LETTER to the EDITOR **Editorial Process:** Submission:03/19/2025 Acceptance:12/20/2025 Published:12/26/2025

Comment on Determinants of Diagnostic Delays in Oral Squamous Cell Carcinoma: Insights from Demographic and Socio-Economic Factors

Asian Pac J Cancer Prev, **26 (12),** 4263-4264

Dear Editor

We applaud Yuktha and colleagues for their insightful cross-sectional study, which delved into the demographic, socioeconomic, and clinical factors contributing to delays in diagnosis among 226 oral squamous cell carcinoma (OSCC) patients [1]. The mean diagnostic delay was 55.2 days, with 61.9% of the patients experiencing delays >40 days. Factors significantly associated with longer diagnostic delays included being >50 years old, being single, having a lower level of education, and having a lower monthly income, and delays in biopsy sample collection correlated with increased diagnostic delay ($p < 0.05$). The research results highlight the varied influences on the timing of diagnosis and underscore the importance of addressing these determinants to enable timely diagnoses, expedite treatment initiation, and improve outcomes in such patients. However, we would like to express our perspectives on two infrequently addressed yet manageable logistical factors that could significantly reduce diagnosis delays if managed efficiently: the prolonged turnaround time for biopsy results and lengthy national and/or religious holidays.

First, the study found that delays in the collection of biopsy samples were also significantly correlated with increased diagnostic delays ($p < 0.05$), indicating that logistical factors in the healthcare process may further exacerbate the time to reach a diagnosis. The term diagnostic delay generally refers to the time elapsing between the moment when the patient recognizes the first sign or symptoms of illness and the time when a definitive diagnosis is made with pathological examination [2]. Although 58% of patients with OSCC are responsible for the delay in the diagnosis of their cancers [3], the remaining 42% of delays in diagnosis are caused by healthcare-related factors: primary healthcare delays and specialist healthcare delays. In this context, one cause of the specialist healthcare-related delay is the turnaround time for biopsy results, which can sometimes range from several days to weeks, creating bottlenecks in the diagnosis and treatment process of OSCCs and other head and neck cancers (HNCs) [4]. This issue may stem from a lack of well-trained pathologists or insufficient resources for a thorough pathological examination, which requires additional consultations, or from an excessive workload at the facility. Extensive research from various global health studies has consistently highlighted that the interval between the onset of symptoms in oral malignancies and the commencement of effective treatment is a crucial determinant of a patient's prognosis and survival rate [5]. For example, delays of even a few weeks can result in the disease advancing to more severe stages, complicating treatment efforts and diminishing the chances of a favorable outcome. Hence, healthcare systems must bolster the workforce and the resources available in facilities that treat HNCs. By enhancing staffing levels and access to cutting-edge technologies, these specialized centers can significantly reduce the turnaround time for final biopsy results, enabling clinicians to initiate timely interventions.

And second, while the literature lacks a definitive consensus regarding the appropriate duration of delays before the initiation of first treatment, the documented range spans from 1.7 to 5.6 months [6, 7]. In the United Kingdom, the National Health Service introduced the Cancer Plan, which stipulates a maximum period of 62 days from the first referral by a general practitioner to the commencement of definitive therapy, with the intent of enhancing patient outcomes [8]. Moreover, despite the absence of an objective definition for an acceptable timeframe for treatment initiation, there is a prevailing global consensus advocating for the reduction of treatment delays. Nevertheless, delays associated with a definitive diagnosis may render initiating effective anticancer therapies on time challenging. For instance, the recent study conducted by Yuktha and colleagues reported a mean diagnostic delay of 55.2 days, with approximately 62% of patients encountering delays exceeding 40 days. In this regard, numerous and lengthy national and religious holidays may also contribute to prolonged diagnostic delays and detriment patient outcomes [5]. For example, when religious holidays do not coincide with the weekend, governments usually extend the holiday durations from 3 or 4 days to 9 days by incorporating the two weekends that precede and follow the holidays. This phenomenon is particularly evident in specific countries, including ours, where such observances lead to the temporary closure of clinics and laboratories or reduced available healthcare personnel, including surgeons and pathologists.

In conclusion, healthcare systems could explore contingency scheduling or enhanced staffing strategies to mitigate the effects of such holiday-related delays and ensure continuity of care. By addressing both biopsy report timelines and the influence of holidays, we can create a

more efficient healthcare delivery system that prioritizes patient needs and minimizes delays in treatment.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Conflict of interest

The authors declare no potential conflicts of interest concerning the research, authorship, and/or publication of this article.

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Erkan Topkan[1], Efsun Somay[2]*, Sibel Bascil[3], Ugur Selek[4]

*[1]Department of Radiation Oncology, Faculty of Medicine, Baskent University, Adana, Turkiye. [2]Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Baskent University, Ankara, Turkiye. [3]Department of Periodontology, Faculty of Dentistry, Baskent University, Ankara, Turkiye. [4]Department of Radiation Oncology, Faculty of Medicine, Koc University, Istanbul, Turkiye. *For Correspondence: efsuner@gmail.com*