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Approaches for the Prevention of Oral Cancer in India

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Abstract: *Cancer is one of the most common causes of morbidity and mortality today in India. Global cancer statistical data show that India has one of the highest incidence rates of oral cancer worldwide, about 86% of total oral cancer cases seen in India across the world. Oral cancer accounts about 46,000 deaths occurring and 75000 new cases are reported in India every year. Chewing tobacco and excessive alcohol consumption have been estimated to account for about 90% of cancers in the oral cavity. Risk factors for oral cancers include smoking, alcohol use, smokeless tobacco products, and HPV (human papilloma virus) infections, with smoking and alcohol having synergistic effects. The oral cancer risk increases when tobacco is used in combination with alcohol or areca-nut. Low-income and disadvantaged groups are generally more exposed to avoidable risk factors such as environmental carcinogens, alcohol, infectious agents, and tobacco use. The evidence that smokeless tobacco causes oral cancer was confirmed by the International Agency for Research on Cancer. Studies have shown that heavy intake of alcoholic beverages is associated with nutrient deficiency, which appears to contribute independently to oral carcinogenesis.*

Prevention is always better than cure so there is need to focus on cancer prevention along with cure. If the patient has tobacco habits, counsel them benefits of quitting tobacco and advice them to quite the tobacco chewing or smoking by doing this we can decrease the number of cancer patients in our country.

KEY WORDS: *Oral cancer, HPV infection, carcinogenesis, leukoplakia, erythroplakia, tobacco quitting .*

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I. Introduction

The potential for prevention and control of cancer are hampered by the low-priority frequently given to the disease, excessive reliance and expenditure on treatment, and a considerable imbalance between resources allocated for basic cancer research and those devoted to its prevention and control. For example, primary prevention, early detection and palliative care are often neglected in favor of treatment-oriented approaches, even in cases where these approaches are not cost-effective and cause unnecessary human suffering.

Another example is the failure to take into consideration the social inequalities related to cancer prevention and control. The overall goal of cancer prevention and control is to reduce the incidence and mortality of cancer and to improve the quality of life of cancer patients and their families. A well conceived national cancer control program is the most effective instrument to bridge the gap between knowledge and practice and achieve this goal. Integrated into existing health systems and related services, these programmers' ensure systematic and equitable implementation of control strategies across the continuum of prevention, early detection, treatment and palliative care. Early detection, which comprises screening of asymptomatic populations and awareness of early signs and symptoms, increases the probability of cure. However, it requires the facilities to confirm diagnosis and provide treatment, and the availability of resources to serve the population in need.

The prevalence of the cancer should also justify the effort and expense. Awareness of early signs and symptoms is particularly relevant for cancers of the mouth, breast, cervix, larynx, endometrium, colon, rectum, stomach and skin.

Treatment aims to cure disease, prolong life, and improve the quality of life. The most effective and efficient treatment is linked to early detection programs and follows evidence-based standards of care. Treatment guide lines and praxis guides improve treatment outcome by setting standards for patient management. Most cancer patients required palliative care. Palliative care involves not only pain relief, but also spiritual and psychosocial support to patients and their families from diagnosis, throughout the course of the disease. It improves the quality of life of patients and their families, regardless of the possibilities of cure.

II. Discussion

Mouth cancer is often (but not always) preceded by some changes in the mouth. These changes serve as warning signs for cancer. Some patients may have reduce mouth opening or white (leukoplakia) or red (erythroplakia) patches in the mouth. These patches bleed on removal and can be painless or painful. Stopping the use of tobacco and alcohol and eating a healthy, nutritious diet may help prevent progression of these patches to a cancer. HPV infection can cause cancer of oropharynx, cervix, vulva, vagina, penis, anus. There are several types of HPV but HPV type 16 have been found to be associated with HPV positive oropharyngeal cancer. HPV induce cancer which often leads to viral sequence integrated into celluler DNA. Some of HPV early genes like E6 and E7 are known to act as oncogenes that promotes growth of tumour and its transformation. Oral infection with HPV increase risk of HPV positive oropharyngeal cancer which may be independent of tobacco and alcohol use. HPV infection is the most frequent sexually transmitted disease. Methods of prevention of HPV infection include sexual abstinence, condom, vaccination, microbicides. The centers for disease control and prevention says that the use of male condom may reduces the risk of genital HPV infection but provides a lesser degree of protection because condom does not covers scrotum or infected skin or mucosal surface. Female condom some what provide greater protection than male condom as the female condom allows the less skin contact. Men have higher prevalence of oral HPV than women. HPV infection increase with the number of recent oral sex partners or open mouthed kissing partners. Non sexual oral infection through salivary or cross transformation is also possible. Prevention of oropharyngeal cancer or prevention of HPV infection can be prevented by knowledge and the awareness of HPV infection and its vaccination Among the urban adolescents in India, HPV vaccine *Gardasil* and *Cervarix* protect against HPV16 and HPV18. HPV vaccination are recommended with age 9 to 26 year old who have not been exposed to HPV. These vaccines has been FDA approved for its use in males at the age between 9 to 26 year old for prevention of HPV infection.

