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Tobacco - The Silent Killer

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Abstract
Smoked and smokeless tobacco use produces profound effects on soft and hard tissues in and around the oral cavity. Because many of these changes are clinically observable, dentists are in ideal positions to give patients specific information concerning the oral ill effects of tobacco use. This article links tobacco use with an effective treatment plan for tobacco intervention for dentists who come across patients with tobacco use in their clinics.

Key Words
Tobacco; smoke; smokeless; cancer

HISTORY OF TOBACCO

Within 150 years of Columbus's finding "strange leaves" in the New World, tobacco was being used around the globe. Its rapid spread and widespread acceptance characterize the addiction to the plant Nicotina tobacum. Only the mode of delivery has changed. In the 18th century, snuff held sway; the 19th century was the age of the cigar; the 20th century saw the rise of the manufactured cigarette, and with it a greatly increased number of smokers. At the beginning of the 21st century about one third of adults in the world, including increasing numbers of women, used tobacco. Despite thousands of studies showing that tobacco in all its forms kills its users, and smoking cigarettes kills non-users, people continue to smoke, and deaths from tobacco use continue to increase.[1] Major producers of tobacco plants and leaves are China, India, Brazil, USA, Turkey. After cultivation the "Curing" - this is a slow process of aging and oxidation and degradation of the carotenoids of the tobacco leaf. Sometimes leaves are "caramelized" too which adds flavour. It's air-cured, sun-cured, fire-cured or flue-cured.[2] Nicotine contained in Tobacco is a powerful neuro-toxin to insects and in higher doses is poisonous to humans too. It makes tobacco a highly addictive substance. It is classified by WHO as single largest preventable disease. Tobacco smoke has more than 7000 chemicals, hundreds of which are toxic and negatively affect almost all organ systems and also cause cancer. It is well known that in India the leading cause for cancer is tobacco.

FINANCIAL STRAIN

Across the globe, smoking is generally common among the poorest segments of the population. These groups, already under financial stress, have little disposable income to spend on cigarettes. Consumption of tobacco adds directly to financial stress. For example, in a city such as New York, a pack-per-day smoker living at the poverty level spends as much as 20% of his household income in supporting his smoking habit. In lower-income countries, the World Health Organization estimates that as much as 10% of household income can be spent on tobacco products, leaving less money for food, education, housing, and clothing.[3]

STATISTICS

1. Tobacco kills 1 person in every 6 seconds.
2. One in every 10 deaths is due to tobacco usage.
3. Tobacco kills 5 million people in the world.
4. Tobacco users are likely to die 15 years prematurely.
5. They are 1 billion smokers in the world and in India we have 250 million tobacco users.
6. India has the highest rate of Oral Cancer.

SIDE EFFECTS OF TOBACCO[5]

The most common cause of cancer due to Tobacco is Oral Cancer. Other chronic diseases caused by tobacco usage include stroke, blindness, gingivitis, periodontitis, aortic rupture, heart disease, pneumonia, arterial sclerosis, lung diseases, asthma, reduced fertility, affects foetus in pregnant mothers who use tobacco.

TOBACCO CULPRITS

From above mentioned statistics it is well known that there are billions of tobacco users in this country. In spite of all warnings issued they still continue to use tobacco in one form or other; be it smoke or smokeless. They are many forms of tobacco available in the market. They start from the

regular cigarettes, beedis, cigars, snuff, pan, gutkha, misri, hookah, etc. How is it possible for us to detect the tobacco users? How to catch hold of the culprits?

THE SQUAD INVESTIGATORS

It is well known that Oral Cancer is the most common cancer for people with the tobacco disease is usually confined to the Oral Cavity. The WHO came up with a solution to catch these culprits. Admitted that the majority of culprits are from a population who dwell in the slum areas, where the tobacco disease is prevalent. However how is it possible to catch a culprit among the rest of the population? Tobacco has to be curbed not only in the slums, but in all sections of the society. Be the culprit from an affluent family, or from an average working class, or the poorer sections of our society. WHO decided that tobacco be it smoke or smokeless has to be taken in through the Oral Cavity. It was then decided that dentists who have an access to examine the Oral Cavity on a daily basis could be appointed as the investigators to detect the tobacco culprits. The investigation team, the dentists along with the other doctors and physicians is the Squad to catch tobacco culprits.

