

## Scope and determinants of practice of surgical oncology among maxillofacial surgeons in Nigeria

VI Akinmoladun, OO Gbolahan and TO Aladelusi

*Department of Oral and Maxillofacial Surgery, College of Medicine,  
University of Ibadan, Ibadan, Nigeria*

### Abstract

**Background:** Head and neck cancers are associated with significant morbidity and mortality. Previous report suggested a low level of practice of maxillofacial oncology in Nigeria, even in the face of significant burden of head and neck cancers in our environment.

**Material and methods:** This study was a questionnaire based cross sectional survey of known maxillofacial surgeons in Nigeria with regards to the scope and determinants of the practice of cancer surgical care.

**Results:** A total of fifty three oral and maxillofacial surgeons participated in this survey. All respondents were involved in cancer surgery, however, 18 of the respondents only managed between 6-10 cases per year. An overwhelming majority of the respondents (39, 73.6%) worked in teaching hospitals. Thirty six (67.9%) of the respondents managed cancer patients without a multidisciplinary care team. Multimodal treatment including radiotherapy was only rarely available. Capacity for reconstruction was limited as only 4 of the respondents were competent to carry out microvascular tissue transfer.

**Conclusion:** This cross-sectional study has revealed the relative weakness and deficiency in the scope of oncologic maxillofacial surgery in Nigeria. Although these findings may be a reflection of our status as a developing nation, urgent steps need to be taken to address the deficiencies in view of the poor outlook of head and neck cancers even in the developed world.

**Keywords:** *Scope, determinants, practice, maxillofacial, oncology, Nigeria*

### Résumé

**Contexte:** Les cancers de la tête et du cou sont associés à une morbidité et à une mortalité significative. Les rapports précédents suggèrent un faible niveau de pratique de l'oncologie maxillo-faciale au Nigéria, même en raison d'un fardeau important du cancer de la tête et du cou dans notre environnement.

**Matériel et méthodes:** Cette étude était une enquête transversale basée sur un questionnaire sur les

chirurgiens maxillo-faciaux connus au Nigeria en ce qui concerne la portée et les déterminants de la pratique des soins chirurgicaux cancéreux par les chirurgiens maxillo-faciaux.

**Résultats:** Un total de cinquante-trois chirurgiens bucco-dentaires et maxillo-faciaux ont participé à cette enquête. Tous les répondants ont participé à une opération de cancérologie, mais 18 répondants seulement ont réussi à gérer entre 6 à 10 cas par an. Une majorité accablante des répondants (39; 66%) travaillaient dans les hôpitaux d'enseignement. Trente-six (67; 9%) des répondants gèrent des patients atteints de cancer sans une équipe de soins multidisciplinaires. Le traitement multimodal, y compris la radiothérapie, n'était que rarement disponible. La capacité de reconstruction était limitée car seulement 4 des répondants étaient compétents pour effectuer le transfert de tissu micro-vasculaire.

**Conclusion:** Cette étude transversale a révélé la faiblesse relative et la carence dans le cadre de la chirurgie oncologiquemaxillo-faciale au Nigeria. Bien que ces résultats reflètent notre statut de pays en voie de développement, des mesures urgentes doivent être prises pour remédier aux carences en raison de la mauvaise visibilité des cancers de la tête et du cou, même dans le monde développé.

**Mots-clés:** *Portée, déterminants, pratique, maxillo-faciale, oncologie, Nigéria*

### Introduction

Oral and maxillofacial surgery in Nigeria is an evolving specialty, and includes ablative and reconstructive surgeries in the management of orofacial tumours. Orofacial tumours are common worldwide with associated challenges and prospects for both the oncology patient and the oral and maxillofacial surgeon. Head and neck cancers constitute the 6<sup>th</sup> most common cancers in the world and are important causes of morbidity and mortality [1]. They occur mainly in the oral cavity, oropharynx, hypopharynx and the larynx. Despite improved treatment modalities, the diseases remain poor in outcome with a 50% five year survival rate that has not improved in the last two decades [2].

The scope of practice in maxillofacial surgery has been previously reported to be limited in Nigeria relative to what obtains in the developed world, coupled with the absence of sub specialization and

oncology is one of the least covered areas [3]. Although the burden of orofacial malignancies in our environment could be difficult to ascertain, it is perhaps significant.

The study aimed to investigate the scope and determinants of practice of surgical oncology among maxillofacial surgeons in Nigeria.

