms of tobacco use such as gutka, tobacco toothpaste and cigarette smoking (Tiwari & Zodpey, 1999). In a survey of 1200 college students most tobacco users used multiple tobacco products as well as alcohol (Hans, 1998).

According to the NSSO report, in the population aged 10 years and above, 43% of rural males and 28% of urban males are regular tobacco users. Among females the prevalence in rural areas was 11% and in urban areas it was 5%. It is evident that rural prevalence is higher than urban prevalence for both males and females and that male prevalence is higher than female prevalence overall. The prevalence in rural areas was 50% higher than in urban areas for both males and females. Smoking prevalence among rural females compared to urban females was more than 3 times higher. On an
all-India level, the NFHS-2 estimated that 21% of persons aged 15 years and above
counterpart mass or tobacco and only 3% of the women were reported to have ever
smoked but 29% of men are current smokers. This survey also noted higher rates
among rural and less educated men and women compared to urban residents.

The Sentinel Survey of the World Health Organization South-East Asia Regional
Office (WHO-SEARO) and Indian Council of Medical Research (ICMR) provided
detailed population-based tobacco use prevalence data for youth in the age group of
10-14 years in two states namely, Uttar Pradesh (boys 3%; girls 0.6%) and Karnataka
(boys 1.3%; girls 0.1%), (Chaudhary, 2001). According to Global Adult Tobacco
Survey, (2009-2010) there are almost 275 million tobacco users in India. Prevalence
of tobacco use was higher in rural areas as compared to urban areas in most age
groups, except among teenagers where prevalence was comparable or higher than
rural areas (ICMR, 2002). Men started to smoke for reasons such as peer pressure,
parental smoking, rebellious behaviour, etc. whereas women are more likely to smoke
for tension reduction, depression, family violence, and fear of weight gain.

Prevalence of consumption of tobacco in the form of smoking amongst adolescent age
group according to the National Family Health Survey-2 (NFHS-2 (2000) was
reported to be 4.1 percent (boys) and 1.8 percent (girls) respectively. According to the
Global Youth Tobacco Survey (GYTS, 2000-2004), 17.5% were current users of
tobacco in any form, 14.6% were using smokeless tobacco and 8.3% were current
smokers including students from grades 8-10 (Reddy, 2005). In recent years India has
been witnessing a resurgence of smokeless tobacco consumption in industrially
manufactured forms, especially amongst the youth. The India GYTS - a school-based
survey of students of grades 8, 9 and 10 conducted in 2009 shows the prevalence as
follows: 14.6% currently use any tobacco product (Boy = 19.0%, Girl = 8.3%) 4.4%
currently smoke cigarettes (Boy = 5.8%, Girl = 2.4%) 12.5% currently use other
tobacco products (Boy = 16.2%, Girl = 7.2%) and 15.5% of the never smokers are
likely to initiate smoking next year. The study also indicated that 11.3% (in Sikkim)
to 68% (in Bihar) regularly applied some form of tobacco, the most popular products
being tobacco toothpaste and toothpowder. Information on prevalence of tobacco use
available from house-to-house studies in six different parts of India ranged from 44%
to 74% in the general population; specifically among men 60% to 80% and among women 15% to 67%.

In India, usage of tobacco is more prevalent because it has socio-cultural sanction from times immemorial. The variety in forms of tobacco use is unique to India. Apart from the smoked forms that include cigarettes, beedis and cigars, a plethora of smokeless forms of consumption exist and they account for about 35 percent of the total tobacco consumption (WHO, 1999-2000 & 2009). Tobacco chewing is the major non-smoking type and use of snuffs and tobacco powders is also found in many parts of India. Women take to using smokeless tobacco as it is more socially acceptable than smoking (Reddy, 2005).

1.4 PATTERNS OF TOBACCO CONSUMPTION IN INDIA

Within each country there is great variation in the consumption patterns. There has also been a complex interplay of socio-cultural factors which influenced not only the acceptance or rejection of tobacco by sections of society but also determined the patterns of use. In traditional Indian joint families smoking at home was initially a taboo. It was restricted to only the dominant male members of the family. The younger members of the family would desist from using it in the presence of the elders and even the master of the house would not use it when an elderly relative, especially an aged parent, was around. Members of different generations smoking together, in a home setting, is rare even today though modernity has led to some relaxation of these rules. The increasing replacement of the joint family by nuclear families, especially in the urban setting, has provided a more permissive atmosphere to use tobacco at home (Tobacco Control in India, 2004).

