Asia-Pacific Journal of Clinical Oncology

WILEY

ORIGINAL ARTICLE OPEN ACCESS

Voice of Asia: Provision of Patient-Centered Care in Oral Cavity Cancer: A Qualitative Study With Patients, Caregivers, and Healthcare Professionals in Five Asia-Pacific Regions

Edwin Pun Hui[1] | Puma Sundaresan[2,3,4] | Hye Ryun Kim[5] | Khoi Tuan Nguyen[6] | Tracey E Nicholls[7] | Hai-Ling Teng[8] | Yu-Chung Li[9] | Ying Jie Yew[10] | Regina Gowindah[10] | Con Stylianou[11] | Pei-Jen Lou[12,13]

[1]The Chinese University of Hong Kong, Hong Kong, China | [2]Westmead Hospital, The Crown Princess Mary Cancer Centre, Sydney, Australia | [3]Sydney Medical School, The University of Sydney, Sydney, Australia | [4]Head and Neck Cancer Australia, Sydney, Australia | [5]Yonsei University Hospital (YUH), Seoul, South Korea | [6]The Ho Chi Minh City Oncology Hospital, Ho Chi Minh city, Vietnam | [7]Flinders Medical Centre, Adelaide, Australia | [8]Republic of China Head and Neck Association, Taipei, Taiwan | [9]Hong Kong Oncology Study Group, Hong Kong, China | [10]Oracle Life Sciences, Austin, USA | [11]MSD (Australia) Pty Ltd, New South Wales, Australia | [12]National Taiwan University Hospital, Taipei, Taiwan | [13]National Taiwan University College of Medicine, Taipei, Taiwan

Correspondence: Pei-Jen Lou (pjlou@ntu.edu.tw)

Received: 5 August 2025 | **Revised:** 23 October 2025 | **Accepted:** 5 November 2025

Keywords: Asia-Pacific | COM-B model | multidisciplinary care | oral cavity cancer | patient-centered care

ABSTRACT

Aim: Locoregionally advanced oral cavity squamous cell carcinoma (LA-OCSCC) imposes a high disease burden, significantly affecting patients' quality of life. We aimed to identify unmet needs and challenges faced by patients, caregivers, and healthcare professionals (HCPs) in diagnosis and managing LA-OCSCC.

Methods: In-depth interviews were conducted across Australia, Hong Kong, South Korea, Taiwan, and Vietnam with LA-OCSCC patients ($n = 28$), caregivers ($n = 27$), and HCPs (surgeons, clinical, radiation, and medical oncologists [$n = 30$]; nurses, case managers/coordinators, psychologists, speech therapists, dieticians, and dentists [$n = 30$]). Patients who received post-operative chemoradiotherapy for Stage III-IVB LA-OCSCC, their caregivers, and HCPs were eligible. The interview guide, design, and analysis were based on the Capability, Opportunity, Motivation, Behavior (COM-B) model.

Results: Major service gaps in timely diagnosis, treatment, patient-centered care, and therapeutic alliance were identified. Limited awareness of LA-OCSCC led to overlooked symptoms, delaying medical attention. General practitioners were perceived as less experienced in identifying LA-OCSCC symptoms accurately and promptly, with dentists being more informed. A shortage of nurses to support integrated multidisciplinary team discussions, patient education, and to relay patients' needs to specialists, compromised patient-centric care. Psychotherapeutic services were scarce, with supportive care professionals overextending to bridge the gap.

Conclusion: This study examined LA-OCSCC care management in five Asia-Pacific countries/territories with varying healthcare systems and infrastructure. Given LA-OCSCC's aggressive nature and high burden from disease and treatment, patients and caregivers require support beyond medical interventions. A multi-stakeholder approach with clinical and community care is essential to ensure a comprehensive and sustainable approach to patient-centered care within the different health systems.

https://doi.org/10.1111/ajco.70057

1 | Introduction

Head and neck cancer (HNC) accounts for ~890,000 new cases and 450,000 deaths yearly, making it the sixth most common cancer globally [1–3], with a projected 30% increase in incidence by 2030 [2]. Around 90% of HNC cases exhibit morphological traits of head and neck squamous cell carcinomas (HNSCC) [4], with oral cavity cancers (OCC) constituting ~30% of these cases [2]. The overall disease burden is higher and disproportionate across the Asia-Pacific [5]. Notably, 60% of HNC patients present with locoregionally advanced (LA) Stage III/IV, associated with poor prognosis and high relapse rates [5, 6].

The complexity of HNC treatment requires multidisciplinary approaches including surgery, radiation therapy, chemotherapy, immunotherapy, and/or targeted therapy [7–9]. Despite promising survival benefits in recent immunotherapy clinical trials [10], cancer recurrence remains a significant challenge, with 30%–50% of human papillomavirus-negative (HPV−) LA-HNSCC patients experiencing relapse and a 5-year overall survival rate of ~60% [11]. While ongoing trials continue to explore the role of immunotherapy in LA settings [12], improving the quality of care remains critical in improving patient outcomes.