INVESTIGATORS ACT

When a patient opens his Oral cavity for examination, a dentist, is able to detect signs of tobacco disease. Colour of mucosa, stains on his teeth, the inflamed gingival or periodontium, mobile teeth, lack of hygiene, bad odour or halitosis are clues that one gets on clinical examination. Then the dentist casually asks the patient-"Do you use tobacco?" As investigation proceeds the dentist collects data required for the patients Clinical history .What form of tobacco do you use; are you a smoker or do you use smokeless tobacco, how often do you use it, the frequency , are you addicted to it, do you notice any side effects, like cough, or is the colour of your sputum changed? How is your salivary flow? Do you feel dryness in your mouth? Do you notice any signs of irritation or inflammation? Do you feel guilty or ashamed of this habit? What do your family, friends and peers comment? How much do you spend on this habitual disease? Don't you think you have a moral responsibility to yourself and your family members? Don't you think you have an obligation to your family, friends and society? Don't you think it's high time to quit this habit? Mind you, all this as a secret investigator, as a dentist, a clinician and the patients friend.

OBSERVATION

Non-smokers, predominantly women, showed inclination to develop oral squamous cell carcinoma at the tip of the tongue and was attributed to chronic dental trauma. Tip of the tongue was the common site for smokers and non-smokers, smokers developed cancer in other parts of oral cavity too. However they were unable to prove that chronic dental trauma caused cancer.

INVESTIGATION PROCESS

Now that we have our culprit trapped in our chair, the investigator motivates the patient into quitting the tobacco habit. Most patients refuse for they visit your dental office for an entirely different purpose, may be a painful cavity. They don't want to waste time and money on a futile effort of having to stop their cravings. They have come to fill their cavity and not to discuss their tobacco habit. So what does the investigator do? Caught a culprit but unable to arrest the problem. If the patient is not motivated to quit on his own we have to let such culprits escape. However it's the dentist duty to warn the patient, try to convince the patient, try to motivate them, try to arrest them into quitting tobacco. Most of the time our efforts are as futile as every cop finds his efforts futile with culprits in our society. Till society and social reforms do change our efforts may be futile too. If on the other hand our culprit gets motivated into quitting then the investigator's duty is to arrest him into quitting tobacco.

FAGERSTORM ANALYSIS

It is a score which when measured on a scale 0-16 gives the level of nicotine dependence of the patient. The patient is also asked to fill in a standard questionnaire about his tobacco habit and the frequency of usage etc. Once this is done the patient is now subjected to a Nicotine Replacement Therapy.

NICOTINE REPLACEMENT THERAPY (NRT) - It aids in relieving the tobacco habit.

1. Nicotine gum: comes in two flavours the Gutkha and the Mint. Ingested thro Git and metabolized in liver. In doses 4mg gum an hour for 4-6 weeks, gradually weaning off by 2-3 months.
2. Nicotine Patch: 24 hr/16hr patches available in dosages of 21mg, 14mg and 7mg, slowly weaning off by 6 months.
3. Nicotine nasal spray: 10mg/ml bottles available. 1-2 doses/hrfor 6-8 weeks. Reduction in dosage levels in6 weeks.

4. Nicotine Inhaler:has 42 cartridges. Initially 6-16 cartridges /day gradual reduction after 12 weeks.
5. Nicotine lozenge: 2/4 mg depending on the craving level used for 6 weeks with gradual reduction in dosage for another 6-8 weeks.
6. Medications used for behavioural therapy: Bupropion Hydrochloride-300mg given initially as 150 mg bid ...to be started 2 weeks before quit date and the same dosage to be continued for 7-12 weeks after quit date, maintenance on 150 mg once /day for 6 months. Varnecline - to be started one week before the quit date. Dosage 0.5 mg, tablet/day and 0.5mg, 2 tablets/day.
7. A single form of NRT or multiple can be used in combination to treat patients.
8. Once quit patient should be on maintenance for at 3-6 weeks.

CONCLUSION

Once a patient quits he/she is as good as a reformed culprit out of jail. So chances of relapse is possible as craving for tobacco could be a weakness in the patient. Patient has to be warned. One has to eliminate all signs of tobacco, may have to change their daily routine, ones psychological perception towards tobacco has to be changed, hazards of tobacco usage to be explained to the patient and finally the finance involved in tobacco use has to be analysed. All these measures have to be taken to prevent relapse.

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