Although smoking tobacco was a taboo in traditional families but smokeless forms of tobacco was widely accepted. Inclusion of tobacco as one of the ingredients of paan highlights the importance of this product and wide social acceptability of tobacco chewing in ancient India. The social acceptance and importance of paan increased further during the mughal era and paan chewing became a widely prevalent form of smokeless tobacco use in India. Women ate paan for cosmetic
reasons as chewing it produced a bright red juice that coloured their mouth and lips (Bhonsle et al., 1990).

For each type of tobacco use, a wide range of tobacco products may be available. Some of these products are industrially manufactured on a large scale, some locally on a small scale, some may be prepared by a vendor and some may be prepared by the user himself or herself (Tobacco Control in India, 2004). Tobacco may be used in raw, processed mixtures and pyrolised forms. The raw forms are generally sun-cured or air-cured, consist of flakes of plain tobacco leaves mixed with other ingredients especially lime, areca nut and / or other condiments. The pyrolised forms (mishri, bajjar, etc.) are used as dentifrice. Oral use of snuff is also practiced in some specific areas (Aghi, 2001). Though tobacco chewing was practised for many centuries, commercial production and marketing were up-scaled recently with the introduction of gutka. The rate of growth and consumption of gutka has overtaken that of smoking forms of tobacco. As a result, oral tobacco consumption has opened a new and broader front in the battle between commercial tobacco and public health in India (Tobacco Control in India, 2004). The varied forms and types in which tobacco is consumed in India are:

- **Cigarette:** cigarette smoking is the most common method of tobacco consumption. There is "Low Tar," "Light," or "Ultra Light" cigarettes which refer to the type of filter that is used and can vary depending on the brand. However, there is no credible evidence that these are safer than the regular cigarettes (WHO, 1999). In India only about 20% of the total tobacco consumed (by weight) is in the form of cigarettes.

- **Beedis:** it is similar to cigarettes and accounts for about 40% of tobacco consumption. It produces three times more carbon monoxide and nicotine and five times more tar than regular cigarettes (WHO, 1999). Beedis are the most popular tobacco product used in India which comprises of 48% of the tobacco market compared to chewing tobacco 38% and cigarettes 14% (Sunley, 2008). It is seen that cigarette smoking in the total population increased with income and
education level versus beedi smoking which decreased with higher education and income level (Kyaing, 2003 & American Cancer Society, 2009).

❖ Hookah: also referred to as shishas is an indigenous device, made out of wooden and metallic pipes, used for smoking tobacco. The tobacco smoke passes through water kept in a spherical receptacle, in which some aromatic substances may also be added. Hookah smoking was popular among men and women of aristocratic and elite classes and is a common method of socializing among the village folk, especially in the northern and eastern parts of India. It is thought to be a sign of royalty and prestige and is available in high priced coffee shops in flavours like apple, strawberry and chocolate. Hookah smoking became a part of the culture and sharing of a hookah became socially acceptable and got associated with brotherhood and a sign of conveying equality (Gupta & Ray, 2004). It is marketed as a "safe" recreational activity and its use is increasing among college students of both sexes. Some studies (Aggarwal, 1998 & Jayant, 1991) suggest that hookah smoking is considered to be safer than other forms of smoking. But water is not effective for removing all relevant toxins, e.g. the carcinogenic aromatic hydrocarbons are not water-soluble. Several negative health effects are linked to hookah smoking and studies (Conrad, 1992; Ireland & Borowsky, 2003) indicate that it is likely to be more harmful than cigarettes, due to the volume of smoke inhaled.

❖ Cigar: this is made of air cured, fermented tobacco, usually in factories, and are generally expensive. Cigar smoking is predominately an urban practice. Many people view cigar smoking as less dangerous than cigarette smoking because smoke is generally not inhaled as is in done in case of cigarette smoke because the high alkalinity of the cigar smoke can quickly irritate the trachea and lungs. But one large cigar can contain as much tobacco as an entire pack of cigarette.