**Materials and method**

*Study type: Cross sectional survey*

*Participants*

Eligible participants included all maxillofacial surgeons in Nigeria and on the mailing list of Nigerian Association of Oral and Maxillofacial Surgeons. The study was carried out in accordance with the Declaration of Helsinki and participants' anonymity was guaranteed.

A self-administered questionnaire was developed and pre-tested to assess the factors influencing the practice of oncology among maxillofacial surgeons in Nigeria. Information was collected on demographics, years of practice, type and location of practice, training in oncology, level of involvement in management of oncology, multidisciplinary team management, factors influencing ability to provide oncological care as well as factors discouraging practice of oncology.

The questionnaire with a covering note was delivered to all the maxillofacial surgeons by hand or electronically. Non-responders were contacted by

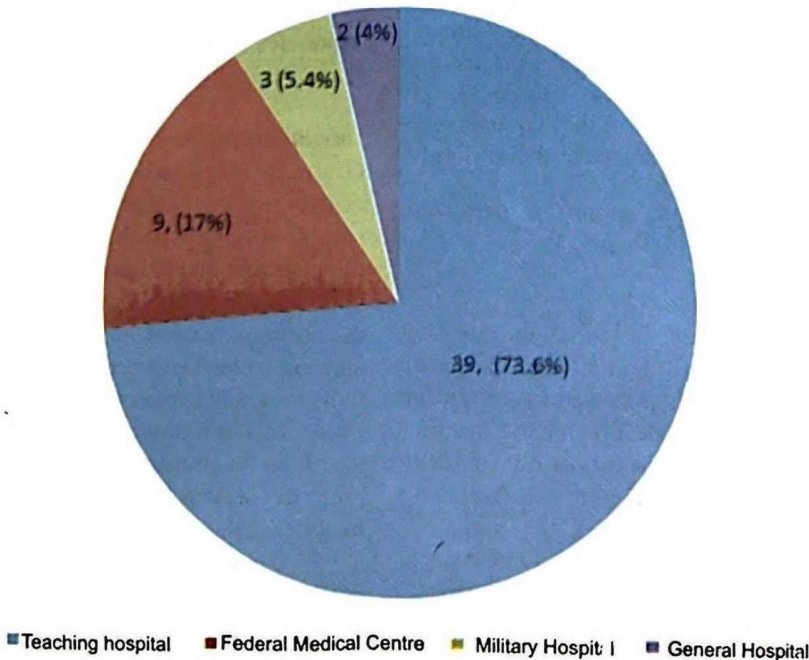
phone, email or personal contact four times. Data was entered into a personal computer and descriptive statistical analysis performed using SPSS 17.0 (SPSS Inc., Chicago, IL, USA).

**Table 1:** Age and sex distribution of respondents

Age	Sex distribution		Total
	Male	Female	
36-40	5	0	5
41-45	14	2	16
46-50	13	3	16
51-55	4	2	6
56-60	2	2	4
>60	6	0	6
Total	44	9	53

**Results**

A total of fifty three oral and maxillofacial surgeons participated in this survey. Majority were in the 41-50 age range (32, 60.4%). None of the respondents was less than 36years of age while 6(11.3%) were above 60 years of age. Forty four (83.0%) were males while 9 (17.0%) were females (Table 1). Majority (52.0%) were ten years or less as specialist. Eleven (20.8%) had been in practice for over 20years. An overwhelming majority of the respondents (39, 73.6%) worked in teaching hospitals. This was followed by nine (17.0%) in federal medical/ specialist centres (Figure1). Thirty nine (73.6%) of



**Fig. 1:** Status of the hospital of practice of respondents

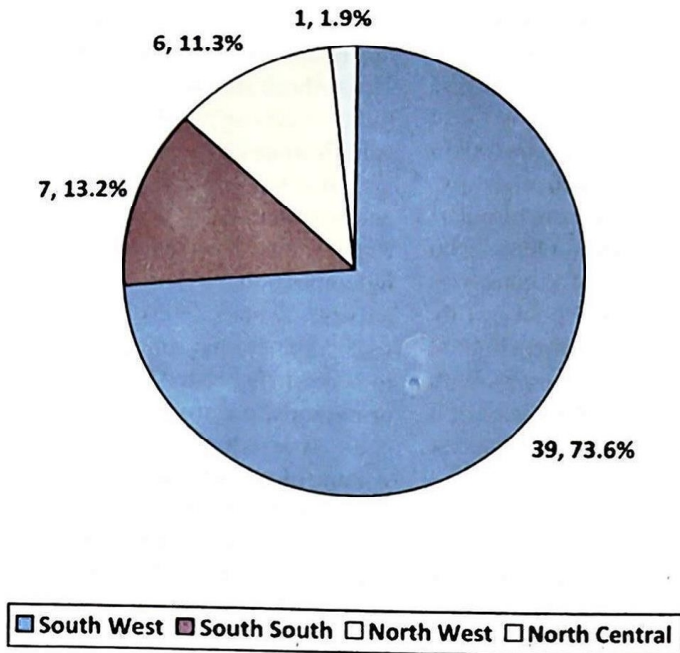


Fig. 2: Location of practice of respondents within the geopolitical zones of the country

