

ORIGINAL ARTICLE

Presenting Complaints at a Tertiary Dental Facility: A Measure of the Scope of Oral And Maxillofacial Diseases in the Gambia

^{1,2}Akindayo O. Akinyamoju, ³Njowene M. Grey-Johnson, ³Nonso Jonathan Ejimbe

¹School of Medicine and Allied Health Sciences, University of The Gambia BDS Program/Edward Francis Small Teaching Hospital, Banjul, The Gambia

²Department of Oral Pathology, University of Ibadan/University College Hospital, Ibadan, Oyo State, Nigeria.

³Department of Dental and Oral Surgery, Edward Francis Small Teaching Hospital, Banjul, The Gambia

ABSTRACT

Background: Oral and maxillofacial diseases are prevalent worldwide. This study aimed to determine the pattern of patients' presenting complaints at Edward Francis Small Teaching Hospital in Banjul, The Gambia.

Methods: This retrospective study was conducted at the hospital's dental clinic. Data were retrieved from archival records covering the period from November 2022 to October 2023 and recorded on standardized data-collection forms. Patients' presenting complaints were broadly categorized as orofacial pathologies, trauma, dental-related abscesses, and developmental anomalies. Data were analyzed using the Statistical Product and Service Solutions (SPSS) software.

Results: A total of 1,007 patients were seen during the study period, with a slight male predominance. The peak age of presentation was in the third decade of life, while children aged 16 years or younger accounted for approximately one-third of all cases. Orofacial pathologies were the most common category of complaint, accounting for 607/60.3% cases, followed by dental and maxillofacial trauma with 177/17.6% cases, life-threatening infections with 145/14.4% cases, and developmental anomalies with 78/7.7% cases. The most common specific complaints were toothache, reported by 279/27.7% patients; growths and swellings, (247/24.5%); orofacial abscesses, (131/13.0%); soft-tissue injuries, (67/6.6%); maxillofacial fractures, (59/5.9%); and ankyloglossia, (49/4.9%).

Conclusion: Toothache was the most common presenting complaint, followed by swellings, trauma, and infections. Increased oral-health awareness and improved access to preventive and restorative dental care should be prioritized in The Gambia. Further studies are needed to assess the impact of oral-health interventions in the country.

Keywords: Presenting complaints; Tertiary Dental Facility Attendance; Oral and Maxillofacial Diseases

INTRODUCTION

Globally, oral and maxillofacial diseases are prevalent, constituting a major public health problem ^{1, 2}. Unfortunately, the burden of oral diseases is significantly more on underprivileged and disadvantaged population groups in developed and developing countries of the world ^{2, 3}. These consist of a wide spectrum of diseases that can range from dental caries to oral and maxillofacial trauma as well as oral cancer ⁴. Other common oral diseases include periodontal disease, cleft lip and palate,

edentulism, dental infections and HIV/AIDS related oral disease ^{3,5}. The impact of these diseases includes pain, gingival bleeding, mouth odour, inflammatory swellings, neoplastic and non-neoplastic growths, chewing difficulties, and aesthetic challenges, which may lead to psychological disorders as well as countless loss of school and work hours ^{2,6,7}. Furthermore, this burden is worsened by factors such as lack of access to affordable oral health services and traditional as well as cultural oral health practices, such as exclusive use of chewing sticks, herbal

Online Access



This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Corresponding author: Dr Akindayo O. Akinyamoju, University of The Gambia BDS Program, University of The Gambia/ Edward Francis Small Teaching Hospital, Banjul, The Gambia. Department of Oral Pathology, University of Ibadan, Ibadan/University College Hospital, Ibadan, Nigeria. Email: akindayo2002@yahoo.com Tel: +234 803 701 2506

doi: <https://doi.org/10.67250/3knb9590>

Received: 12/7/2026 Revised: 14/8/2026 Accepted: 24/8/2026

rinses and charcoal scrubs^{2,3}. Also, non-existent or poorly implemented oral health policies, disproportionate distribution of dental work force and inadequate dental materials and equipment contribute to the burden^{2,3}.

Additionally, patients often seek dental care for relief from these oral diseases but mostly for toothache^{8,9}. The pain may be from the tooth, tooth supporting structures or facial structures⁸. In a study conducted by An et al., in China, approximately 50% of the entire reasons for attending a dental clinic was on account of intolerable toothache¹⁰. Also, a previous report indicated that patients in developing countries, attend dental clinics only for the relief of pain rather than for routine or preventive care¹¹. On the contrary, Gray et al, reported routine checkup as the most common reason for clinic attendance in their study¹². While these previous studies were surveys on quality of life and reasons for previous attendance at the dental clinic, there is paucity of literature in this clime on the prevalent presenting complaints by patients. Also, surveys rely on past memories which may be inaccurate or wrong but examining existing records ensures medical facts are recorded.

Moreover, oral health is maintained by positive oral health behaviour, such as regular clinic attendance and this can vary in different climes. Thus, dental clinic attendance is a core measure of assessing the oral health status of a population and the uptake of dental services, as well as the assessment of oral health related quality of life¹³. Data obtained from dental facilities can boost the knowledge of existing oral diseases, which would in turn help in developing fitting policies, and prioritize oral health planning. Therefore, this study aims to determine the pattern of patients' presenting complaints and the demographics of patients' attending the dental clinic at Edward Francis Small Teaching Hospital (EFSTH), Banjul, The Gambia.