❖ Pipe smoking: the tobacco leaves are ground and placed into a pipe for inhalation. Pipe smoking has been found to increase the risk of various cancers by 33 per cent. In addition to the cancer risk, Pipe is also shared by the community people just like Hookah therefore there is risk of infectious diseases resulting from pipe sharing.
Smokeless tobacco: it comprises of tobacco or tobacco-containing products which are chewed or sucked as a quid, or applied to gums, or inhaled. Snuff is a smokeless tobacco inhaled through the nose. Khaini is one of the most common methods of chewing tobacco. Dried tobacco leaves are crushed and mixed with slaked lime and chewed as a quid. The practice of keeping the quid in the mouth between the cheeks and gums causes most cancers of the gums – the most common mouth cancer in India. Gutkha is rapidly becoming the most popular form of chewed tobacco in India. It consists of areca nut (crushed betel nut) pieces, catechu, lime coated with powdered tobacco, flavouring agents, and other “secret” ingredients that increase the addiction potential. It is very popular among teenagers and children because it is available in small packets (convenient for a single use) with flavouring agents and scents and is inexpensive (as low as Re 1/- equivalent to 2 cents). Gutkha use is responsible for increased cases of oral cancers and other disorders of the mouth and teeth in young adults.

Paan with tobacco: The main ingredients of paan are the betel leaf, areca nut (supari), slaked lime (chuna) and catechu (katha). Sweets and other condiments can also be added. The varieties of paan are named for the different strengths of tobacco in it. Some people think that chewing paan without tobacco is harmless, but this is not true. The International Agency for Research on Cancer (IARC) has established that people who chew both the betel leaf and the areca nut have a higher risk of damaging their gums and having cancers of the mouth, pharynx, esophagus, and stomach.

Paan masala: it is a commercial preparation containing areca nut, slaked lime, catechu, and condiments, with or without powdered tobacco. It comes in attractive sachets and tins, which are easy to carry and store. The tobacco powder and areca nut are responsible for oral cancers in those who use these products a lot.

Mawa: This is a combination of areca nut pieces, scented tobacco, and slaked lime that is mixed on the spot and chewed as a quid. The popularity of mawa and its ability to cause cancer matches that of gutkha. Its use is rising among teenagers and young adults in India.
Mishri, gudakhu and toothpastes: These preparations are popular because people believe – though incorrectly – that tobacco product is a germicidal chemical that helps in cleaning teeth. Mishri is roasted tobacco powder that is applied as a toothpowder. Mishri users often become addicted and start applying it as pastime.

Gudakhu: it is a paste of tobacco and sugar molasses. These preparations are commonly used by women and involve direct application of tobacco to the gums, thus increasing the risk of cancer of the gums. Tobacco-containing toothpastes, which are promoted as antibacterial pastes, are popular among children. This habit often becomes an addiction and the children graduate to other forms of tobacco, thus increasing their chance for cancers. Then there is most widely available loose leaf tobacco which is sweetened and packaged in aluminum lined pouches. The chewer simply takes a portion directly from the pouch.

Plug tobacco: this is pressed into sheets with the aid of a little syrup, mostly molasses, which helps maintain form as well as sweetness. The sheets are then cut into individual plugs, wrapped with fine tobacco and then packaged. Individual servings must be cut or bitten directly from the plug.

Twist tobacco: it is spun and rolled into large rope-like strands and then twisted into a knot. The final product is much lower in moisture than plug or loose leaf and historic varieties could be smoked in a pipe as well as chewed. This was the most common form of chewing tobacco in the 18th and 19th centuries.

Dry snuff: This is a mixture of dried tobacco powder and some scented chemicals. It is inhaled and is common in the elderly population of India. Snuff is responsible for cancers of the nose and jaw.

Thus, it is seen that:

- Tobacco has been used in India for centuries.
- Early forms of tobacco were limited to chewing tobacco leaves or smoking tobacco.
• Today several products made of, or containing tobacco, are available in the market.
• More than 7,000 different chemicals have been found in tobacco and tobacco smoke. Among these more than 60 chemicals are known to cause cancer (American Cancer Society).
• Nicotine is a drug found in tobacco. It is highly addictive – as addictive as heroin or cocaine. Over time, a person becomes physically and emotionally addicted to, or dependent on, nicotine.
• Almost 30 percent of the Indian population older than age 15 years uses some form of tobacco. Men use more smoked tobacco than smokeless tobacco. Women are more likely to use smokeless (chewed) tobacco. Beedis are smoked more than cigarettes especially in rural areas.

So powerful is the addiction of tobacco and so blinding is the advertising appeal of tobacco products that most consumers, even highly educated ones, believe that somehow they will be spared of the harm (India Cancer Initiative).

