The International Journal of Social Sciences and Humanities Invention 5(09): 4959-4968, 2018
DOI: 10.18535/ijsshi/v5i9.01 **ICV 2015: 45.28**
ISSN: 2349-2031

Research Article

Second-hand Tobacco Smoke (ETS) – Findings of an Australian Case Study and How Dhaka can reap the Benefit from the Research Outcome.

Dr. Sheikh Mahabub Alam

Adviser and Chairman Dept. of Tourism and Hospitality Management (THM) Chairman Board of Head of the Departments the People's University of Bangladesh Asad Avenue Mohammadpur Dhaka-1207 Bangladesh

ABSTRACT: Smoking / ETS kills, prime reason for cancer, asthma, other lung diseases and other deadly diseases. It is diagnosed as the greatest silent killer on earth. Smoking has no positive contribution to human health or to the environment. It affects almost all organs of the body, leading to carcinogenic diseases and ending in premature mortality. Infants and children are most at risk. Although the overall smoking trend is slowly declining but smoking rate among students and young adults (both men and women) are disturbingly increasing in Australia despite strong collaborative efforts of public and private sector to curb tobacco smoking. Exposure to smoking is a violation of the right of all individuals to breathe clean air. Although people can't be forced to quit smoking, but regulation can be tightened, and strict enforcement of law would be a good deterrent for smokers. Australia has banned tobacco smoking in all public places and Bangladesh government could follow that noble initiative. In addition, community engagement, awareness building through education, accompanied by punishing smoking / ETS producers with hefty fines. Bangladesh unfortunately belongs among the top five smoking nation on earth. About 43% of people smokes and in the long run it will bring catastrophic consequences. Currently there are about 1.5 million cancer patients and about 3 30 million kidney patients and growing. A major contributor is tobacco and ETS. Unless urgent measures are taken the country will be flooded with patients with incurable diseases, a burden the country can't afford to handle.

Keywords: ETS, Nicotine, Cancer, Incurable Diseases, and Premature deaths.

I. Introduction.

Tobacco smoking is still very popular all over the world and it is a multibillion-dollar business. Therefore, people involved in producing, manufacturing, and marketing Tobacco related products are very reluctant to reduce their momentum and efforts.

It is very well known to all smokers, non-smokers and government bodies that smoking brings nothing but sorrows, miseries, suffering and deaths. Government around the world are bring stringent regulatory major, raising taxes astronomically, making it harder and expensive yet the rate of smoking is going higher and higher. But the international body and the nations around the world could not banned tobacco altogether because the supported of Tobacco are very strong and pumping billions of dollars to make their way out from out right banning.

The purpose is to identify the existing state of environmental and functional problems and stresses in relation to passive tobacco smoking. The scope of the project is also to Identify as far as possible, the potential capabilities, constraints and opportunities in raising the awareness of general public about the catastrophic effect of tobacco smoking and encourage nations around the world and international bodies responsible to oversee the effects of smoking to impose ban in smoking to all public places as a short-term measure.

The primary aim and the long term goal is also to work to identify the ways and means and to work out a mechanism through which the production of tobacco leaf can be banned worldwide and manufacturing of all kinds of tobacco related goods can be taken out of the shelf altogether for good to save the human population from unnecessary sufferings and deaths and to save the global environment from the bad impact of tobacco smoking.

A. What is Tobacco?

Tobacco is a green leafy plant normally grows in warm tropical climatic

Fig. 1. Green Tobacco leaf in the field (source: www.pamj.org/teen/....html).

conditions. These leafs are handpicked, dried, grounded and processed in Different ways to use them as cigarettes, bidis (thin hand-made cigarettes produced in Southeast Asia), kreteks (Indonesian cigarettes that contain cloves and other additives) cigar, pipes (and hookahs-an Asian smoking pipes) and smokeless tobacco (such as chewing and snuff (fine ground tobacco placed between the gum and lip).

B. Tobacco Smoking.

Smoking is the art of burning tobacco in various ways and in many different styles either directly or via another media (for example hookahs where the smoke is washed through the water media). The purpose is to inhale the smoke that contains thousands of chemicals including nicotine which acts as a stimulant. Slowly and gradually people become dependent on smoking and eventually becomes addicted to it, inflicting unrepairable damages to lungs and other organs causing suffering and eventually ending their life abruptly.

Tobacco is a nervous system stimulant that triggers complex biochemical and neurotransmitter disruptions. It elevates heart rate and blood pressure, constricts blood vessels, irritates lung tissue, and diminishes your ability to taste and smell.

When someone smokes a cigarette, they breathe in some of the following:

- tar, a black, sticky substance that contains many poisonous chemicals such as: ammonia (found in floor and window cleaner), toluene (found in industrial solvents) and acetone (found in paint stripper and nail polish remover)
- nicotine, the addictive drug in tobacco
- carbon monoxide, a poisonous gas that reduces the amount of oxygen taken up by a person's red blood cells
- hydrogen cyanide, the poison used in gas chambers during World War ll
- metals, including lead, nickel, arsenic (white ant poison) and cadmium (used in car batteries)
- Pesticides such as methoprene (found in flea powder). Other chemicals such as benzene (found in petrol) and naphthalene (found in mothballs) are also in tobacco smoke (www.oxygen.org.au/hardfacts.....smoke).