Healthcare professionals (HCPs) are crucial in managing oral cavity squamous cell carcinoma (OCSCC) patients throughout the active treatment phase [13], necessitating high knowledge, expertise, empathy, and specialized skills [6]. Despite active HCP involvement, barriers like communication gaps, inadequate medical information, and limited access to healthcare infrastructure/resources and diagnostic tools can hinder optimal patient care and improvement of their health-related quality of life (HRQoL) [6, 13]. The breadth and quality of research on HNC, including those within the oral cavity, vary, and studies have emphasized multidisciplinary teams (MDTs) and other supportive care management teams as essential for optimal patient care [7]. Yet, few studies have explored OCC patient experience [14, 15], with limited insights from multiple stakeholders (HCPs, patients, and caregivers) in the Asia-Pacific. Thus, there is a critical need to identify gaps and address the needs of OCSCC patients for patient-centered care in the Asia-Pacific.

This prospective, multicenter study aimed to identify unmet needs and challenges faced by HCPs, patients, and caregivers in the management of LA-OCSCC in the Asia-Pacific. We explored their experiences to understand the impact of the cancer and its treatments on patients' HRQoL, with the goal of improving service delivery and enhancing patient-centered care.

2 | Materials and Methods

2.1 | Study Design

From November 2022 to January 2024, 40–60-min interactive virtual interviews were conducted in Australia, Hong Kong, South Korea, Taiwan, and Vietnam with patients, caregivers, HCPs from MDT and supportive care.

2.2 | Respondents and Recruitment

Patients were referred from HCPs, community patient networks, associations, and databases from local research collaborators. The inclusion criteria of eligible patients were based on patients (i) with Stage III-IVB LA-OCSCC according to AJCC eighth edition [16] diagnosed within 6 months to 3 years at recruitment and (ii) undergone post-operative chemoradiotherapy (CRT) within 12–18 months (up to 24 months in Hong Kong and Vietnam). Patients were excluded if they (i) received palliative treatment, (ii) had history of other cancers (except non-melanoma skin cancer or in situ cervical cancer in the past 3 years), or (iii) were involved in clinical trials or investigational agents. Primary informal caregivers of the above Stage III-IVB LA-OCSCC patients were eligible.

HCPs from specialist databases, referrals, and panels were recruited through purposive sampling. MDT HCPs included surgeons and oncologists (clinical, radiation, and medical), while supportive care HCPs included nurses/case managers, psychologists, dieticians, speech therapists, and dentists. Inclusion criteria were based on HCP's (i) board-certification; (ii) experience of ≥ 5 years; (iii) patient load of: MDT—10 LA-HNSCC patients; supportive care—five LA-HNSCC in the past 6 months, 12 months for psychologists.

Prior to interviews, patients completed an attitudinal self-completion sheet (SCS) around cancer. Research and interview materials were developed in English before being translated into local language. Interviews were held in English (Australia), Cantonese (Hong Kong), Mandarin (Taiwan), Korean (South Korea), and Vietnamese (Vietnam), anonymized and verbatim transcribed. Caregivers could accompany patients during interviews for communication support.

2.3 | Theoretical Framework

The discussion guide and SCS were informed by two frameworks: COM-B (C: Capability; O: Opportunity; M: Motivation; B: Behavior) model [17] and the Psycho-Onco Emotional (POEM) anxiety framework [18, 19]. This study's analysis centers on the COM-B model to identify behavioral gaps affecting patient care, examining capabilities, opportunities, and motivations of HCPs, patients, and caregivers across the patient journey and care pathway (Table S2).

2.4 | Data Analysis

Transcripts were analyzed and coded independently by at least two researchers using NVivo qualitative analysis software. After initial coding, the researchers met to compare and discuss codes. Discrepancies were resolved through discussion and consensus, and final themes were aligned in steering committee meetings with all authors. While inter-rater reliability was not calculated, this iterative consensus-based process ensured rigor and consistency in theme development. Analysis processed inductively and deductively, drawing on the two frameworks until no new themes emerged, ensuring comprehensive insights into participants' experiences to uncover barriers and facilitators influencing service delivery and patient-centered care.

3 | Results

3.1 | Respondents' Characteristics

Table 1 illustrates the demographic profile of patients, caregivers, and HCPs. Table S3 describes the country/territory breakdown of the respondents. Among patients, 79% had secondary or diploma education and 39% were employed, while among caregivers, 67% had secondary or diploma education and 82% were employed. The majority of MDT HCPs were surgeons (33%), while most supportive care HCPs were nurses or case managers (33%).

3.2 | Key Themes

Interviews illuminated key themes essential to enhancing practices in quality patient-entered care and management: effectiveness of MDT specialists, extensiveness of supportive care, and various patient-related factors (Table S4). These themes underscore opportunities for improving care delivery and patient outcomes.

Theme 1. Ability of MDT specialists to deliver effective care

Delayed referrals from primary care led to delayed diagnosis, emphasizing the need for early detection through disease expertise (psychological capability) and diagnostic tools (physical opportunity)

Patients often initially visited general physicians (GPs) in Australia and Hong Kong, but specialists reported that GPs may lack disease expertise and tools for early symptom assessment, leading to delayed referrals. GPs attempt to treat symptoms with pain medication or antibiotics, a behavior similarly noted with dentists. Even when symptoms persisted, GPs sometimes continued treating the symptoms rather than promptly referring the patient to an appropriate specialist. This issue and the subsequent delay in diagnosis were described by both patients and specialists. Differences in expertise existed, where dentists were perceived to have a better understanding of the disease, as observed by surgeons.