1.5 TOBACCO AND ADOLESCENTS: AN EMERGING PROBLEM

Tobacco use among adolescents is influenced by multiple etiological factors, including individual, socio-cultural and environmental factors (Poland et al., 2006). Adolescent tobacco use is a complex behaviour. Factors like, social bonding, social learning, lacking refusal skills, risk-taking attitudes and intentions have been highlighted as reasons for the onset of tobacco use in studies in developed countries (Conrad, 1992). One study in the United States, found that the most powerful predictors of transition to smoking were alcohol, marijuana, and other drugs, involvement with violence, learning problems, a history of sexual intercourse, frequent hanging out with friends and having friends who smoke (Scal et al., 2003). Cigarette smoking, in the developed world, has been the major habit among children for both boys and girls. They usually take to the habit while in school before the age of 18. It has been observed that smoking prevalence among 11 to 16 year olds in many Western countries has historically followed adult patterns. In fact teenage
prevalence has hardly changed in many countries despite concurrent declines in adult prevalence (ICMR, 2000).

The progressive increase in the consumption of tobacco amongst adolescents is emerging as a complex and multidimensional problem. It continues to occupy a premier position as public health concern in almost all countries. Tobacco is the most common hazardous substance because it is legally available, heavily promoted and widely consumed by our future generations (ICMR, 2006).

In India, tobacco consumption in multiple forms presents an emerging, significant and growing threat to the health of the adolescents. Many factors contribute to the initiation, experimentation and regular use of tobacco among youth. Major determinants are: (1) exposure to parental, sibling and peer smoking; (2) peer group pressure; (3) easy access to smoking and non-smoking forms of tobacco; (4) aggressive promotion and advertising; (5) low cost, etc.

There are only a few studies in India on prevalence and initiation of smoking and smokeless tobacco use among children (Kumar et al., 2006 & Bhojani et al., 2009). The most common reasons cited for children to start using tobacco are peer pressure, parental tobacco habits and pocket money given to children (Mohan et al., 2005). Some of the researches (Aggarwal, 1998; Jayant, 1991 & Kumar, 2000) have also indicated that a decision to take to tobacco is associated with factors such as: peer smoking, peer attitudes and norms, stress, health concerns, risky behaviours, parental smoking, family income, parental attitudes, sibling addiction, attachment to family and friends, depression, and self-esteem. In one study, conducted in Mumbai in 1999 among 300 college students, 40 percent admitted to be influenced by advertisements and said that sports and film personalities (for boys) and stylish lifestyles (for girls) were the most influential factors in taking to tobacco. Children in a large study in Uttar Pradesh (Mainpuri) were impressed by advertising depicting a high lifestyle, which included smoking, drinking, good clothes and affluent surroundings. Other important reasons for starting (and/or using) tobacco among youth were warm feeling of sharing among friends, fun/enjoyment or to remove boredom and to pass time. Some young smokers said they smoked to relieve feelings of anxiety / stress / failure. The desire to enhance one’s image, adding to one’s status,
appearing grown up or macho were reasons cited by many. Working children stated necessity to keep awake as a prominent reason. Children generally started with experimentation and occasional use but with appearance of withdrawal symptoms, addiction soon took over (Kumar, 2000). Forcing by friends or relatives, a direct form of peer pressure and parental smoking are often quoted reasons for young taking up the habit. Use of tobacco is progressively increasing among adolescents.

Like other developing countries, the most susceptible age (15-24 year) for initiating tobacco use in India is during adolescence and early adulthood (NSS 50th round (1993-1994). Most tobacco users start consuming tobacco before the age of 18 year, while some start as young as 10 years (Arora, 2005). In a nationally representative study covering males in the age group 12-60 year across all the 25 states of India in 2002, tobacco use was reported by 55.8% of individuals in the age group of 12-18 year (ICMR, 2006). The most disturbing fact is the age of initiation, which is progressively falling (NYST, 2009). Children today begin to experiment with tobacco at a relatively younger age than they were doing a decade ago. It is found that the vast majority of tobacco users started consuming tobacco when they were adolescents (WHO, 2009). The risks of tobacco use are highest among those who start early and continue its use for a long period (Sinha, 2002). The early age of initiation underscores the urgent need to intervene and protect this vulnerable group from falling prey to this addiction (Reddy & Arora, 2005).