C. Composition of Tobacco Smoking.

Tobacco smoking contains Nicotine, Tar and Thousands of injurious chemicals. Theses thee major components in combination makes the tobacco smoke toxic and carcinogenic to human health.

1) Nicotine.

Nicotine is a common substance and can be found in many food items (for example tomato and eggplant has got considerable amount of nicotine) as

Well as in Tobacco leaf. Nicotine by itself is not harmful when consumed in its natural state but when they are inhaled in form of tobacco smoke then it becomes injurious to human health. Nicotine causes dependency as well as a host of health complications. Nicotine in tobacco smoke is strongly addictive.

Theoretically each cigarette contains about 10 mg of nicotine, but a smoker gets about 1 to 2 mg of nicotine that can be absorbed by human blood stream from one normal

Fig.2.Image of Nicotine (source: www.cosmosmagazine.com).

tobacco cigarette. Although it may seem to be not much but it is enough to make someone addicted. The act of smoking is by far the most frequently used way to get nicotine inside a human's body. The effects of nicotine can be felt by the human body within 30 seconds of smoking a cigarette. Nicotine can be absorbed quite quickly by the bloodstream and a person will not need to wait for the drug to become active.

2) Tar.

Tar is a primary toxic chemical product of tobacco smoking that is left behind on the end of the cigarette filter. In solid form, tar is brown tacky substance. It stains teeth and finger with brown colour and everything it touches coats with a brownish-yellow film. Usually tar is accumulated in the back of the cigarette

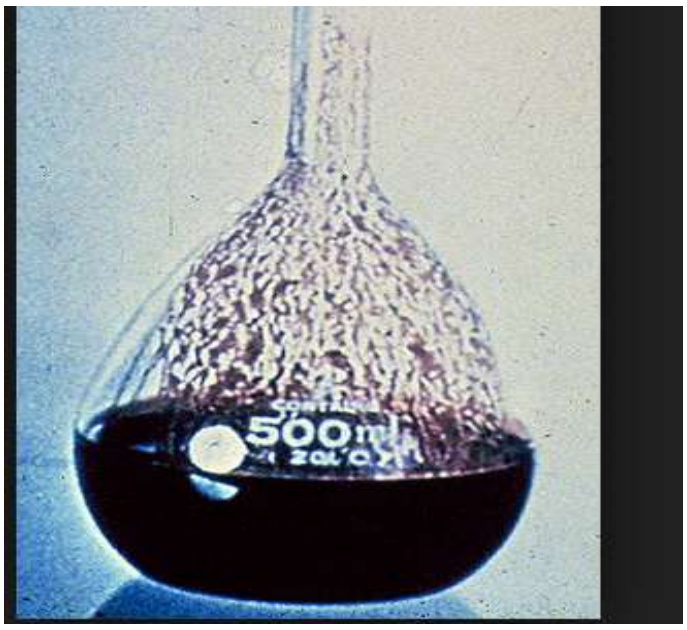

Fig.3.Tar from a years worth of cigarettes (source.www.healingtalks.com).

filter. Cigarettes are some time classified based on the tar content as follows:

- High-tar cigarettes contain at least 22 milligrams (mg) of tar
- Medium-tar cigarettes from 15 mg to 21 mg
- Low-tar cigarettes 7 mg or less of tar.

Tar accumulate in the back of tongue where all the taste buds are present this is why many smokers tend to add too much salt to their food, for the accuracy of their taste senses become vague.

3) Range of Chemicals in Smoking.

According to New York Smokers Quitline there are over 7000 known chemicals in Tobacco Smoke and at least 69 of them are directly related to causing cancer to human (www.nysmokefree.com).

Talhout, Reinskje (2011) believes that more than 5,000 chemicals originated from complex mixture of tobacco related smoke are toxic and carcinogenic in nature. He has compiled a list of more than 98 hazardous smoke components which are related to serious human health inhalation risks.

Fig. 4. Some important chemicals formed from tobacco smoke (source: www.nysmokefree.com).

II. Second-Hand Tobacco Smoke.

Second-hand tobacco smoke is defined by that smoke passively breathing in by a non-smoking person (either consciously or unconsciously) just by being in the vicinity of a person who is smoking. It is also known as Passive Smoke or ETS (Environmental Tobacco Smoke). The people who smoke make their own conscious decision to put their own health at risk. But millions of people who does not smoke or don't like smoking or don't want to put their health at risk caused by other people's smoking, do not have the ability to avoid the health risk caused by other people smoking. The impact of passive smoking is the same as those who smokes but the new born, children and pregnant women are more vulnerable than healthy adult people. Passive smoking is of two types: (1). Side Stream Smoke; and (2). Main Stream Smoke. Cigarette is the most important dominant source of Passive Smoking, followed by Cigar and Pipes.

A. Main Stream Smoke.

Main Stream Massive smoke (Fig. 5) is that smoke which is taken inside the mouth by the smoker and then released back through the mouth and nostrils to the atmosphere.

Fig. 5. Image of Main Stream Second-hand Smoke (source: blog.whitecloudelectroniccigarettes .com).

B. Side Stream Smoke.

Side stream smoke is that part of smoke which automatically goes off from a burning cigarette or Cigars and other burning forms of tobacco. Side stream smoke contributes about 85 percent of second-hand smoke.