3.3 | Health System Structures and Resources May Be Inadequate to Accommodate Demand (Physical Opportunity)

In South Korea, Taiwan, and Vietnam, participants perceived inadequate hospital resources (e.g., beds) and manpower in resource-tight hospitals, leading to extended waits for tests and treatments, impacting timely MDT care. Private hospitals in Vietnam lacked biopsy tools and testing expertise due to specialist shortages, with tests often outsourced to specialized facilities in countries like Thailand, causing *delays of 1–2 weeks or may even stretch to 4 weeks.*

In addition, patients residing far from hospitals may stretch treatment visits to tertiary hospitals or oncology centers due to time and cost constraints. Elderly and rural patients in South Korea and Vietnam faced constraints in accessing CRT due to limited radiotherapy infrastructure, impacting their post-operative CRT compliance. Rural patients in Australia also experienced similar reduced access to CRT, but not treatment delays.

In Vietnam, patients with social health insurance faced delays due to individual diagnostic test requirements and financial claims processing. Insured surgeries were often postponed compared to self-pay services.

3.4 | Time Constraints in Specialists' Patient Management (Physical Opportunity)

Surgeons and oncologists, though recognizing the importance of trust and rapport with patients, often faced time constraints due to high patient loads, especially in public and resource-limited hospitals. This led to suboptimal communication, limited explanations, and guidance on disease treatment and care plans, even though patients generally desired more time, detailed and understandable information on these matters. Time constraints further impeded the involvement of patients' caregivers in treatment-related decision-making across regions. Specialists prioritized informing patients or caregivers of the overall treatment plan but did not typically ask for their preferences citing treatment urgency.

Time constraints were most pronounced in South Korea, followed by Hong Kong. Instead of explaining the full surgical procedure and adjuvant treatment plan, each specialist: surgeons, radiation, and clinical/medical oncologists focused on the immediate treatment plans/goals for their patients. A patient in South Korea remarked, *consultation finishes in 1–2 min… we can't ask all questions we prepared.* In Vietnam, patients felt less affected by time constraints, but struggled to understand *specialized knowledge that I (patient) could not comprehend.* Consultation time was less constrained for private-paying patients in Vietnam and Hong Kong.

Conversely, Australia, followed by Taiwan, stood out for their patient-focused management despite time constraints. HCPs were more likely to provide a detailed treatment plan upfront, explain the treatment, and understand patient preferences. In Australia, surgeons shared the full treatment plan and rationale, leaving specific procedures to specialists (radiation and clinical/medical oncologists). Nurses and supportive care HCPs (e.g., speech therapists) reinforced information post-procedures, when information retention may be more difficult. Taiwan's tertiary medical centers followed similar practices, although less comprehensively than Australia (involving mainly specialists and nurses). However, even in these health systems, patients expressed a desire for more time to process the information shared and have further discussions with their HCPs.

TABLE 1 | Demographic profile of patients, caregivers, and HCPs.

		Patients (*N* = 28)		**Caregivers (*N* = 27)**	
		N	**%**	***N***	**%**
Sex	Male	16	57%	12	44%
	Female	12	43%	15	56%
Age (years)	Mean	51		51	
	Standard deviation	15		14	
Education level	Secondary	7	25%	3	11%
	Diploma	15	54%	15	56%
	University or higher	6	21%	9	33%
Primary work status	Employed/self-employed/freelance	11	39%	22	82%
	Unemployed	5	18%	0	0%
	Studying	0	0%	0	0%
	Homemaker	3	11%	2	7%
	Retired	9	32%	3	11%

		MDT HCP (*N* = 30)		**Supportive care HCP (*N* = 30)**	
		N	**%**	**N**	**%**
Sector	For AU[a], HK[b], VN[c]				
	Public/government	16	53%	14	47%
	Private hospital	2	7%	2	7%
	Private clinic	0	0.0%	2	7%
	For KR[d]				
	General hospitals	1	3%	0	0%
	University hospitals	5	17%	6	20%
	For TW[e]				
	Regional hospitals	0	0%	6	20%
	Medical centers	6	20%	0	0%
Years in specialty	Mean (standard deviation)	15 (7)		14 (6)	
Patient load LA-HNSCC past 6 months	Mean (standard deviation)	120 (140)		40[f] (37)	
Patient load LA-HNSCC past 12 months (psychologists only)	Mean (standard deviation)	n/a		19[g] (13)	
Patient load LA-OCSCC past 6 months	Mean (standard deviation)	45 (44)		n/a	
Patient load LA-OCSCC (triple modality[h]) past 6 months	Mean (standard deviation)	22 (27)		n/a	

Abbreviations: HCP, healthcare professionals; LA-HNSCC, locally advanced head and neck squamous cell carcinoma; LA-OCSCC, locally advanced esophageal cancer squamous cell carcinoma; MDT, multidisciplinary team (i.e., surgeons and clinical, radiation, and medical oncologists); n/a, not applicable; Supportive Care HCP, supportive care healthcare professionals (i.e., nurses/case managers, psychologists, dieticians, speech therapists, and dentists).

[a] In Australia, public/government hospitals are government-recognized and funded by the Australian Government, state, and territory governments. Private hospitals are hospitals that are owned and operated by private for-profit and not-for-profit organizations. Private clinics are smaller health facilities registered with the Medical Board of Australia and Medicare.

[b] In Hong Kong, public/government hospitals are government-owned, operated by the Hospital Authority and funded by the Hong Kong government. Private hospitals are hospitals that are regulated by the Department of Health. Private Clinics are clinics regulated by the Department of Health.

