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Research Article

Deleterious effects of smoking in male patients in a tertiary care hospital

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Abstract: This study explains the deleterious effects of cigarette smoking in patients of SSSMC&RI, Ammapettai. In this study we have collected a history of 75 patients in SSSMC & RI. This history has been collected based on their smoking habits to rule out the complications of smoking. The perceived questionnaire was prepared according to WHO guidelines to estimate the complications of cigarette smokers. The complications of cigarette smoking have been in raising trend now days. In this study we have collected history of chronic smoking in 75 patients to rule out their complications. Our results shows that hypertension was most predominant complication now a days which is about 28% followed by other complications such as stroke, COPD, cough with expectoration and dyspnoea, Tuberculosis, TB along with bronchitis and pneumonia ,TB with COPD, TB with cirrhosis of liver. The complications of cigarette smoking are increasing now days. These findings suggest that the smokers are having a higher risk for developing complications which may lead to mortality; this result provides public awareness about abandonment of smoking which brings immense health benefits. Therefore quitting can help to live hale and healthy life.
Keywords: Cigarette smokers, Hypertension, Complications.

INTRODUCTION:

The habit of Smoking is common in developing countries including India. Ultimately the friends and siblings of the first cigarette smoked tobacco merchants will become the primary sources of young smokers [1]. Contrary to popular belief, smoking does not relieve stress. Studies have shown that on an average, smokers have more stress than non-smokers [2].

The content of cigarettes consists of various metals like zinc, nickel, copper, lead, cadmium, mercury and aluminium. These metals induce the oxidation of proteins in the cells and this alters the endothelial integrity which leads to endothelial dysfunction and causing separation of endothelial cells from the vessels wall [3].

There are number of other toxic, mutagenic, tumour promoters and/or co carcinogenic substances have been identified in active and passive cigarette smoking over the years. Various epidemiological and experimental studies have not only confirmed the major role of exposure to cigarette smoke causes lung and bladder carcinoma, but also it has been reported that its associated with carcinoma of various other sites, such as the oral cavity, oesophagus, colon, pancreas, breast, larynx and kidney. It is also associated with leukaemia, especially acute myeloid leukaemia [4].

Many of the teenagers and adults think that there are no effects of smoking in their body until they reach middle age [5]. Smoking affects the immune system. It causes neutrophils to accumulate in the lungs resulting in a disproportional inflammatory reaction. Nicotine particularly affects the immune system by impairing cytotoxic T lymphocyte memory cell differentiation [6].

According to the World Health Organization (WHO) tobacco alone is responsible for almost six million deaths worldwide. Cigarette smoke has more than 7000 different chemical components of which more than 70 substances are known to be carcinogens. Smoking can lead to cardiovascular, pulmonary [7] and renal diseases as well as inflammation [8] and cancer [9].

Smoking causes narrowing of blood vessels which compromise the blood flow and this reduce the oxygen delivery to the cells which leads to straining of heart muscles [3]. Not only that, smoking also increases insulin resistance and also can cause central fat

accumulation which in turn raises the risk for metabolic syndrome and diabetes [10].

In 2013 World Health Assembly called on governments to reduce the prevalence of smoking is about a third by 2025, which would avoid more than 200 million deaths from tobacco during the remainder of the century [11].

Price is the key determinant of smoking uptake and cessation [12, 13]. In Worldwide, one third of reduction could be achieved by doubling the inflation-adjusted price of cigarettes, in many low- and middle-income countries could be achieved by tripling the specific tax on tobacco.

Other interventions recommended by the World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC) and the WHO six-point MPOWER initiative [14] could help to reduce consumption [15] and could help make substantial increases in specific excise taxes on tobacco politically acceptable. Without increment of price, a reduction in smoking by a third would be difficult to achieve.

The aim of this paper is to evaluate the complication in smokers and to prevent addiction towards smoking habits.

METHODOLOGY

In this study, we have chosen patients with a history of chronic smoking from Shri Sathya Sai Medical College and Research Institute. The duration of the study was from the month of January to June 2016. The study was carried out on 75 male patients, those who had developed complications of Cigarette smoking, from the age above 20 years old. This consent has been obtained from the patient after explaining the nature of this study.