Volatile Organic Carbon (VOC) and Particulate Matter (PM) emissions in total, Side Steam (SS)and Main Stream (MS) smoke were measured (Charles, Simone, M et al, 2007) for three types of research cigarettes obtained from the Kentucky Tobacco Research and Development Centre (Lexington, KY). The research

Table 1. Characteristics of Research Cigarettes (source: Kentucky Tobacco Research and Development Centre).

Characteristic (unit)	Cigarette type		
	1R3F	2R4F	1R5F
Type	"Standard nicotine"	"Low nicotine"	"Ultra low nicotine"
PM (mg cig^{-1})	18.1	11.7	2.1
FTC Tar (mg cig^{-1})	15.0	9.7	1.7
Nicotine (mg cig^{-1})	1.2	0.9	0.2
Average length (mm cig^{-1})	85.0	83.9	83.9
Static burn (sec/40 mm)	458.0	nd	370.0
Tobacco blend	Flue-cured, Burley, Turkish, Maryland, Reconstituted sheet, Invert sugar, Glycerine	Flue-cured, Burley, Oriental, Maryland, Reconstituted sheet, Glycerine, Isoweet	Flue-cured, flue-cured puffed, Burley, Burley puffed, Turkish, Reconstituted sheet, Glycerine, Invert sugar

included three types of cigarettes such as 1R3F (standard nicotine), 2R4F (low nicotine), and 1R5F (ultra low nicotine) having a considerable variation of blends and additives (Table. 1) both emission rates exceeded the MDL, showed that SS emissions exceeded MS emissions by up to 22 times. Similar

SS/MS ratios were found by Borgerding and Klus (2005) for benzene. PM emissions in SS smoke exceeded MS emissions by 3 times.

Table. 2. Main and Side-stream emissions results for 2E4F option (source: Charles, Simone, M et al (2007).

VOC/PM	Cigarette emissions		Ratio	Mass balance
	Mainstream ($\mu g.cig^{-1}$)	Sidestream ($\mu g.cig^{-1}$)	SS/MS	(MS+SS)/Total
ETS tracers				
2,5-DMF	41.77 (0.08)	193.19 (9.05)	4.6	0.96
3-EP	<MDL	255.42 (1.27)	–	1.03
Nicotine	<MDL	238.76 (71.76)	–	0.63
Phenols				
Phenol	<MDL	42.18 (2.36)	–	0.80
Sum of target VOCs	384.92 (35.16)	4158.19 (11.36)	10.8	0.97
PM	2.75 (0.01)	9.32 (0.05)	3.4	1.02

Fig. 6. Image of Side Stream Second-hand Smoking (source: www.theresekerr .com).

The results of research study (Table. 2) shows that SS smoke contained most of the

VOCs and PM emitted from the cigarettes. It also confirms that some of the compounds were not detectable in MS smoke. The SS/MS ratio, calculated if

both emission rates exceeded the MDL, showed that SS emissions exceeded MS emissions by up to 22 times. Similar SS/MS ratios were found by Borgerding and Klus (2005) for benzene. PM emissions in SS smoke exceeded MS emissions by 3 times.

III. Impact of Seccond-Hand Smoke.

Smoke moves through the respiratory system and hit the lung (Fig. 7) first where

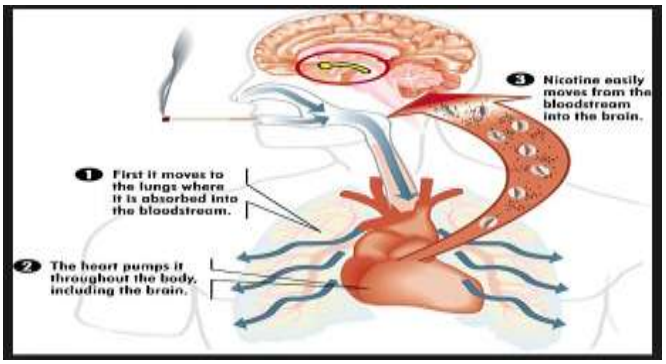

Fig. 7. Movement of smoke ingredients through human body (source:http:// www.google.com.au).

various ingredients of smoke (Nicotine, Tar and Chemicals) are absorbed into

blood. These ingredients are then pumped into the heart and from there they are transmitted to the entire blood circulation system including brain.

A. Impact to Adults.

Within 5 minutes of passive smoke inhalation prompt increments in heart rate, cardiac index and pulse pressures (Christodoulous et al , 1998) have been

taking experimentally confirmed and well documented. Smoking brings nothing but ill-health, disease, sufferings and premature deaths. Some of the destructive life

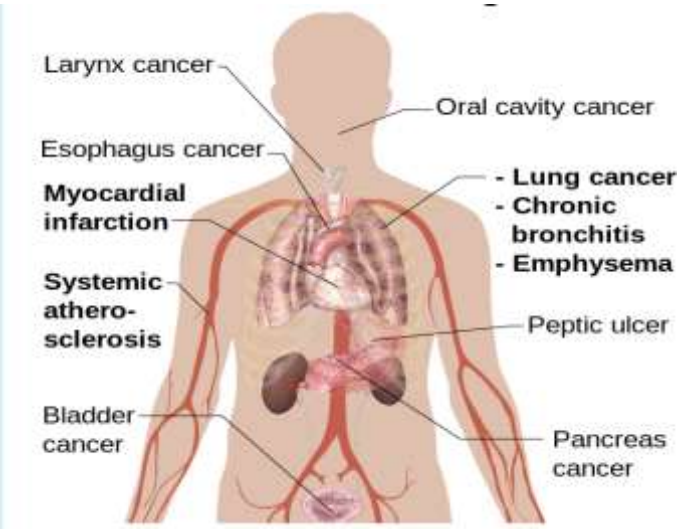

Fig. 8. Image of vulnerable organs most likely affected by smoke (source: http:// www.google.com.au).

