Mouth Self-examination for Prevention and Control of Oral Cavity Cancer

Gambhir Shrestha,1 Leison Maharjan2

1Department of Cancer Prevention, Control, and Research, BP Koirala Memorial Cancer Hospital, Bharatpur, Chitwan, Nepal,
2Department of Otolaryngology, Head & Neck Surgery, Patan Academy of Health Sciences, Lalitpur, Nepal.

ABSTRACT

Oral cavity cancer is one of the most common preventable cancers in the world. The burden of the disease is high in South Asia. Therefore, public health strategies such as creating awareness and disease screening should be advocated for its prevention and early detection. Mouth self-examination serves both the purposes. It is easy to perform, non-invasive, and low-cost methods. It not only helps in the early detection of suspicious oral lesions but also helps people to quit their high-risk behaviors such as consumption of tobacco and alcohol.

Keywords: awareness; cancer; oral cancer; prevention; self-examination.

INTRODUCTION

Oral cavity cancer is one of the most common cancers in the world. The number of new cases of oral cavity cancer in the world is 354,864 in 2018 which is equivalent to an estimated risk of 2.0 per 100,000. Similarly, the number of deaths and estimated risk were 177,384 and 1.9 per 100,000 respectively.1 The trend of oral cavity cancer is rising in developing countries. Its prevalence is highest in South Asia.1

Oral cavity cancer is easily preventable and treatable if diagnosed early. However, most of the patients are not diagnosed until it reaches the late presentation and only half of those that develop the disease manage to survive after five years.2 It is a public health problem and without proper preventive strategies, its burden is likely to increase in the world. Consumption of tobacco including smokeless tobacco and alcohol are its major risk factors. Other risk factors are the consumption of betel quid and areca nuts, poor oral hygiene, Human Papilloma Virus infection, poor nutrition, weakened immune system, genetic and immunologic predisposition.3 In the majority of the cases, it is preceded by painless visible changes in the mouth known as precancerous lesions such as a whitish (leukoplakia) or reddish (erythroplakia) discoloration of the mucosa, an ulcer, or a swelling. If these changes are identified early, they can be treated with less invasive procedures with better outcomes.4 Yet patients seek medical attention only at an advanced stage.5 The reasons for the late presentation of the oral cancer are lack of information about the danger signs and lack of health-seeking behavior in case of premalignant lesions.2 Such delay in diagnosis leads to invasive treatment which leads to morbidity as well as a high economic burden to the patients.6

SCENARIO OF ORAL CANCER IN NEPAL

Oral cancer is the sixth most common cancer in Nepal and also the sixth among the cancer deaths.7 The

Correspondence: Dr. Gambhir Shrestha, Department of Cancer Prevention, Control and Research, BP Koirala Memorial Cancer Hospital, Bharatpur, Chitwan, Nepal. Email: gamvir ethos@gmail.com, Phone: +977-9841654909.
of oral care behaviors. A quasi-experimental study of 12 has shown that awareness of oral cancer and should be made a part of routine oral health care. Moreover, it is also an effective way of increasing awareness of oral cancer. Hence, it should be strongly advocated for the general population and high-risk individuals.

**MOUTH SELF-EXAMINATION AS A SCREENING TOOL**

Known risk factors, long natural history, easy detection of precancerous lesions by oral examination make oral cavity cancer very suitable for population screening. Oral cavity cancer usually occurs at accessible sites, that lend themselves to early detection by visual inspection and palpation. Hence, mouth self-examination (MSE) is feasible to everyone as it is simple-to-perform, non-invasive, and low-cost method for early detection of oral precancerous lesions without the requirement of a healthcare professional. Also, MSE can lead to the self-perception of the need for early professional care. Hence it should be strongly advocated for the general population especially to the high-risk individuals. Moreover, it is also an effective way of increasing awareness of oral cancer and should be made a part of oral care behaviors. A quasi-experimental study conducted in Australia has concluded the importance of MSE in reducing morbidity and mortality in oral cancers. Similarly, the likelihood of an oral examination performed by a physician is greater when an individual practices MSE because the individual is more likely to perceive the need to seek professional care. As a result, MSE is likely to lead to an increase in the prevalence of the early diagnosis of disease resulting in the need for less invasive treatments. Another study also reported that the findings of MSE and health workers showed 72% concordance. Furthermore, MSE can also be very useful in treated oral cancer patients for evaluating disease status. Therefore, MSE can be the best strategy for oral cancer prevention along with the risk reduction strategy in low-resource countries like ours.

**MOUTH SELF-EXAMINATION AS A PART OF HEALTH EDUCATION**

Health education is a very important intervention for health promotion and prevention of oral cavity cancer. Health education on MSE helps in early diagnosis and reduces the time duration between the detection of oral lesions and treatment. Health education programs are very effective in motivating people, especially high-risk individuals, which could result in regular MSE. Self-examination requires only a mirror and good lighting. But individuals may not be familiar with the normal appearance of their oral cavity and may not recognize the abnormal changes. Hence, health education on MSE is essential which unfortunately is still not being advocated in developing countries where the incidence of oral cavity cancer is quite high. Awareness programs on MSE is an important intervention to increase the morbidity and mortality of oral cancer. Additionally, it also helps in prevention by quitting the high-risk behaviors among the public such as consumption of tobacco and alcohol.