Important step in the prevention of oral cancer is quitting tobacco:

Quitting tobacco is an important step in the prevention of mouth cancers. Chewing betel nut and leaves (paan with supari) has also been found to increase the risk of cancer and should be stopped. Looking at your mouth every day can also find early signs and help in diagnosing cancer at an early stage. Low socio economical groups have less access to the health services and health education that would empower them to make decisions to protect and improve their own health. The general awareness, knowledge of signs and risk factors of oral cancer should provide at schools and colleges.

India is the second largest producer of tobacco and most of the tobacco produced is consumed within the country itself, with approximately 274.9 million tobacco users according to recent data (Global Adult Tobacco Survey-GATS, 2010). As per this report more than one-third (35%) of adults in India use tobacco in some form or the other, 163.7 million are users of only smokeless tobacco, 68.9 million only smokers, and 42.3 million users of both smoking and smokeless tobacco. In India tobacco alone is responsible for 1.5 lakhs cancer every year. India is the oral cancer capital of the world because of the rampant habit of tobacco chewing. Health ministry own statistics show that over 65% of cases in India can be attributed to tobacco use. The positive part is that there is evidence that at least one third of all cancer cases are preventable so WHO gives high priority for cancer prevention. India has 14% smoking tobacco users globally indicating that prevention of use of tobacco is biggest challenge for health ministry. Tobacco is the single most avoidable risk factors for oral cancer. Integrating oral cancer information into national health surveillance systems which record chronic disease and common risk factors. Active involvement of dentist in oral cancer prevention through control risk factors like tobacco, alcohol and diet. Access to health facilities and provision of systems for early detection and intervention, oral health care and health promotion for the improvement of quality of life of people affected by oral cancer.

In general, human is interested in benefits not in drawbacks. Till date we are talking about only drawback of tobacco use and not the benefits of TOBACCO QUITTING. Now we have to talk to people about the benefits of quitting tobacco along with information about oral cancer which will be more easily understood by the community .

Social benefits of quitting tobacco:

1) Improves bad breath, clothes and hair will smell better.
2) Fingers and fingernails will slowly appear less yellow.
3) Sense of smell will returns and food will taste better.
4) Stained teeth may slowly become whiter.

5) Savings of money, if you smoke a packet a day then you spend around 36500 Rupees in a year.

Health benefits of tobacco quitting:
Twenty minutes after quitting- blood pressure drops to close to that before the last tobacco use.
8hours after quitting tobacco - carbon monoxide level in blood drops to normal.
24hours after quitting tobacco - chance of heart attack reduces...
1week after quitting tobacco - body will remove most of nicotine from body.
3 months after quitting tobacco - circulation improve and lung function improve upto 30%.
1year after quitting tobacco - reduces coughing, sinus congestion, fatigue and shortness of breath and cilliary movements regains that moves mucous out of the lungs and decrease infection and excess risk of coronary heart disease is half of that tobacco users.
10years after quitting tobacco - risk of cancer of mouth, throat, oesophagus, bladder, kidney, pancreas and lung reduces half of the related disease.

Other benefits of quitting tobacco - Healthy teeth, gums and skin. People without tobacco live longer than tobacco users. Fewer visit to emergency room. lower the risk of erectile dysfunction and infertility due to damaged sperm.
Quitting by the pregnant women reduces risk of having a low baby weight body, premature labor, miscarriage and sudden infant death syndrome. (SIDS)

Public awareness:
Public awareness of health dangers and health education, prevents the use of tobacco particularly youngsters in schools and colleges.
Promote cessation by running tobacco cessation clinics.
Knowledge and awareness of the HPV infection and vaccination among adolescents.
Banning tobacco use in public places, work places and at home.

III. Conclusion

If the patient has tobacco habits, counsel them benefits of quitting tobacco and advice them to quite the tobacco chewing or smoking. Assess the willingness to make a quite attempt. Assist the patient to quite tobacco. Arrange the follow up contact. Spend the at least 10 minutes of every day to talk tobacco users to understand their risk factors and motivate them for quitting tobacco habit.

Encourage the national and international health authorities, research institutions, non-governmental organizations and civil society to strengthen their efforts for the effective control and prevention of oral cancer.

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