disease (Fig. 8) are summarised in the pictorial form. According to Quit Victoria Resource and Media Centre it is reported that in the financial year 2004-05 there were about 14,901 reported deaths. Some of the killer diseases as reported in the www.quit.org.au/resource...../smoking/ are summarised below:

- Cancers of the lung, throat, mouth, tongue, nose, nasal sinus, voice box, oesophagus, pancreas, stomach, liver, kidney, bladder, ureter, bowel, ovary, cervix, and bone marrow (myeloid leukaemia). Smoking related cancers accounted for nearly 21% of all cancer deaths in 2005.
- Heart disease**.** Around a third of all cases of heart disease in those less than 65 years are due to smoking.
- Stroke. Smokers under 65 years old are around three times more likely to have a stroke than non-smokers of the same age.
- Peripheral vascular disease is a narrowing of the leg arteries that can lead to blockage and, in some cases, amputation. Cigarette smoking is the main risk factor for this disease.
- Abdominal aortic aneurysm (AAA) is the bursting of the lower part of the aorta leading from the heart. It often

leads to sudden death. Cigarette smoking is the main risk factor for this disease.

- Peptic ulcer disease in persons who are Helicobater pylori positive.
- Eye diseases, such as macular degeneration and cataracts.
- Lower fertility in women.
- Low bone density in older women and hip fractures in both sexes.
- Periodontitis, a dental disease that affects the gum and bones that supports the teeth.
- Respiratory symptoms including shortness of breath, coughing, phlegm and wheezing. These symptoms occur in both child and adult smokers.
- Faster decline in lung function, which means smokers cannot breathe in as deeply, or breathe out as hard as they would if they didn't smoke.
- Impaired lung growth among child and adolescent smokers and early onset of lung function decline in late adolescence and early adulthood.
- Childhood cancer (hepatoblastoma) where the father and/or mother smoked before and/or during pregnancy.
- Worsening asthma. Smokers with asthma have poorer asthma control, faster decline in lung function, more airway inflammation, and get less benefit from some asthma medications, compared to non-smokers with asthma.
- Complications during and after surgery, including delayed wound healing and increased risk of infection, drug interactions, lung complications and breathing difficulties.

The PAHs released from tobacco smoke acts as a positive catalyst in stabilising and stimulating PM10 and PM2.5 concentration, indicating strong potential risk for human health. The comparative study conducted by Slezakova et al (2009) has produced the following results: (1). The PM concentration of tobacco smoke contaminated sites were higher 650% for PM10, and 720% for PM2.5 than the non-smoking (reference site). A further analysis also reveals that 4 ring PAHs (fluoranthene, pyrene and chrysene) concentrations 4600-21000% (PM10) and 5100-20800% (PM2.5) were the highest, accounting for 49% of total PAH. Higher molecular weight PAH (5-6 rings) reached concentrations 300-1300% (PM10) and 140-1700% (PM2.5) in comparison with non-smoking site. Considering 9 carcinogenic PAH this increase was 780% and 760% in PM10 and PM2.5 respectively (Slezakova et al, 2009).

B. Impact on Children.

Children are the most vulnerable group who are more frequently the victims of second-hand smoking as children have higher breathing rate therefore they consume more smoke than adults hence damage rates are higher and if serious damage is done it can not be reversed in most cases. Parental smoking habits contribute about 90 precent of children exposure to passive smoking. The developing lungs of young children are most vulnerable and greatly increases the risk of respiratory illness and risk of sudden death syndrome are highest. Any serious damage caused in the early periods of life becomes the major cause of suffering and ill health for the rest of the life. Some of the most serious impacts are as follows:

The Nicotine, Tar, Carbon monoxide and many other chemicals released from tobacco smoke increases the chance of cardiovascular diseases, and children who breathe secondhand smoke are more likely to develop ear infections, allergies, bronchitis, pneumonia, and asthma and older children experiences more frequent sickness.

As little as 5 cigarettes a day can significantly reduce young developing lung functions and young girls are particularly vulnerable. Unusual growth of facial hair is experienced by girls who are engaged in active smoking. About 40 percent of young smoker who wanted to quit smoking but failed. About 44 precent of teens acknowledges their ignorance about the bad effects of smoking. Smoking teens produce double the phlegm than those who are not engaged in smoking.

Young children can get hooked with smoking habits within two weeks just by smoking 2 to 3 sticks a day. The effects of Zits last longer for smoking teens.

The teens who smoke are more likely to catch a cold more frequently and last longer than those who don't. Ten smokers use lot mode medication than their counterpart. Smoking kids significantly experience more trouble in sleeping than non-smoking kids. One in every 3 young smoking kids will become a regular smoker later in life and die of smoking related disease. These facts of life are researched, documented, and supported by the following websites: www.tobaccofreekids.org;

www.cdc.gov/tobacco/young/index.htm and many other research findings.