In India about 5 million children under the age of fifteen are addicted to tobacco (ICMR, 2006). Early initial consumption of tobacco has been regarded as a serious health problem not only because it is believed to open the way for subsequent poly drug use, but also because of its linkage to impaired psychological and social development reflected in disrupted familial relations, school involvement and employment (NYTS, 2009). According to WHO (2009) tobacco consumption, in India, will continue to increase at 2.4 percent per annum and most of the new users will be India's school children and those who begin to use in their mid-teens are likely to get lung cancer by the time they are in their mid-thirties. Further, tobacco use may also give these students hypertension, heart disease, recurrent lung infections, ear infections, asthma, cough and poor grading (ICMR, 2006).
The major concern is that tobacco consumption is associated with certain other behaviours and long range consequences. Its use is directly associated with alcohol and other substances, and risky sexual behaviour, which can lead to life-long problems and chronic diseases such as AIDS (Kotwal, 2004). Each day, nearly 4,000 kids under the age of 18 try their first cigarette and another 1,000 become regular, daily smokers (Chakraborty, 2009).

Prevention of tobacco use in young people appears to be the single opportunity for preventing non-communicable disease in the world today. Therefore consumption of tobacco, among school students should be considered as a matter of great concern which requires holistic understanding. Although there are some studies which have focused on the prevalence of tobacco consumption among school students in different states of India but no study so far has covered the other related factors, such as, awareness level, role and responsibility of schools and parents. The present study, therefore, not only covers prevalence and patterns of tobacco consumption among school students but also focuses on the perception and role of schools and parents in preventing and controlling the problem of tobacco use among students.

1.6 TOBACCO USE: RELEVANCE OF SOCIAL WORK

Social work profession has a rich history of addressing the needs of vulnerable and oppressed groups and also those who are increasingly susceptible to the harmful effects of addictions including tobacco use. Addictions affect people from all walks of life and social workers see people with these problems in virtually all practice areas. Thus, social workers play vital roles in assisting individuals, families, schools, workplaces and communities to address addictions. Social work has considerable opportunities for counseling individuals, offering group education and support services, developing policies for a smoke-free environment and influencing government policymakers to promote health (Mark et.al., 1997).

But unfortunately the "power of social work" is not well understood in health care (Osterweis et al., 1996). Social work has a peripheral presence at best in the larger arena of health policy and design of care delivery. The research of Netting and
Williams (1997) on physicians' and nurses' perceptions of social workers in the Hartford Foundation Generalist Physician Initiative identified vast misunderstandings among professional colleagues about what social workers do. Abramson and Mizrahi (1997) have also studied physician-social work relationships, and noted similar problems.

It is recommended that there should be change in policy and practice - from viewing smoking not just as a public health concern that touches social work peripherally but also as a larger social problem affecting quality of life among disadvantaged populations. The social workers should take political action, including coalition building, community organizing, and political advocacy. Social work should consider smoking as substance abuse problem and respond to it especially when children and adolescents are increasingly becoming vulnerable to the harmful effects of tobacco use. Ironically, the profession continues to ignore a product that kills more people than any other addictive substance (Bogolub, 1990 & Valentich, 1994).

Social workers should see individuals with addictions including tobacco use and help parents with alcohol and drug problems in the child welfare system. Social workers employed as supervisors or agency administrators should also be responsible for employees who come to work intoxicated or have other addictive disorders that interfere with their work. Social workers may also see colleagues impaired by these problems. In all these situations, social workers need to identify problems and intervene. In 1995 National Association of Social Workers (NASW) established a specialty practice section for its members in the alcohol, tobacco, and other drug field and now offers a specialty clinical credential in this field. The first social work journal on addictions, the ‘Journal of Social Work Practice in the Addictions,’ was established in 2001. With initiatives like the National Institute on Drug Abuse, social work research development programmes began in 1999 and social workers have become increasingly involved in conducting alcohol and drug research, especially on preventing and treating these problems.

Increasingly, schools have started employing social workers to lessen the educational and developmental problems facing children. School social workers operate as a link
among the school, the students, their families, and the community’s social services. They work with students both in their homes and in their schools, while focusing on family and community factors that influence their performance in school. School social workers make a broad impact. They often reduce the number of school dropouts, or they may coordinate agency services for students and their families, and increasingly they develop strategies to prevent school violence.

School social workers play an important role in gathering information about a student’s social, emotional, and behavioral adjustments in school and the community. They conduct interviews with the student, the family, school personnel, other significant persons in the student’s life, as well as make classroom observations of the student. They use this information to prepare social and developmental histories that identify the student’s strengths and problem areas. Thus their role and involvement is very crucial in dealing with the problem of tobacco use among school students.
1.7 REFERENCES