[c] In Vietnam, public/ government hospitals include central, provincial, and district hospitals operated by the government and funded by state budgets. Private hospitals are owned and operated by private entities licensed by the Ministry of Health. Private clinics are smaller health facilities licensed by the Ministry of Health.

[d] In Korea, general hospitals are government-controlled hospitals licensed by the Ministry of Health and Welfare. University hospitals are teaching hospitals licensed by the Ministry of Health and Welfare and accredited by relevant educational and healthcare accreditation bodies.

[e] In Taiwan, regional hospitals are hospitals licensed by the Ministry of Health and Welfare that serve a geographical area larger than a single local or rural area. Medical centers are accredited centers with the largest medical technology and highest-rated services licensed by the Ministry of Health and Welfare for every area with a population of two million.

[f] $n = 26$, as four are psychologists and not applicable to this data.

[g] $n = 1$ missing at random.

[h] Triple modality refers to surgery followed by concurrent chemoradiotherapy.

Moreover, HCP time and hospital manpower constraints significantly impacted MDT communication, leading to varied care delivery across healthcare systems. In Hong Kong, Vietnam, and resource-constrained Taiwan hospitals, limited time often resulted in departments acting independently without updating each other on patients' status, including psychological and emotional well-being, treatment plans, and side effects, affecting patient management quality. Conversely, Australia, South Korea, and better-resourced Taiwan hospitals managed time constraints more effectively, fostering a more effective MDT culture. Nevertheless, challenges in coordinating department schedules exist (as reported by nurses in South Korea), highlighting the impact of time constraints on MDT collaboration, and consequently on the quality of patient management.

Theme 2. Extensiveness of supportive care

Variability in supportive care across care and treatment pathway (psychological capability, physical opportunity, reflective motivation)

Access to supportive care services was based on clinicians' assessments, their referrals, and the availability of supportive care within specific hospital settings and territories. In Australia, Taiwan, and Hong Kong, referrals to supportive care services, including dentists, speech therapists, and dieticians, had been routinely practiced by HCPs.

In better-supported hospitals in regions like Australia and Taiwan, a more routine use of psychological services had been reported compared to Hong Kong. In Taiwan, psychological assessments were done upon patient admission. Notably, in Australia, both patients and physicians highlighted significant unmet needs for psychological services for HNC, including a lack of routine psychological support, insufficient resources for follow-up care, and limited availability of in-patient psychologists.

In South Korea and Vietnam, HCPs often referred patients for dental, oral, and physical rehabilitation care but had been less likely to recognize the need and significance for other services, including speech and swallow rehabilitation and psychological services, partly due to their beliefs that these were less critical aspects of patient care. Referrals to these supportive care services were not routine compared to other health systems and were dependent on the perceived severity of the patient's condition.

Access to supportive care services depended on the availability of facilities and manpower for supportive care. The presence of supportive care professionals, including speech therapists, dieticians, and psychologists to provide multidisciplinary care within hospital sites, facilitated timely access to supportive care. In Australia, South Korea, and Hong Kong, where there had been a lack of resources, patients had been referred to supportive care services at other facilities. However, these patients had been reluctant to attend due to a lack of connection and trust with HCPs. In Vietnam, while some HCPs may have recognized the need for supportive care, they faced resource constraints such as a lack of supportive care services like psychologists and speech therapists in hospitals.

3.5 | Availability of Nursing Support Within MDT (Physical Opportunity)

Although supportive care professionals had often tried to foster closer relationships with patients and provide the necessary support, there were too few nurse coordinators or HNC nurses acting as case managers. Across all regions, the lack of nurse coordinators or HNC nurses was highlighted: to deliver care coordination (and being the conduit between the patient and MDT HCPs), counselling support, patient information, and education. Hospitals in Australia, South Korea, and Taiwan had a limited number of these nurse care coordinators who were often overburdened. A Taiwan psychologist reported, *there is only one case manager for this cancer type managing hundreds of patients*. Conversely, Hong Kong and Vietnam had a complete absence of such professionals, thus impacting on the MDTs ability to deliver seamless care to patients in a supportive and coordinated manner.

Theme 3. Patient factors

Lack of knowledge and underestimation of symptoms (psychological capability, reflective motivation)

Before diagnosis, the majority of patients and caregivers had lacked knowledge about OCC and often mistaken symptoms, such as ulcers, sores, and swelling, for innocuous, common ailments. This may have led to self-medicating and delayed medical consultation. HCPs reported that patients could take *up to 2–3 months* before seeking help.

Stigma surrounding cancer compounded delays as patients had denied the severity, avoided seeking medical advice, and sought alternative opinions. In Taiwan and Vietnam, patients may resort to traditional medicine (e.g., *male papaya flowers*), over-the-counter medicines, or home remedies, further delaying diagnosis and treatment. Reliance on online information for symptom identification varied, but patients often found limited reliable guidance on disease presentation and treatment, hindering their understanding, and delaying appropriate care.

3.6 | Emotional and Physical Barriers Affecting Care Decisions (Physical Capability, Reflective, and Automatic Motivation)

Patients' and caregivers' cultural regard for physicians often contributed to top-down, one-way communication in the Asia-Pacific. Patients often withheld concerns about their cancer or treatment and passively abided by physician orders. Elderly Asian men also encountered significant social barriers and were less communicative and engaged in treatment decisions.