C. Impact on Female and Pregnancy.

Research finding concluded by Tang, Lu-ying et al (2013) with the observation that passive smoking is associated with an increased risk of breast cancer among both pre and postmenopausal women. Many other epidemiological studies (Kropp and Chang-Claude, 2002; Slattery et al;2008; Terry and Rohan, 2002) have concluded with the comment that the association between the risk of breast and exposure to passive smoking is stronger than the association with active smoking.

Problems during pregnancy and childbirth include:

Restricted foetal growth and low birth weight; unwanted bleeding during pregnancy, shortened time in womb leading to pre-mature child birth, caesarean section delivery, reduced lung function leading to Sudden Infant Death Syndrome, are very common in the family where parents particularly mothers are engaged in active smoking.

Suarez, Lucina et al (2011) have studied and found conclusive evidence on a large female population who were exposed to passive smoking during the process of child birth were associated with higher Neutral Tube Defects (NTD). Previous studies (Li et al, 2006; Suarez et al, 2008) had approximated doubling the risk of NTD who were exposed to passive smoking during their child birth process. It is highly recommended that those women wishing to have a baby

should minimize their exposure to passive smoking and refrain from smoking.

D. Impact on Pets.

Pets do not have the ability to protect themselves from smoke exposure, particularly indoor smoking. Often pet owners are also unaware or careless about the effects of smoke 0n pets. Like human fresh and clean air is also very important for all pets. Proof of this is becoming more obvious and more acceptable with the research finding confirming that pets are also vulnerable like human with the smoke pollution (http://blog.whitecloudeelectroniccigarettes .com).

Conclusive research has been conducted by Dr. Clare Knottenbelt, professor of oncology and small animal medicine at the College of Medical, Veterinary and Life Science at the University of Glasgow. Her research confirmed that passive smoke is a major cause of Nose and lung cancer of dogs and lymphoma in cats. She also observed that dogs living in a smoky environment fervently scratch, bite and chew their own skin and hair as a result of severe irritation. For a cat a smoky environment develops symptoms of frequent wheeze and coughs or even develops asthma within few months of regular tobacco smoke inhalation.

IV. Strategies to Ban Smoking & Ets.

Article 9 of the UN (WHO) Framework Convention on Tobacco Control (FCTC) provides comprehensive guidelines for tobacco control, manufacturing and marketing and the writer feels that it is about time to review and impose further stricter control on all aspects of tobacco uses.

The World Health Organization (WHO) reported in 1999 that ETS exposure leads to a wide range of adverse health effects on children and effective controlling measures. US Environmental Protection Agency (US EPA) and US Surgeon General, The UK Independent Scientific Committee on Smoking and Health including Australia's National Health and Medical Research Council (NHMRC) have reviewed the health effects of ETS exposure and gave unified opinion for imposing stricter control and regulatory measures.

A. Community Awareness Rising.

Raising awareness to the social community level is very important about the consequences of tobacco smoking and the related health problem that may arise from direct smoking and ETS. A multidisciplinary approach is needed and would be very effective to increase the awareness by combining the public, student, parents and school teachers to design an effective program. A well trained and well-informed teacher community should be able to deliver the consequences of Tobacco smoke and ETS related health hazards to the student community very effectively. Raising awareness of the student parents will be very effective not only to raise the awareness of the young student but it will also be very effective for the entire family.

B. Inclusion in Academic Curriculum.

It is about time to introduce the smoking lessons in academic curriculum suitable for every class in different stages. This is the best way to deliver the negative impacts of tobacco smoke to the young minds and that will help students to refrain from smoking. The other obvious benefit will come from this early training will become an antidote for parents to quit smoking. Those careless parents who smoke regularly inside the house might change their mind if they find that their kids are well aware about the ETS contamination and serious health risk associated with it.

C. Government Sponsored Incentive.

A nationwide continuous government sponsored publicity campaign should be more visible everywhere. The continuous hammering with the message containing the catastrophic health risk generated from tobacco smoke will gradually raise the awareness. It is proven that repeat message always work, the initial result may be very small but slowly and gradually it will bring the realisation that it is not worth to buy suffering, destruction and mortality through tobacco smoke and eventually they will quit smoking bring automatic improvement to ETS generation.

Government funded mandatory mass participation to seminar, workshop and public lectures on tobacco smoke and ETS must be organised on a regular basis. Theses events will definitely bring visible progress in tobacco smoke quitting and impacts of ETS.

Electronic media (radio, television, and web media), Newspaper, Billboards and other related media should run regular program high lighting devastating consequences of tobacco smoke. These will also bring visible positive results.

Free vocational training program should be offered by TAFE and other vocational training centres. General public should be encouraged with financial incentives to participate in those programs. Mandatory participation of disadvantaged groups, unemployed and people on benefits should be facilitated by the government. Research shows that financial insecurity brings worries and anxiety which sometime encourages people towards tobacco smoking.