Smoking habits were assessed by questionnaire forms according to WHO guidelines, which includes the following questions [16]

1. Have you smoked at least 100 cigars in your lifetime?
2. Have you ever smoke?
3. Do you smoke now?
4. When did you stop smoking daily?
5. On average, how many times do you smoke per day?
6. Which product you use frequently?
7. Have you ever visit health professional to stop smoking?
8. Are you exposed to indoor tobacco smoke?
9. About how many hours per day are you exposed to indoor tobacco smoke at your work place? and in addition with any history of respiratory diseases, stress and hypertension. The questionnaire was analysed to obtain the complications and its range**.**

Inclusion criteria

- COPD, bronchitis
- TB
- Pneumonia
- Diabetes
- Cirrhosis of Liver

Exclusion criteria

- HIV patients
- Psychiatric illness

RESULT

The complication of cigarette smoking is progressing day by day. In this investigation, we have collected a history of 75 patients with chronic smoking difficulties from January to June 2016 carried out at SSSMC&RI.

This study indicates that the complications of cigarette smoking such as hypertension 21(28%) which is the most common complication followed by diabetes and stroke 9(12%) hypertension with stroke 8(10.7%), strokes with diabetes7(9.3%), hypertension with TB and bronchitis 7(9.3%), cough with expectoration and dyspnoea 6(8%), hypertension with COPD 6(8%), pneumonia 5(6.7%), hypertension with TB and COPD 3(4%), TB with cirrhosis of liver 3(4%) as shown in the Table 1 and Figure 1.

Our report reveals that the hypertension is the most severe complications with other conditions like stroke, TB, COPD and diabetes, Pneumonia etc. When we questioned the smokers, most of the smokers responded that they started smoking due to stress, tension, and depression. Hence we recommend that smokers should start taking care of themselves and get treated for problems early on, which will give the better chance for successful treatment. The best way, to decrease the risk for life-threatening health problems is to quit smoking cigarettes. Based on our study, we have found that the most effective way to quit smoking and to avoid such complications is by physical exercise to relieve from stress and depression.

Table-1: Complications of Cigarette Smoking

S.No	Complications	No. of Complaints	Percentage
1.	Hypertension	21	28%
2.	Diabetes and Stroke	9	12%
3.	Hypertension with Stroke	8	10.7%
4.	Hypertension with TB	7	9.3%
5.	Hypertension with TB and Bronchitis	7	9.3%
6.	Hypertension with COPD	6	8%
7.	Cough with Expectorant and Dyspnoea	6	8%
8.	Pneumonia	5	6.7%
9.	Hypertension with TB and COPD	3	4%
10.	TB with Cirrhosis of Liver	3	4%

