Does Marriage prevent HPV associated oral cancer?
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Abstract

Oral cancer is an important health problem in populations with diverse geographic variations, different age groups and gender. There are, at present two distinct on pathways, which cause oral cancer. One is by the use of tobacco and alcohol, and the other is through exposure to the human papilloma virus (HPV), a recently identified etiology. It has been recognized that married patients have improved cancer survival when compared with unmarried patients. This paper gives a brief review on the effect of marriage in the prevention of HPV associate oral cancer.

Keywords: Oral Cancer; Human Papilloma Virus; Marriage

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Oral cancer is an important health problem in populations with diverse geographic variations, different age groups and gender. Oral cancer, globally, is the sixth most common cancer. Its distribution and occurrence varies by age, race, culture and life style and other variables. The etiology of squamous cell carcinomas of the head and neck is considered to be multi-factorial. There are, at present two distinct pathways, which cause oral cancer. One is by the use of tobacco and alcohol, and the other is through exposure to the human papilloma virus (HPV), a recently identified etiology. This virus is same as the one which is responsible for a majority of cervical cancers in women. The sites in the oral and pharyngeal region which have significantly predilection for HPV has been identified and are usually referred as HPV associated oral cancer sites. The importance of HPV associated oral cancer lies in the fact that it is a form of head and neck squamous cell carcinoma in which HPV is causally related. It is therefore considered potentially preventable by HPV vaccination. These sites predominantly include tonsils, soft palate, base of the tongue, and back wall of the pharynx.

Diseases including cancer are a result of physical, physiological and psychological interactions and the emotional quality of mind has a direct effect on the functioning of the body. Cancer also involves cellular changes and maybe due to the effect of the state of mind. It has also been postulated that socioeconomic differences may also reflect differences in stage at diagnosis, host resistance, tumor characteristics and time of diagnosis.

Socio demographic factors play an important role in the development and progression of cancer. Social support is known to benefit cancer patients by improving their immunity. In fact social support has been used as intervention in patients suffering from breast cancer. Marriage is one of the important social support mechanisms for any individual. Many studies have shown the benefits of marriage on health. It has been recognized that married patients have improved cancer survival when compared with unmarried patients. This has been postulated as being due to increased support, potentially leading to better compliance with therapy.

Some studies have also reported no significant association among marital status and cancers and there is no added benefit on incidence of cancer among married individuals. The Third national cancer survey done in 1970 in the United states showed a varying degree of differences among males and females and among different races for 17 different types of cancers among married and unmarried individuals. Marriages and living together dynamics have changed significantly over the years resulting in many changes in sexual behavior and choices to have ‘living together partners’. Marriage is an institution which is believed to promote single partner sexual relations.

HPV is known to be sexually transmitted and recent research has found high rates of sexually transmitted diseases and subsequent infection among high-risk adolescents and young adults coinciding with increase in individuals engaged in premarital sex and multiple sex partner behavior. There are conclusive evidence of strong association between sexual behavior and oropharyngeal cancer.

Various studies have been done to assess the impact of marital status on various cancers. Even though marital status did not appear to have a significant survival effect for women, men who were widowed had a higher risk of death compared to married men. It has been observed that survival
rates are increased in married individuals because they usually utilize more public health care services.(12)

Human papilloma viruses cause almost all cervical cancers. Around two to three decades ago, HPV was thought to be only associated with cervical cancer. It was Syrjanen et al who first suggested links between HPV and head and neck cancer and later confirmed by Gillison et al who first reported of association of HPV with head and neck squamous cell carcinomas through molecular and clinical identification.(10) At present, around 120 HPV genotypes of HPV had been sequenced and identified. HPV 16 and HPV 18 are more commonly associated with head and neck including oral lesions.(13)

HPV proteins stimulate the proliferation of cells and interfere with normal epithelial cell differentiation, leading to an increased thickness of the infected epithelial cells which produces neoplasia.(14) Tonsils are the most commonest areas infected by the Human papilloma viruses in the head and neck region. The manifestation of exposure depends on multiple factors that include HPV type, type of skin infected, host immunity nutritional factors, and smoking status.(15)

Human papilloma virus associated oral lesions and marital status, is a very significant topic of interest among epidemiologists, public health professionals, policy makers and general public. This is in part due to the fact that HPV associated oral lesions affect all the above significantly. The etiology of Oral cancer is always associated with tobacco and alcohol. Although Human papilloma virus is the commonest virus causing cervical infections, lot of studies have showed a strong association between Human papilloma virus and oral cancer. There is no doubt that incidence rates of invasive oral cancer vary by race and ethnicity. The variation may be a result of racial and ethnic differences in HPV infection and in other risk factors and social variables.(9) The tonsils, soft palate, base of the tongue, and back wall of the pharynx are regions which are more often affected with Human papilloma virus than the other regions of the oral and pharyngeal regions. Lesions of oral cancer are also found in people who seldom smoked tobacco or consumed alcohol. Health is certainly affected by social variables like economic status, level of education, marital status etc., In general married people are found to live longer and have better prognosis in many types of cancer. The reasons attributed for this are the sense of security among those who are married and also the social support obtained as a result of marriage. It is also a known fact that married people have the advantage of motivation and support of their spouses for health related matters. Marital status is a difficult variable to attribute to any of the health or disease states since it is difficult to determine the total married people in any population.(9)

The dynamics of marriage and living in relationships have change dramatically in the last few decades. We need to ascertain the role of marital status in the incidence of human papilloma virus associated oral cancer. More studies on these lines may provide a more comprehensive understanding of HPV associated oral cancer and the role of social institutions such as marriage which might help to devise much better prevention modalities.

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