Furthermore, patients' involvement in treatment discussions and decisions could have been impeded by physical challenges to communication, such as those imposed by post-surgical deformities (e.g., loss of part of tongue or jaw leading to speech impairments), *(I) wanted to ask a lot of things at the beginning but (I) couldn't' speak.* The shock and confusion of diagnosis and early treatment stages have hindered active engagement and comprehension of physicians' information. These, coupled with limited disease knowledge, may have contributed to patient distress and reduced self-efficacy in open discussions on healthcare needs and treatment preferences.

4 | Discussion

The study highlighted challenges in the Asia-Pacific region in achieving timely diagnosis and accessing patient-centered care for LA-OCSCC patients. Suboptimal awareness toward early detection among patients and primary care providers, inadequate healthcare resources (staff and infrastructure), low community awareness, and poor integration of supportive care services were highlighted as contributors to suboptimal patient outcomes.

Our findings indicate that GPs and dentists, often the initial point of contact for patients, may contribute to longer referral pathways. This aligns with previous studies; albeit a lack of consensus, regarding which pathway is more extended [20, 17, 18]. Specialists have observed potential gaps in disease expertise and tools for early symptom assessment in primary care. Therefore, educating and training primary care physicians about OCSCC symptoms is crucial, particularly in regions with well-established, integrated primary healthcare systems like Australia. This education should also encompass comprehensive risk assessment for higher-risk individuals, considering lifestyle factors (e.g., smokers or betel nut chewers [19, 21], and family history [22]).

Our research reinforced the current unmet need for nurses within health services managing LA-OCSCC. Australia and Taiwan had the highest presence of these professionals, who facilitated integrated care discussions, provided counseling, patient-centered education and information, and relayed patients' needs to specialists. South Korea's nurses had a similar role, albeit with less involvement. Despite being in better-resourced hospitals, HNC nurses still faced heavy workloads while caring for and managing the complex needs of large numbers of patients. This issue is particularly acute in LA-OCSCC care, where patients undergo tri-modality treatment, marked by high treatment related impact and toxicities [23, 24]. These patients require even closer monitoring and care coordination across multiple specialists to manage the complex side effects and long-term impairments of LA-OCSCC.

The European Society for Medical Oncology (ESMO) expert consensus underscores the importance of nurse-led care in managing complex cancer cases [25]. The reported shortage of specialized nurses in Hong Kong and Vietnam highlights the critical importance of future initiatives to incorporate such roles into the HNC service and expand the training and support for nurse coordinators to mitigate these gaps. Despite improved access to care, the challenging workload experienced by HCPs, especially nurses, remains a long-standing issue [26–29]. Greater support to prevent burnout is warranted, as emotional exhaustion and depersonalization could ultimately impact the quality of patient care [30]. Task sharing or task shifting offers viable solutions by redistributing responsibilities among other HCPs who may not conventionally perform them, but best utilize their skills and expertise [31–33], such as social workers for psychotherapeutic support in the absence of psychiatrists or psychologists in cancer clinics. Despite the significant impact of psychosocial care on cancer patients [34–36], their psychosocial and emotional needs remain under-recognized and unmet [37].

Wider adoption of alternative care models, including nurse-led and GP-led approaches, necessitates adequate support from non-specialists and guidance from cancer specialist teams to ensure quality patient-centered care. Expanding shared care frameworks to include community care providers—community care workers delivering psychosocial support, primary care physicians following up during survivorship, patient groups supporting patient navigation—could alleviate specialist burden, improve MDT coordination, and enhance care timeliness.

Consistent with previous studies, patient factors including limited cancer knowledge, low symptom awareness, and misinterpretation or underestimation of early symptoms, alongside resource-related issues, contribute to delays in diagnosis [38–41]. These challenges have been highlighted in this study, stressing the importance of enhanced disease education to promote early detection of OCSCC. Previous studies have shown that patients with better knowledge of OCC were less likely to delay seeking help [41, 42], emphasizing the importance of educating patients and caregivers in improving health-seeking behaviors. Targeted disease education, aligned with established international oncology guidelines, is crucial for raising awareness and encouraging timely medical evaluation when symptoms persist beyond 2–3 weeks [43, 44].

Leveraging resources and expertise of community-based organizations, such as community care professionals and patient advocacy groups (PAGs), is an effective strategy for providing educational and emotional support [45]. They not only alleviate the burden on HCPs by delivering patient education and mental health support but also foster peer networks that enhance patient self-care and resilience during survivorship. By adopting a multi-stakeholder approach and fostering collaboration between HCPs and community-based organizations, the burden on hospital-based HCPs can be alleviated, leading to improved patient care and outcomes.

Moreover, the scarcity of OCSCC-specific resources necessitates reliance on limited cancer support groups, making it essential to foster regional collaboration. This can facilitate the sharing of best practices and educational materials, ensuring a more coordinated approach to disease education. Established HNC patient groups in Australia and Taiwan serve as key examples, playing a crucial role in disseminating disease information to patients and promoting early diagnosis [46–47]. These groups also have the capacity to leverage regional networks to enhance awareness and educational efforts among key health stakeholders, including policymakers and HCPs, ultimately ensuring a more unified approach to improving patient outcomes.