D. Strict Enforcement of Smoke Regulations.

Australia has developed a series of Guidelines, Acts and Regulations targeting tobacco smoke and ETS reduction (see references). Although there is a tendency to respect those regulations but major breaching are still taking place in different levels. It is about time that EPA, Police and Local Councils strictly enforce these regulations to maintain a healthy nation. There is a growing need of well trained law enforcement personnel to get their job effectively done. Regular training program should be organised to improve the efficiency of the enforced personnel. Australia is leading in many fronts in the world and it is also desired that Australia should also be leading in tobacco smoke and ETS improvement through innovative programs.

V. Plan and Action of Nsw Governmnet.

It is estimated that currently there are more male smokers (18.1 percent) than female (13.5 percent) and since 2009 there has been an increase in current smoking among males and females aged 16-24 years (NSW health strategy, 2012). Government is actively engaged in formulating effective

measures and implementing then to curb the health impacts on general population as it is costing a fortune in proving medical services to the suffers of smoking related illness.

A. NSW Strategy to Combat Smoking (2012-2017).

The focal point of NSW smoking combat strategy is to meet the challenges in Partnership (Fig. 9) building between community and non-government agencies - a collective approach will produce long term sustainable results.

The NSW strategy (2012-2017) is bounded by 6 guiding principles: A population approach; Reducing inequality; Working in partnership; Capacity building; Engaging community and Ensure effective implementation. The aim is to achieve the following objectives: 1. Reduce the number of people using tobacco; 2. Prevent the uptake of smoking especially by children and young people; 3. Prevent exposure to second-hand

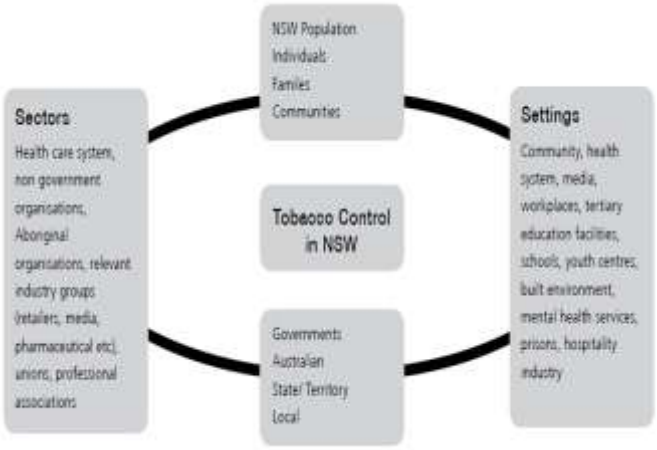

Fig - 9. NSW Strategic approach to tobacco control (source: NSW Tobacco Strategy, 2012-2017).

smoke and the harm it causes; 4. Reducing smoking among Aboriginal people and other disadvantaged populations; and Decrease tobacco related death and disease.

B. NSW Fact Sheet.

The state of NSW is getting serious about dealing with passive smoking. This is reflected by their progressive action of tightening smoking rules through the adoption of new claws in the "Smoke Free Environment Act, 2000". More and public places are becoming smoke free zones. Some of the new and existing claws are:

Tobacco advertising prohibition Act, 2012

effective from January 2013 - no smoking in spectator areas at public sports grounds From September 2013 all prison and corrective centres has become smoke free zones

From Jul. 2015 - no smoking in commercial outdoor dining areas

All professional. trade, commercial and other business premises

All Local, NSW and Federal Government premises

All kinds of shopping centres, malls and plazas

All kinds of public eating places, hotels and clubs

All kinds of educational institution (schools, colleges and universities)

All kinds of halls, gathering and place of worship Theatres, cinemas, libraries and galleries. Public accommodation, hotels and motels Fitness centres, bowling alleys and other sporting and recreational facilities and Childcare facilities.

Under the "Local Government Act 1993" NSW councils are progressively introducing new laws and tightening smoke restrictions. Councils are empowered by laws to enforce local, NSW and Commonwealth laws of all kinds.

VI. Bangladesh among Top Five Smoking Nation.

This is dangerously alarming for the future generations of the country as a major part of these smokers are teen agers and university going people.

Fig-10. Anti-smoking Campaign is getting its momentum (source: . https://www.google.com/search?q=IMAGE+ON+SMOKING+CONTROL+IN+BANGLADESH.

A. Up-to-Date Research Findings.

Palipudi et al (2011) has identified people in Bangladesh are exposed to second-hand smoke in the following locations: Indoor workplaces, homes, government building or office, health care facilities, public transportation, schools, universities, restaurants, and cafes, coffee shops or tea houses. Palipudi et al (2011) study reveals that Exposure to Hand Smoke (SHS) among adults was high at home (54.9%) (male-58.2% and female-51.7%), at workplace (63%) (male-67.8% and female-30.4%), and at any public place (57.8%) (male-90.4% and female-25.1%). At educational institution the SHS exposure was lowest (schools-4.3%), SHS is low at health care facilities (5.8%); it is quite high in public transportation (26.3%), and restaurants (27.6%). SHS exposure levels at home, in workplace and public places were varied widely across various socioeconomic and demographic sub-groups (Palipudi et al, 2011).

Palipudi et al (2011) found “55% of households in our sample had at least one regular smoker. Smoking indoors was common. In 30% of households, smoking occurred in the presence of children, exposing nearly 40% of children to SHS. Overall, we found a lack of awareness about the harms associated with second-hand smoking”.

International tobacco Control (Itc) - Bangladesh: Findings.