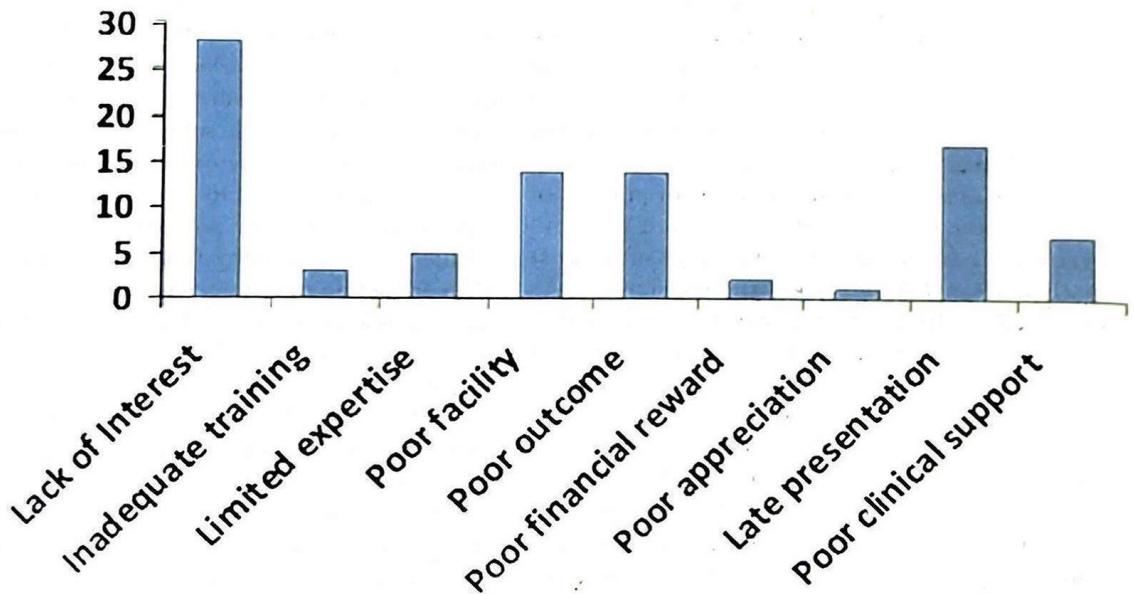


Fig. 3: Factors limiting scope of practice of oncology

the respondents practiced in the Southwest, this was followed by 7 (13.2%) from the south-south geopolitical zone of the country (Figure 2). With regards to training in oncology, 10 respondents (18.9%) were involved in the management of 10-15 cases of head and neck malignancies per year during their training. Others gave the figure as 16-20 (9, 17.0%), 21-25, (7, 13.2%) and 5 (9.4%) gave a figure of 30 cases per year. However, only 21 respondents

had an oncology-biased exposure of between 3-12 months. In terms of current practice, all the respondents manage cancer cases. However, 18 of the respondents manage between 6-10 cases per year. Others put the figure at 11-15 (7, 13.2%), 16-20 (8, 15.1%). Thirty six (67.9%) of the respondents who manage cancer patients do not operate within a multidisciplinary care team, with 16 of those within teams having irregular clinical team meetings. With

regards to capacity for reconstruction, only 4 were competent in carrying out microvascular transfer.

Radiotherapy was always available in the centre of only two of the respondents. For those without radiation facilities, distances of up to 400km needed to be covered to access radiotherapy. Although all respondents carry out oncological surgery only 19 were keen practitioners. Others who were not keen gave reasons for lack of keenness as late presentation, usually poor outcome/poor quality of life of patients, poor facilities/support, limited expertise, and poor financial reward (Figure 3). With regards to further training in oncology by way of a fellowship, 38 of the respondents indicated interest in such a programme.

### Discussion

The report of a national survey of the scope and determinants of practice of surgical oncology among maxillofacial surgeons in Nigeria is presented. Previous study [3] had shown a distribution of maxillofacial surgeons along the Nigerian geopolitical zones to be largely skewed toward an obvious southern predominance as well as the federal institutions. This was also replicated in this study as 39 (73.6%) of the respondents were from the southwest and federal institutions. This imbalance continues to be a major issue as other parts of the country remains grossly underserved.