4.1 | Limitations

Our research included a large sample, encompassing key stakeholders in the HNC healthcare systems across five Asia-Pacific regions. While attempts were made to encourage participant diversity, patient experiences may vary by geography and disease stage, especially due to OCSCC's heterogeneity. Therefore, our sample size may not have comprehensively captured the full spectrum of patients', caregivers', and HCPs' experiences, limiting generalizability. Beyond sample considerations, respondent characteristics (e.g., patient and caregiver education levels, differences in healthcare infrastructure between inpatient and outpatient settings) may have influenced perceptions of the healthcare system, but were not explicitly explored, warranting further investigation. Time constraints of the interview prevented us from thoroughly exploring all aspects of participant narratives, potentially missing other unmet needs.

To address these limitations, we triangulated data using frameworks, diverse participant perspectives, and existing literature. We also acknowledge that variations in HCP profiles and availability across settings may have led to overrepresentation or underrepresentation of certain participant types (by hospital setting and other characteristics).

5 | Conclusion

Our study has highlighted important current challenges in the management of LA-OCSCC in the Asia-Pacific region and identified important areas for targeted interventions by health systems to enhance patient-centered care and improve quality of care in the region. The findings emphasize the need for increased awareness in the community about HNC and its presenting symptoms, and improved knowledge and skills in primary care HCPs to detect HNC early and refer to HNC clinician team. These efforts are vital in ensuring early diagnosis, appropriate and timely treatment initiation, thereby improving disease outcomes and quality of life of patients. Importantly, our findings also highlight the urgent need to strengthen nurse care coordination resources within the MDT to improve psychosocial well-being, patient education, and self-care. Collaborative efforts between health services and the community are crucial to ensure a comprehensive approach to treatment and survivorship care for patients diagnosed with LA-OCSCC in the Asia-Pacific region.

Acknowledgments

The authors thank Jia Min Chung for her role as the project manager at MSD International GmbH (Singapore Branch) and Jennifer Si for her contributions to research materials development and analysis during her time at Oracle Life Sciences, Singapore. We would also like to acknowledge Amanda Woo, PhD, and Jackie Man from Oracle Life Sciences, Singapore, for their assistance with medical writing (review and editing). We thank Kantar Vietnam, Just Worldwide, QualWorld, Research H, Data Pro Market Research for the support of conducting the investigation—coordinating and running the interviews.

Funding

This study was funded by MSD International GmbH (Singapore Branch).

Ethics Statement

The study adhered to the guidelines outlined in the Declaration of Helsinki. This study protocol and its research materials were approved by the relevant ethics committees and IRB in each participating country/territory (Table S1): Bellberry Human Research Ethics Committee, Australia (2022-07-751); Oncology Study Group Research Ethics Committee, Hong Kong (2022/24); Public Institutional Review Board designated by the Ministry of Health and Welfare, South Korea (2022-1483-002); National Taiwan University Hospital IRB, Taiwan (202210028RSA); and Ho Chi Minh City Oncology Hospital IRB, Vietnam (3393/BVUB-CDT).

Consent

Participants were informed of the study's purpose, their right to withdraw, and assurance of confidentiality and anonymity. Informed consent was obtained before data collection, and only anonymized data were analyzed.

Conflicts of Interest

Edwin Pun Hui has participated in an advisory board for Merck Sharp & Dohme. He has also received institutional research funding from Merck Sharp & Dohme and Pfizer in support of research activities. Khoi Tuan Nguyen has received honoraria as an invited speaker from Merck Sharp & Dohme, Merck Group, Roche, and AstraZeneca. Con Stylianou is an employee of Merck Sharp & Dohme and Merck & Co., Inc. MSD International GmbH (Singapore Branch) sponsored the study and contracted Oracle Life Sciences, Singapore. Regina Gowindah and Ying Jie Yew are employees of Oracle Life Sciences, Singapore. Puma Sundaresan, Hye Ryun Kim, Tracey E Nicholls, Hai-Ling Teng, Yu-Chung Li, and Pei-Jen Lou declare no conflicts of interest.

Data Availability Statement

All data generated can be found in this article and supplementary information files.

References

1. A. Aupérin, "Epidemiology of Head and Neck Cancers: An Update," *Current Opinion in Oncology* 32, no. 3 (2020): 178.

2. D. E. Johnson, B. Burtness, C. R. Leemans, V. W. Y. Lui, J. E. Bauman, and J. R. Grandis, "Head and Neck Squamous Cell Carcinoma," *Nature Reviews Disease Primers* 6, no. 1 (2020): 1–22.

3. A. Barsouk, J. S. Aluru, P. Rawla, K. Saginala, and A. Barsouk, "Epidemiology, Risk Factors, and Prevention of Head and Neck Squamous Cell Carcinoma," *Medical Sciences* 11, no. 2 (2023): 42.

4. N. Vigneswaran and M. D. Williams, "Epidemiologic Trends in Head and Neck Cancer and Aids in Diagnosis," *Oral and Maxillofacial Surgery Clinics of North America* 26, no. 2 (2014): 123–141.

5. B. Culliney, A. Birhan, A. V. Young, W. Choi, M. Shulimovich, and R. H. Blum, "Management of Locally Advanced or Unresectable Head and Neck Cancer," *Oncology* 22, no. 10 (2008): 1152–1161.

6. V. Parker, D. Bellamy, R. Rossiter, et al., "The Experiences of Head and Neck Cancer Patients Requiring Major Surgery," *Cancer Nursing* 37, no. 4 (2014): 263–270.

7. A. Trama, L. Botta, R. Foschi, et al., "Quality of Care Indicators for Head and Neck Cancers: The Experience of the European Project RARECAREnet," *Frontiers in Oncology* 9 (2019): 837.

