Ethnic Variations in the Clinicopathological Presentations of Oral Squamous Cell Carcinoma and Oral Submucous Fibrosis: A Retrospective Study from a Single Tertiary Care Centre in Sri Lanka

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To the best of our knowledge, there are no published data on ethnic distribution of Oral squamous cell carcinoma (OSCC) and oral submucous fibrosis (OSMF) in Sri Lankan patients. This study aimed to evaluate the ethnic variations in the clinicopathological presentations of OSCC and OSMF based on patients diagnosed over a 10-year period at a single tertiary care institution in Sri Lanka. This retrospective analysis involved 1466 OSCC and 1000 OSMF cases diagnosed at the Department of Oral Pathology, University of Peradeniya. Age, sex, lesion site, and histopathological diagnoses of both OSCC and OSMF cases were compared with the ethnicity using chi-square test to assess statistical significance ($p<0.05$). The Sinhala population had the highest OSCC (76%) and OSMF (74.5%) cases, followed by Tamils; OSCC (18.9%) and OSMF (22.7%), reflecting their order of majority in the population. The Muslim population had consistently lower OSCC (4.8%) and OSMF (3.3%) cases than expected based on their population size. Statistically significant ethnic variations were observed in OSCCs with respect to gender ($p=0.001$) and site distribution ($p=0.001$). Ethnic variations observed in OSMF patients were significant with respect to the age of diagnosis ($p=0.008$) and gender ($p=0.001$). The study found that there were striking changes in the gender distribution, with females more often affected by both OSMF and OSCC in the Muslim population. OSCC is more often on the tongue and floor of the mouth in Sinhala population compared to buccal mucosa being the more common location for both Tamils and Muslims. In the Muslim population, OSMF was diagnosed in equal numbers across all age groups, including elderly. In conclusion, Muslim population was consistently less affected by both diseases, which suggests the need for further research into possible protective factors in the Muslim community, including gene-culture interactions. Ethnically tailored prevention strategies may help reducing oral cancer burdens through culturally informed public health approaches.

Keywords: Oral squamous cell carcinoma, oral submucous fibrosis, ethnicity, Sinhala, Tamil, Muslim