The itc 2010 report finds that the number of smokers has

increased by 2.5 million in compared to 2004-05 in Bangladesh.

Tribal people and slum dwellers (they are illiterate, poor, uneducated, have no future, confused about the meaning of life, have no idea about healthy living, worries, anxieties and frustration) smokes more than other groups.

B. Government Latest Initiatives.

Bangladesh National Tobacco Control Cell (NTCC) under the Ministry of Health and Family Welfare in collaboration with various NGOs (NATAB, ACLAB AND WBB and PROGGA) has found out in their study that in Bangladesh about 43% of adults (41.3 million people) use Tobacco. 24% of male death and 12% of female deaths are caused by Tobacco use and second-hand effect of smoking.

The modification of Smoking and Tobacco Products Usage (Control) Bill (Amendment) 2013 has expanded the ban of smoking and it now covers all public facilities and workplaces.

In March 2016 Bangladesh government has gone even further and have broaden its definition of public places, increased penalties and inclusion of pictorial consequences of smoking on top of packet. The amendment also requires graphic health warnings that cover 50% of tobacco packaging. It further extends the current ban on advertising and promotion to cover point-of-sale displays and so-called corporate social responsibility activities. Significantly, the amendment adds smokeless tobacco to products regulated under the countries tobacco control laws.

The law is strong enough, but the problem lies with its implementation and enforcement. In Australia the law enforcement agencies are so dedicated and powerful that if someone gets caught the will have to pay the fine regardless of that person's status, even the prime minister will have to pay the fine, and fines are of big amount, once somebody gets a fine that person will not commit such offence ever again.

The amendment also requires graphic health warnings that cover 50% of tobacco packaging. It further extends the current ban on advertising and promotion to cover point-of-sale displays and so-called corporate social responsibility activities. Significantly, the amendment adds smokeless tobacco to products regulated under the countries tobacco control laws.

Bangladesh has still got >30% illiterate who can't read or write. They do the hard work like labourer, rickshaw-pullers and landless farmers. They have got no idea about the consequences of smoking. They also smoke the lowest quality of tobacco products. Even a big portion of educated people do smoke. This group of people knows about the consequences, but they don't care about the future of their health as

Time is running out for Bangladesh to impose smoke-free legislation in public offices, parks, and open spaces. The smoking should be banded altogether in presence of children under all circumstances even in private home where they have babies and infant children. Smoking is an epidemic addiction it makes people selfish, arrogant and stupid; they must be taught and forced if necessary to reduce smoking for their own wellbeing and to protect children from involuntary exposure to tobacco smoke. People should be informed about the risks of secondhand smoke and the potential harms of third hand smoke.

C. How the Nation can avert Smoking & ETS Catastrophe.

I). Ban Smoking:

Smoking should be banned by law at all public and private organizations, big gatherings and open parks where people visit for recreational purposes. Smokers should be restricted to a limited few designated places far away from crowd. They should be placed under strict surveillance program. The offenders must be caught and punished with a hefty fine so that they do not commit the same mistake again.

2). Strict Enforcement of Traffic Infringement.

The entire city of Sydney is covered by cameras, smoke alarm and highway patrol police are scattered in such a way that offenders can be caught easily. All offenders are caught and punished with hefty fines. This practice can be implemented at Dhaka city without any delay.

3). Remove Corruption of Law Enforcement Agencies.

Unfortunately, various level of corruption does exist in every government departments. Time has come to uproot all types of corruption from all departments by providing various incentives and rewarding policies.

4). Introduction of Lesson on Smoking and ETS at Schools and Colleges.

A student never forgets a lesson that is learnt at school. It remains in their soft memory forever. The bad impact of smoking with their catastrophic consequences must be stressed in the lessons. It is also expensive, and the money spent on smoking is completely wasted.

5). Fast Track Achievement of 100% Education.

Currently our education rate is about 70%. It a great news that our honourable Prime Minister - Desh Ratna - Sheikh Hasina has declared that every citizen of this country should be able to read and write the very basics of human needs. They will be able to simple thing, write their name and put their signature by 2021. I would ask everyone concerned in this program should work hard with sincerity and devotion to attain the objective on time. Without adequate education it is impossible to deliver the bad impact of smoking to general public as well as the young students.

VII. Conclusion.

Tobacco smoking has been identified by the UN body and nations around the world as an act that has no benefits attached to it. It is expensive, and it brings noting but ill-health, sufferings, distress and eventual premature mortality. It has been diagnosed as the greatest silent killers of all time. Increased wisdom and greater awareness of general public about the fatal effect of ETS and tobacco smoking government is forced to exert more pressure on tobacco manufacturing group to curb their production, manufacturing and marketing and also on smoker themselves.

The danger of second-hand smoking is also more widely recognised by the community as a result the smokers are

increasingly squeezed out of public spaces. Smoking is no longer allowed at the airport and in any kind of transport, entertainment centres and public eating places. Many Public Parks and Open Spaces are already smoked free in Australia. Non-smoker is slowly but surely winning everywhere. There has never been a better time to encourage smokers to quit smoking altogether.