8. S. Marur and A. A. Forastiere, "Head and Neck Cancer: Changing Epidemiology, Diagnosis, and Treatment," *Mayo Clinic Proceedings* 83, no. 4 (2008): 489–501.

9. E. E. W. Cohen, R. B. Bell, C. B. Bifulco, et al., "The Society for Immunotherapy of Cancer Consensus Statement on Immunotherapy for the Treatment of Squamous Cell Carcinoma of the Head and Neck (HNSCC)," *Journal for Immunotherapy of Cancer* 7, no. 1 (2019): 184.

10. R. W. Hsieh, S. Boston, A. Tsagianni, and D. P. Zandberg, "Immunotherapy in Recurrent/Metastatic Squamous Cell Carcinoma of the Head and Neck," *Frontiers in Oncology* 11 (2021): 705614, https://doi.org/10.3389/fonc.2021.705614.

11. L. Ghiani and S. Chiocca, "High Risk-Human Papillomavirus in HNSCC: Present and Future Challenges for Epigenetic Therapies," *International Journal of Molecular Sciences* 23, no. 7 (2022): 3483.

12. D. Pereira, D. Martins, and F. Mendes, "Immunotherapy in Head and Neck Cancer When, How, and Why?," *Biomedicines* 10, no. 9 (2022): 2151.

13. L. J. Breen, M. O'Connor, S. Calder, V. Tai, J. Cartwright, and J. M. Beilby, "The Health Professionals' Perspectives of Support Needs of Adult Head and Neck Cancer Survivors and Their Families: A Delphi Study," *Supportive Care in Cancer* 25, no. 8 (2017): 2413–2420.

14. M. I. Khattak, M. Khan, S. I. Khattak, Z. Khan, Z. U. Haq, and N. Saddki, "The Experiences of Oral Cancer Patients: A Narrative Review," *Journal of Public Health Medicine* 21, no. 2 (2021): 168–177.

15. T. W. Hu, M. Cooke, and A. McCarthy, "A Qualitative Study of the Experience of Oral Cancer Among Taiwanese Men," *International Journal of Nursing Practice* 15, no. 4 (2009): 326–333.

16. M. B. Amin, D. M. Gress, L. R. M. Vega, and S. B. Edge, in *AJCC Cancer Staging Manual*, ed. F. L. Greene, D. R. Byrd, R. K. Brookland, M. K. Washington, and C. C. Compton, 8th ed.(American College of Surgeons, 2018).

17. P. A. Groome, S. L. Rohland, S. F. Hall, J. Irish, W. J. Mackillop, and B. O'Sullivan, "A Population-Based Study of Factors Associated With Early Versus Late Stage Oral Cavity Cancer Diagnoses," *Oral Oncology* 47, no. 7 (2011): 642–647.

18. R. L. Venchiarutti, L. Pho, J. R. Clark, C. E. Palme, and J. M. Young, "A Qualitative Exploration of the Facilitators and Barriers to Early Diagnosis and Treatment of Head and Neck Cancer: Perceptions of Patients and Carers," *European Journal of Cancer Care* 31, no. 6 (2022): e13718.

19. S. Warnakulasuriya and T. H. H. Chen, "Areca Nut and Oral Cancer: Evidence From Studies Conducted in Humans," *Journal of Dental Research* 101, no. 10 (2022): 1139–1146.

20. S. M. Langevin, D. S. Michaud, M. Eliot, E. S. Peters, M. D. McClean, and K. T. Kelsey, "Regular Dental Visits Are Associated With Earlier Stage at Diagnosis for Oral and Pharyngeal Cancer," *Cancer Causes & Control* 23, no. 11 (2012): 1821–1829.

21. D. P. Lander, D. Kallogjeri, and J. F. Piccirillo, "Smoking, Drinking, and Dietary Risk Factors for Head and Neck Cancer in Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial Participants," *JAMA Otolaryngology—Head & Neck Surgery* 150, no. 3 (2024): 249–256.

22. J. B. Epstein, M. Gorsky, R. J. Cabay, T. Day, and W. Gonsalves, "Screening for and Diagnosis of Oral Premalignant Lesions and Oropharyngeal Squamous Cell Carcinoma: Role of Primary Care Physicians," *Canadian Family Physician* 54, no. 6 (2008): 870–875.

23. C. Heal, J. Han, A. Koroulakis, S. K. Yi, and J. R. Robbins, "Management of Symptoms and Treatment-Related Toxicities of Head and Neck Cancers," in *Palliative Radiation Oncology*, ed. N. Vapiwala, J. A. Jones, K. V. Dharmarajan, (Elsevier, 2024), 341–358.

24. J. R. Kelly, Z. A. Husain, and B. Burtness, "Treatment De-Intensification Strategies for Head and Neck Cancer," *European Journal of Cancer* 68 (2016): 125–133.

25. I. Vaz-Luis, M. Masiero, G. Cavaletti, et al., "ESMO Expert Consensus Statements on Cancer Survivorship: Promoting High-Quality Survivorship Care and Research in Europe," *Annals of Oncology* 33, no. 11 (2022): 1119–1133.

26. A. Girgis, V. Hansen, and D. Goldstein, "Are Australian Oncology Health Professionals Burning Out? A View From the Trenches," *European Journal of Cancer* 45, no. 3 (2009): 393–399.