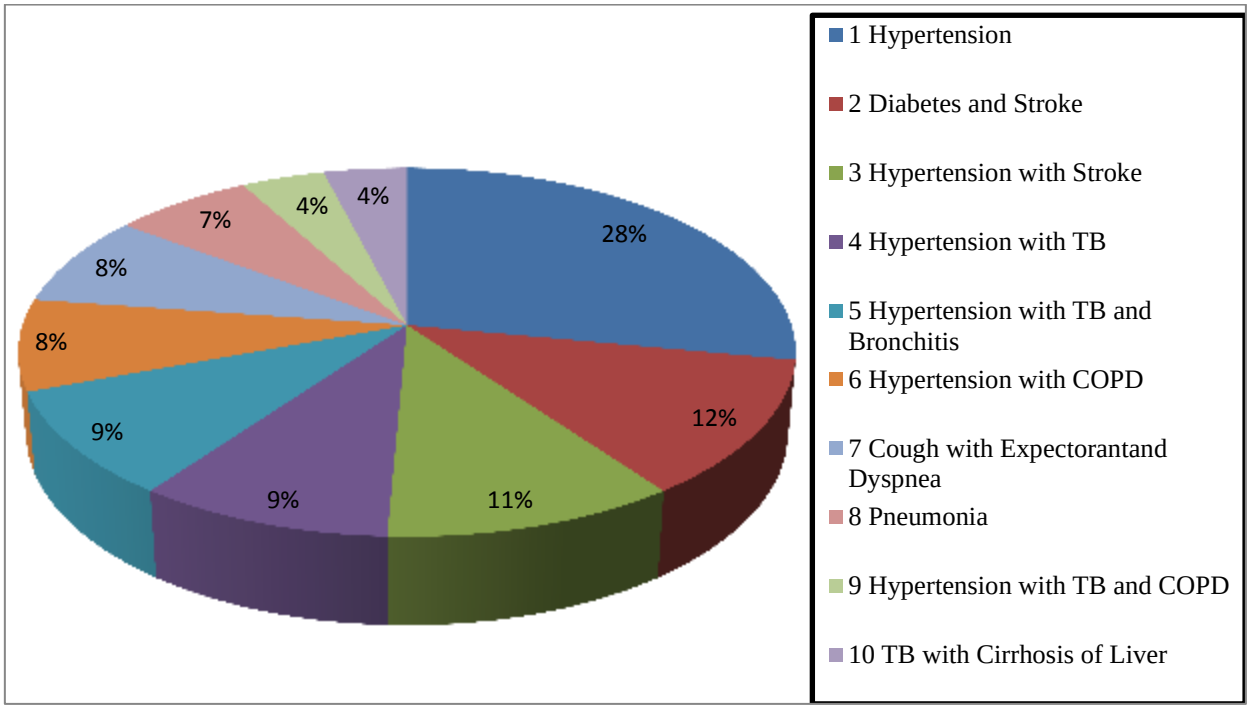

Fig-1: Complications of Cigarette Smoking

DISCUSSION

In this study our observation is regarding the complication of cigarette smoking from the 75 male patients at SSSMC&RI. In this research, Smokers often mentioned that stress and depression are the common reasons for going back to smoking. So for chronic smokers, quitting of smoking may not be possible.

Similarly, A national study in Australia found that daily smokers reported higher levels of psychological stress than non-daily smokers, who in turn reported higher stress than non-smokers [17] and Burgess ES *et al.;* suggests that smoking and depression often co-occur. So when compared to non-smokers, smokers report more depressive symptoms [18].

In contrary to our study, A report in Australia stated that 35% and 40% of adult smokers have a mental health disorder and it is estimated that more than 42% of all cigarettes have been smoked by people with mental illness [19]. Another study in the US found that adults with serious psychological distress were more likely to be heavy smokers and less likely to quit smoking than those without serious psychological distress [20].

In our investigation, hypertension was the most prevalent among all the complication in smokers which leads to coronary artery disease, similarly from the study of Aurelio Leone *et al.;* reports that hypertension is a common major coronary risk factor which associated with smoking [21].

Similarly Wannamethee SG *et al.;* evidenced that while the risk of stroke falls markedly among former heavy smokers (more than 20 cigarettes per day), their risk may remain higher than the risk for people who have never smoked for many years. Hence Quitting smoking particularly benefits people with high blood pressure in regard to reducing their risk of stroke [22].

Equally, in other researches, A patient with frequent smoking who develops type-2 diabetes may be due to low GFR (Glomerular filtration rate) or due to the metabolic disease. This was correlated with Salvatore De Cosmo etal and Cullen MW et al also suggested that smoking increases diabetes risk through a body mass index independent mechanism. There was a growing body of evidence to show that smoking is a risk factor for Type 2 Diabetes [23, 24]. Willi, C *et al.;* revealed an association between active smoking and an increased risk of diabetes [25].

Devereux, G proved that about half the number of cigarette smokers develop some airflow obstruction and 10- 20% develops COPD [26]. Data from the Health Survey for England show that smokers with COPD tend to be more addicted to cigarettes but show no greater desire to stop smoking than other smokers [27]. However, the best way to prevent COPD is to never have started smoking. In the past decade, a number of epidemiological studies and meta-analyses have implicated that smoking is a risk factor in the acquisition of TB infection, the development of active TB.

Jianming Wang *et al.;* [28] says that both cumulative (increase) smoking and cigarette consumption leads to the risk of TB. For example, a review by the World Health Organization concluded that exposure to second-hand smoke is a major cause of bronchitis, pneumonia, coughing and wheezing and asthma attacks in children [29].

Smoking is a well-known independent risk factor for Community-acquired pneumonia (CAP), [30] probably due to its adverse effects on respiratory epithelium and the clearance of bacteria from the respiratory tract [31]. Smoking increases the body's susceptibility to the most common bacterial causes of pneumonia. If Pneumonia is left untreated, it can lead to empyema, lung collapse, haematological spread of infection and severe chest pain [32].

Correspondingly, a study revealed direct link between tobacco smoking and liver cirrhosis. Cohort data revealed that tobacco smoking may increase the risk of liver cirrhosis independent of the influence of alcohol. Our observation will support all these reports [33, 34]. There is evidence that compared to continuous smokers, successful quitters were reported to be in wellbeing and happiness, which could be used to motivate those who are attempting to quit [35].

CONCLUSION

We hereby conclude that hypertension is the most important complication. Their smoking habit was practised from their adulthood influenced by their siblings, friends and surrounding environment. According to our investigation, Smokers often mention stress as one of the reasons for going back to smoking. Stress and depression area part of life for smokers and non-smokers alike. Hence physical activity is a good stress-reliever for smokers. It can also help with the short-term sense of depression when quitting. For chronic smokers, quitting smoking may not be possible, so they can take medications or they can try to reduce gradually day by day to make quitting possible.

By saying----"SMOKING CAUSES CANCER SMOKING KILLS"

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