The world is now more intelligent with the gift of knowledge, technological advancement. Bangladesh is sitting on a very dangerous position in terms of smoking rate. Nearly half (about 43%) of children, young and adults' smokes. Since most of these smokers come of a poor financial background, very little education and virtually no knowledge about the fatal consequences of smoking are known to them. Young people also smoke to prove their manhood and unfortunate they smoke the low-quality tobacco which is most injurious to health. Awareness rising is the only effective measure for them. Bangladesh unfortunately belongs among the top five smoking nation on earth. Several research works has revealed that currently there are about 15 lac (1.5 million) cancer patients and increasing by 2 lac (.2 million) every year; about 3 crore (30 million) kidney patients in Bangladesh. It is inevitable that a major contributor is tobacco and ETS. When every country is trying hard to curtail cultivation of tobacco it is disturbing that in Bangladesh cultivation of tobacco is growing and precious fertile lands which were traditionally used for rice crop (paddy) are increasingly coming under tobacco cultivation for better profit. But its long-term effects are dangerous for the entire nation. The already overstressed medical facilities will get more undesirable pressure only due to ETS and tobacco smokers.

VIII. Recommendation.

Time is running out for the government to act decisively to stop the growing cultivation of tobacco and raise awareness of the common people about the effects of smoking. Strict enforcement of regulatory measures will also bring good results.

The mounting evidence of catastrophic health impact of tobacco smoking & ETS dictates that it is about time that Australia, Bangladesh and in fact all countries in the world begin campaign to ban tobacco production, marketing and smoking altogether.

The Australian model to curb ETS and the additional suggestions provided in this article if implemented would bring good results.

Acknowledgements

The author extends his gratitude to Professor David Eager for excellent tuition of "Air and Noise Pollution" and expresses sincere thanks for his valuable suggestions and guidance.

References

[1] ACT (Australia), Air Pollution Act, 1984.

[2] Charles, Simone M. et al. (2007). Composition and emissions of VOCs in the Main and Side Streams Smoke of research cigarettes. Atmospheric Environment. Vol. 4. pp5271-5384.

[3] Commonwealth of Australia (2001). Environmental Tobacco Smoking in Australia. National Tobacco Strategy (1999-2002-03), ISBN 064 250 3931. Publication approval number 2996. Prepared by: VicHealth Centre for Tobacco Control.

[4] Environmental Planning and Assessment Regulation 2000 (First version in 1980 and amended in 1993).

[5] Hasib, Nurul I (2015). New law bans smoking even in private offices, (http://www.tobaccoatlas.org/topic/secondhand-smoke. Published: 2015-04-17 10:33:38.0 BdST Updated: 2015-04-17 14:58:12.0 BdST. Bndnews24.com.

[6] Hussain, Syed Md Akram. (2013). Comprehensive update on cancer scenario of Bangladesh. South Asian Journal, 2(4): 279-284. Doi: 10.4103/2278-330X.119901.

[7] International Tobacco Control policy Evaluation Project (Itc) - Bangladesh Survey: Summary Findings (2010). (www: itcbangladesh4pagersingleeing.pdf).

[8] Lu-Ying, Tang. (2013). Effects of passive smoking on breast cancer risk in pre/post-menopausal women as modified by polymorphism of PARP1 and ESRI. Gene. Vol. 524, pp84-89.

[9] Meeker, JD. (2007). Maternal Exposure to second-hand tobacco smoke and pregnancy outcome among couples undergoing assisted reproduction. Advance Access Publication. Vol. 22, No.2, pp337-234.

[10] NSW Tobacco Strategy 2012 - 2017. http://nsw.health.nsw.gov.au/pubs...../strategy_2012.pdf.

[11] Otsuka, Ryo (2001). Acute Effects of Passive Smoking on the Coronary Circulation in Healthy Young Adulys. TAMA, The Journal of Americal Medical Association, Vol. 286(4), p36.

[12] Palipudi KM et al (2011). Exposure to Tobacco smoke among adults in Bangladesh. Indian J Public Health. 55(3):210-9. Doi: 10.4103/0019-557x.89942.

[13] Slezakova, S et al (2009). Influence of tobacco smoke on carcinogenic PAH composition in indoor PM10 and PM2.5. Atmospheric Environment, Vol. 43, pp6376-6382.

[14] Smoke Free Environment Act, 2000 (updated in Jan 2013).http://www.health. nsw.gov.au /tobacco.....facts heet.pdf.

[15] Suarez, Lucina et al (2011). Smoking, Passive Tobacco Smoking, and Neutral Tube Defects. Birth Defects Research (Part A), Vol. 91, pp29-33.

[16] The Smoking and Tobacco Products Usage (Control) Bill (Amendment) 2013, Bangladesh passes new law to protect workers from second-hand smoke. http://old.theunion.org/index.php/en /newsroom/news/item/2462-bangladesh-passes-new-law-to-protect-workers-from-second-hand-smoke).

[17] Ullah, Abu N U et al (2013) Children's exposure to second-hand smoke at home in Bangladesh: a community survey. BMJ Open 2013;3:e003059

doi:10.1136/bmjopen-2013-003059. Published 13 November 2013, Correspondence to Rumana Hugue; rumanah14@yahoo.com

[18] UTS Online Resources, 2013.

[19] UTS Postgraduate Lectures and Reading Materials, 2013 (CN4747).

[20] Yarlioglues, Mikail. (2010). Acute effects of passive smoking on blood pressure and heart rate in healthy females. Blood Pressure Monitoring. Vol. 15(5), pp251-6.