27. E. Grunfeld, L. Zitzelsberger, M. Coristine, T. J. Whelan, F. Aspelund, and W. K. Evans, "Job Stress and Job Satisfaction of Cancer Care Workers," *Psycho-Oncology* 14, no. 1 (2005): 61–69.

28. Y. Afiyanti, H. Komatsu, P. Jagdish, et al., "Growth and Development of Oncology Nursing in Asia," *Annals of Palliative Medicine* 12, no. 5 (2023): 1004–1015.

29. L. T. Nguyen, L. C. Annoussamy, and V. T. LeBaron, "Challenges Encountered by Vietnamese Nurses When Caring for Patients With Cancer," *Oncology Nursing Forum* 44, no. 2 (2017): 147–151.

30. K. Russell, "Perceptions of Burnout, Its Prevention, and Its Effect on Patient Care as Described by Oncology Nurses in the Hospital Setting," *Oncology Nursing Forum* 43, no. 1 (2016): 103–109.

31. WHO, PEPFAR, UNAIDS, *Task Shifting: Rational Redistribution of Tasks Among Health Workforce Teams: Global Recommendations and Guidelines* (World Health Organization, 2007).

32. S. L. Leong, S. L. Teoh, W. H. Fun, and S. W. H. Lee, "Task Shifting in Primary Care to Tackle Healthcare Worker Shortages: An Umbrella Review," *European Journal of General Practice* 27, no. 1 (2021): 198–210.

33. A. E. Kazdin and S. M. Rabbitt, "Novel Models for Delivering Mental Health Services and Reducing the Burdens of Mental Illness," *Clinical Psychological Science* 1, no. 2 (2013): 170–191.

34. R. Caruso and W. Breitbart, "Mental Health Care in Oncology. Contemporary Perspective on the Psychosocial Burden of Cancer and Evidence-Based Interventions," *Epidemiology and Psychiatric Sciences* 29 (2020): e86.

35. Z. J. Walker, S. Xue, M. P. Jones, and A. V. Ravindran, "Depression, Anxiety, and Other Mental Disorders in Patients with Cancer in Low- and Lower-Middle–Income Countries: A Systematic Review and Meta-Analysis," *JCO Global Oncology* no. 7 (2021): 1233–1250.

36. C. Geiss, A. I. Hoogland, B. Arredondo, et al., "Psychosocial Consequences of Head and Neck Cancer Symptom Burden After Chemoradiation: A Mixed-Method Study," *Supportive Care in Cancer* 32, no. 4 (2024): 254.

37. Y. Tang, Y. Hua, X. Huang, Y. Cao, and X. Sun, "Psychological Burden of Patients With Head and Neck Cancer Undergoing Radiotherapy and Their Family Caregivers: A Cross-Sectional Survey," *Journal of Multidisciplinary Healthcare* 16 (2023): 927–935.

38. C. Saka-Herrán, E. Jané-Salas, A. Mari-Roig, A. Estrugo-Devesa, and J. López-López, "Time-to-Treatment in Oral Cancer: Causes and Implications for Survival," *Cancers* 13, no. 6 (2021): 1321.

39. P. Stefanuto, J. C. Doucet, and C. Robertson, "Delays in Treatment of Oral Cancer: A Review of the Current Literature," *Oral surgery, Oral Medicine, Oral Pathology and Oral Radiology* 117, no. 4 (2014): 424–429.

40. V. Panzarella, G. Pizzo, F. Calvino, D. Compilato, G. Colella, and G. Campisi, "Diagnostic Delay in Oral Squamous Cell Carcinoma: The Role of Cognitive and Psychological Variables," *International Journal of Oral Science* 6, no. 1 (2014): 39–45.

41. D. Swaminathan, N. A. George, S. Thomas, and E. M. Iype, "Factors Associated With Delay in Diagnosis of Oral Cancers," *Cancer Treatment and Research Communications* 40 (2024): 100831.

42. N. Azhar and J. G. Doss, "Health-Seeking Behaviour and Delayed Presentation of Oral Cancer Patients in a Developing Country: A Qualitative Study Based on the Self-Regulatory Model," *Asian Pacific Journal of Cancer Prevention: APJCP* 19, no. 10 (2018): 2935–2941.

43. "Head and Neck Cancer: A Guide for Patients," European Society for Medical Oncology, accessed February 16, 2024, https://www.esmo.org/for-patients/patient-guides/head-and-neck-cancer.

44. National Comprehensive Cancer Network, "NCCN Guidelines for Patients: Mouth Cancer," 2024.

45. S. Zhang, J. Li, and X. Hu, "Peer Support Interventions on Quality of Life, Depression, Anxiety, and Self-Efficacy Among Patients With Cancer: A Systematic Review and Meta-Analysis," *Patient Education and Counseling* 105, no. 11 (2022): 3213–3224.

46. "What is Head and Neck Cancer," Head & Neck Cancer Australia, accessed June 3, 2025, https://www.headandneckcancer.org.au/head-and-neck-cancer-definition/what-is-oral-cancer/.

47. "台灣全癌症病友連線,"Taiwan Association of Cancer Patients, accessed June 3, 2025, https://www.ilovetacp.org.tw/Album-1.aspx?uid=129&id=53.

Supporting Information

Additional supporting information can be found online in the Supporting Information section.

Table S2. Application of COM-B framework to the study **Table S3**. Distribution of patients, caregivers and HCPs across Asia-Pacific **Table S4**. Key perspectives on essential areas for enhancing practices in providing quality patient-entered care and management.