In a study conducted in India, Sankaranarayanan et al. found a significant reduction in mortality from oral cancer among individuals at risk when the examination was carried out by trained health professionals. Primary health care workers should be trained to screen high-risk patients for oral cancer regularly in their centers and to educate people on how to conduct MSE and report any abnormal lesions.

**WAY FORWARD**

MSE is a cost-effective public health intervention. Not only it helps to raise awareness of oral cavity cancer, but it also leads to its early detection and reduces morbidity and mortality. Furthermore, it helps people to quit their high-risk behaviors such as consumption of tobacco and alcohol.

**Conflict of Interest: None.**

**REFERENCES**

1. Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal A. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2018;68(6):394-424. [PubMed]
Shrestha et al. Mouth Self-examination for Prevention and Control of Oral Cavity Cancer

Full Text | DOI

2. Jafari A, Najafi SH, Moradi F, Kharazifard MJ, Khami MR. Delay in the diagnosis and treatment of oral cancer. J Dent Shiraz Univ Med Sci. 2013;14(3):146-50. [PubMed | Full Text]

3. Petersen PE. Strengthening the prevention of oral cancer: the WHO perspective. Community Dent Oral Epidemiol. 2005;33(6):397-9. [PubMed | Full Text | DOI]

4. Sankaranarayanan R, Ramadas K, Amarasinghe H, Subramanian S, Johnson N. Oral cancer: prevention, early detection, and treatment. Cancer: Disease Control Priorities, Third Edition. Washington (DC): The International Bank for Reconstruction and Development / The World Bank; 2015. Chapter 5. Available from: https://www.ncbi.nlm.nih.gov/books/NBK343649/. [PubMed | Full Text | DOI]

5. Gajurel R, Gautam DK, Pun CB, Dhakal HP, Petrovski BÉ, Costea DE, et al. Trends and clinicopathological characteristics of oral squamous cell carcinomas reported at a tertiary cancer hospital in Nepal during 1999 to 2009. Clin Exp Dent Res. 2020;1-7. [Full Text | DOI]

6. Khatiwoda SR, Dhungana RR, Sapkota VP, Singh S. Estimating the direct cost of cancer in Nepal: a cross-sectional study in a tertiary cancer hospital. Front Public Health. 2019;7:160. [PubMed | Full Text | DOI]

7. The global cancer observatory: Nepal factsheet [Internet]. Lyon (France): International Agency for Research on Cancer, World Health Organization; 2018 [cited 2019 Jul 1]. Available from: http://gco.iarc.fr/today/data/factsheets/populations/524-nepal-fact-sheets.pdf. [Full Text]

8. Rimal J, Shrestha A, Maharjan IK, Shrestha S, Shah P. Risk assessment of smokeless tobacco among oral precancer and cancer patients in eastern developmental region of Nepal. Asian Pacific J Cancer Prev. 2019;20(2):411-5. [PubMed | Full Text | DOI]

9. Bajracharya D, Gupta S, Sapkota M, Bhatta S. Oral cancer knowledge and awareness in patients visiting Kantipur Dental College. J Nepal Health Res Counc. 2017;15(3):247-51. [PubMed | Full Text | DOI]

10. Shrestha G, Pradhananga KK, Mulmi R, Subedi KP, Siwakoti B. Cancer registration in Nepal: current status and way forward. J Nepal Med Assoc. 2019;57(216):144-8. [PubMed | Full Text | DOI]

11. Hung LC, Kung PT, Lung CH, Tsai MH, Liu SA, Chiu LT, et al. Assessment of the Risk of Oral Cancer Incidence in A High-Risk Population and Establishment of A Predictive Model for Oral Cancer Incidence Using A Population-Based Cohort in Taiwan. Int J Environ Res Public Health. 2020;17(2):665. [PubMed | DOI]

12. Elango KJ, Anandkrishnan N, Suresh A, Iyer SK, Ramalyer SK, Kuriakose MA. Mouth self-examination to improve oral cancer awareness and early detection in a high-risk population. Oral Oncol. 2011;47(7):620-4. [PubMed | Full Text | DOI]

13. Jornet PL, Garcia FJG, Berdugo ML, Perez FP, Lopez AP-F. Mouth self-examination in a population at risk of oral cancer. Aust Dent J. 2015;60(1):59-64. [PubMed | Full Text | DOI]

14. Martins AME de B, Souza JCS, Haikal DS, Paula AMB de, Ferreira EF, Pordeus IA, et al. Prevalence of oral cancer self-examination among elderly people treated under Brazil’s Unified Health System: household health survey. Cien Saude Coletiva. 2015;20(4):1085-98. [PubMed | Full Text | DOI]

15. Vaishampayan S, Malik A, Pawar P, Arya K, Chaturvedi P. Short message service prompted mouth self-examination in oral cancer patients as an alternative to frequent hospital-based surveillance. South Asian J Cancer. 2017;6(4):161-4. [PubMed | Full Text | DOI]

16. Singh K, Sharma D, Kaur M, Gauba K, Thakur JS, Kumar R. Effect of health education on awareness about oral cancer and oral self-examination. J Educ Health Promot. 2017;6:27. [PubMed | Full Text | DOI]

17. Sankaranarayanan R, Ramadas K, Thomas G, Muwonge R, Thara S, Mathew B, et al. Effect of screening on oral cancer mortality in Kerala, India: a cluster-randomised controlled trial. Lancet. 2005;365(9475):1927-33. [PubMed | Full Text | DOI]