The area of interest and scope of practice of the surgeon is generally influenced by both prequalification (during training) and post qualification (after training) experiences. As observed by Brennan [4], insufficient exposure affects the competence and hence area of interest and practice. In the present study, although surgeons appear to have had decent oncologic exposure during the residency training, only 21(40%) of respondents had any oncology-biased training with only three spending up to 12 months in such training positions.

The practice of oncology, globally, is multidisciplinary [5]. Each member of the team brings a perspective and a skill that will ensure optimum care and outcome. Given the complexity of management of head and neck cancers, patients with advanced disease (more likely in our environment) require multidisciplinary team (MDT) management by a collaborative team comprising of multiple specialties and disciplines with reported positive and significant impact [6,7]. An additional attraction is the continuity of care for all patients for each stage in the treatment process, as well as the offer of adequate information and supports a MDT setting [7].

Thirty six of the respondents in this study did not operate within a multidisciplinary team, while 16 of those did reported that team meetings were rather irregular. MDT approach ensures that patients benefit from vast expertise, professional perspective and knowledge [5, 8]. MDT also incorporates holistic and personalized patient care [9] which is beneficial. Reports have also demonstrated improved treatment outcomes and survival rates in head and neck cancer patients managed through MDT [10-12]. Reasons for many not operating within a team may be dearth of specialists needed for the formation of such teams or perhaps, negative attitudes towards MDT.

It is equally important to also consider the volume of cases treated as available body of evidence suggests that high-workload or specialist teams had better outcomes than their low-workload solitary counterparts [13-15]. Designated centres are more likely to have the infrastructure and expertise and more likely to apply multidisciplinary and multimodal treatment approach than low volume centres. In this study, 18 respondents treat less than 10 cases per year. This undoubtedly will have significant effect on the experiences brought to bear in the management of the patients and subsequently treatment outcome. Reconstruction has become an essential part of the surgical skills of the current maxillofacial oncologic surgeons with practitioners trained in the areas of microvascular tissue transfer [16].

Advances in head and neck reconstruction have made significant improvement in the quality of life and resectability of head and neck cancer. Reconstruction options for defects of the head and neck include primary closure, local flap, pedicle flap and free flap transfer. The use of pedicle flaps and microvascular tissue transfer should be part of the competences of the maxillofacial surgeon involved in the management of malignancies [12]. This is certainly an area that requires attention in this environment as only four of the respondents reported having the competences. This will undoubtedly limit the extent of surgery, cases that could be taken up and by extension, the quality of treatment provided and quality of life of the patients. However, where free tissue transfer skills may be difficult to acquire, pedicle flaps, the workhorse of the reconstructive surgeon should be widely available.

Radiation oncology is an integral part of the management of the oncology patient. It is an important part of the multimodality treatment of the head and neck cancer [11, 17]. Availability and accessibility of expertise as well as facilities can significantly determine how and where a patient is managed and affect disease outcome. Non

availability could discourage surgical intervention and result in outright referral of patients. Anecdotal report suggests the presence of only seven radiation facilities in Nigeria at the moment. This mode of treatment was only usually available in centres where two of the respondents worked.

Although all respondents were involved in the surgical management of the cancer patient, only 19 were keen practitioners. Those who were not keen gave reasons for lack of keenness as late presentation, usually poor outcome/poor quality of life of patients, poor facilities/support, limited expertise and poor financial reward. These reasons have been identified and will need urgent and comprehensive attention in view of the burden of head and neck cancers in our environment [18].

With regards to further training in oncology by way of a training fellowship, efforts should be directed towards facilitating both local and international exposures in oncology by the training institutions and relevant professional and regulatory bodies. Regional centres with adequate manpower and infrastructure could be established in the various geopolitical zones to act as centres of excellence, providing core specialist training in maxillofacial oncology.

### Conclusion

This cross-sectional study has revealed the relative weakness and deficiency in the scope of oncologic maxillofacial surgery in Nigeria. The factors contributing to the current state have been highlighted; ranging from inadequate exposure to poor state of infrastructure and manpower deficits. Although these findings may not be peculiar to Nigeria, but a reflection of our status as a developing nation, urgent steps need to be taken to address the deficiencies in view of the poor outlook of head and neck cancers even in the developed world.

### Acknowledgement

All respondents who participated in the survey. All authors have viewed and agreed to the submission for publication

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