

Outcome of Head and Neck Squamous Cell Cancers in Low-Resource Settings

Challenges and Opportunities



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KEYWORDS

- Head and neck cancer • Developing countries • Tobacco • Challenges
- Opportunities • Resources

KEY POINTS

- Head and neck squamous cell carcinomas (HNSCCs) are among the most common cancers in several developing countries.
- There is wide disparity in care and control of HNSCC between developing and developed countries.
- Although they have a high burden of disease, developing countries often do not have the resources to adequately manage these cancers.

INTRODUCTION

Head and neck squamous cell cancers (HNSCCs) are the sixth most common cancers worldwide.¹ They are the most common cancer in some developing countries, especially in Southeast Asia.² In contrast, they constitute only 1% to 4% of all cancers in the Western world.³ Worldwide, approximately 600,000 patients are diagnosed yearly with HNSCC, leading to 325,000 deaths every year. Although lesser developed regions accounted for 65% of newly diagnosed HNSCCs in 2012, they accounted for 75% of deaths.⁴ Oral cavity cancers are the most common HNSCCs in Southeast Asia; whereas oropharyngeal cancers are relatively more common in the Western world.

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ORAL CAVITY CANCERS

The oral cavity is one of the most common sites of HNSCCs.⁵ Worldwide, among all HNSCCs, oral cavity squamous cell cancers (OCSCCs) have the highest incidence and mortality rate.^{2,6} In 2012, annual estimated incidence and deaths due to OCSCC globally were approximately 300,000 and 150,000, respectively. An increase in incidence and mortality of OCSCCs is expected to take place globally. It is predicted that by 2020, these numbers will increase to 360,000 and 177,000 annually, respectively.⁴

Most OCSCC cases are reported in the low-income and middle-income nations. These countries contribute to 43% of the total number of newly diagnosed cases annually and about 50% of the global mortality.⁴ These countries also have significant shortages of skilled labor, equipment, and health facilities.

Incidence

According to GLOBOCAN 2012, the global age-standardized incidence rate for OCSCC (per 100,000 per year) was 5.5. The incidence of OCSCC is quite variable around the world, with age-standardized rates ranging from as high as 30 to as low as 2. The highest incidence is found in Papua New Guinea, where incidence rates are 30 in men and 21 in women. Such a high incidence can be attributed to tobacco use (smoking and chewing), with alcohol and betel nut most common in this region.⁷ For similar reasons, Southeast Asia also reports a high incidence of OCSCC, with incidence rates in men in these countries as follows: 15 in Sri Lanka, 15 in Bangladesh, 13 in Maldives, 11 in Pakistan, and 10 in India. Globally, India, with approximately 77,000 new OCSCC patients each year, ranks first in the total number of new cases registered annually. Hungary has the highest incidence rate⁸ among all European countries. Other developed countries have lower incidence rates of OCSCCs in men: United States, 9; United Kingdom, 6; Germany, 10; and Japan, 4.

Incidence rates of OCSCC among women are almost similar with the highest incidence in Papua New Guinea with age-standardized rates of 21 followed by Melanesia with 16, Pakistan with 9, Sri Lanka with 6, and India with 4. Lower incidence rates in women are attributed to the lesser use of tobacco, betel nut, and alcohol. Even among women, the incidence is lower in developed countries such as the United States, United Kingdom, Germany, and Australia.⁴

Mortality

The mortality associated with OCSCCs strongly mirrors their incidence pattern. According to GLOBOCAN 2012, global age-standardized mortality rate for men is 2 (per 100,000 annually). Papua New Guinea not only has the highest incidence of OCSCC but also the highest mortality rate (16 per 100,000 annually). Similarly, other countries with high incidence that also report high mortality are: Melanesia, 11; Pakistan, 6; Bangladesh, 6; and India, 5. In contrast, the incidence, as well as the mortality rate, in developed nations is quite low. For example, the mortality rates in Germany, United Kingdom, United States, and Australia are all close to 1 per 100,000 annually. In developing nations such as India, 75% of OCSCC patients present at an advanced stage.⁹ The mean age at presentation of HNSCCs is the fifth and early sixth decades in low-income economies, compared with the seventh and eighth decades in high-income populations.¹⁰ **Fig. 1** shows the incidence and mortality of OCSCC in their increasing order of incidence, with a trend toward increased risk of OCSCC mortality as incidence increases.

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