MATERIALS AND METHODS

This was a retrospective study carried out at EFSTH, Banjul, The Gambia. The presenting complaints were assessed from existing data using the clinic's daily attendance register over a one-year period. This was done simultaneously with categorization of the complaints into broad diagnostic groups according to the nature of the complaints as follows: orofacial pathologies, trauma, dental related abscess and developmental anomalies. The database was drawn from records of patients attending dental clinic, domiciled in the medical records room spanning November 2022 to October 2023.

This hospital is the foremost tertiary health institution in The Gambia. It is the only government owned institution in the country where specialist dental services exist. Inclusion criteria were old patients who either came with new complaints or were first-time patients, while those with multiple visits were recorded only once. Those with incomplete records were excluded from the study. Subsequently, consecutive sampling of all participants matching the broad diagnostic groups were recruited and the point of observation was at the time of presentation at the oral diagnosis clinic. Sample size was determined by extracting all eligible institutional records available during the chosen timeframe. To avoid bias, strict objective clinical definitions were used in categorizing the complaints into broad diagnostic groups.

The format of the data source such as patients' age, gender and presenting complaints was retrieved from the archival records and entered into standardized data collection forms by a single unblinded reviewer to ensure accuracy. The independent variables were age and sex while the dependent variable was participants' complaint(s). Demographic and clinical information contained in the records were used to define the presence of these variables.

All data were analysed using the Statistical Products and Service Solution (SPSS) software version 26 (IBM Corp., Armonk, N.Y., USA). Descriptive analysis was done and data were presented using summary statistics such as frequency tables, charts, means, and standard deviation. Ethical approval for this study was obtained from Research Ethics Committee (REC) Edward Francis Small Teaching Hospital, Banjul, The Gambia (EFSTH_REC_2025-015).

RESULTS

In all, 1,007 participants that fulfilled the inclusion criteria, over the study period were included in the study. There were 522 (51.8%) males and 485 (48.2%) females patients seen with a M: F of 1.07: 1. The range was 6 days to 90 years and mean age of patients was 25.8 ± 18.3 years. Also, the peak age group of presentation was the 3rd decade recording 258/25.6% cases, followed by 1st decade (233/23.1%) and 2nd decade (192/19.1%) respectively. Similarly, children 16 years and below constituted approximately a third of the cases recording 349/34.7% cases.

Orofacial pathologies were the most common reasons for patients' presentation, consisting of 607 (60.3%) cases, followed by dental and maxillofacial trauma (177/17.6%), life threatening infections (145/14.4%) and developmental anomalies (78/7.7%). (Figure 1).

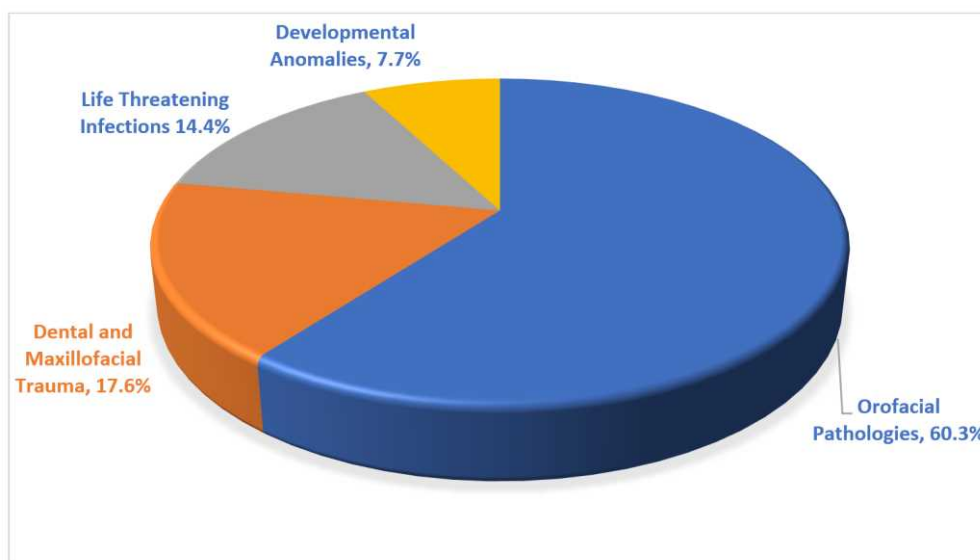


Figure 1: Broad diagnostic categorization of patients' presenting complaints

Table 1: Frequency distribution of patients' presenting complaints

Broad category of complaints	Specific complaints	Frequency	%
Orofacial Pathologies	Pain		
	• Toothache	279	27.7
	• **Toothache and abscess	27	2.7
	• Orofacial pain	12	1.2
	Neoplastic/non-neoplastic growths and swellings	247	24.5
	Ulcerations	22	2.2
	*Miscellaneous	20	2.0
	Sub-total	607	60.3
Dental and Maxillofacial Trauma	**Soft tissue injury	67	6.6
	Maxillofacial fractures	59	5.9
	Dental/dentoalveolar fracture	39	3.9
	Combined soft tissue injury and maxillofacial fractures	11	1.1
	Foreign body impaction	1	0.1
	Sub-total	177	17.6
Life Threatening Orofacial Abscesses	Orofacial abscesses	131	13.0
	Necrotising fasciitis	8	0.8
	Necrotising fasciitis with neck and chest involvement	5	0.5
	Orbital cellulitis	1	0.1
	Sub-total	145	14.4
Developmental Anomalies	Ankyloglossia	49	4.9
	Orofacial clefts	29	2.9
	Sub-total	78	7.7
Total		1007	100

*Miscellaneous: Halitosis (4), TMJ Ankylosis (3), Bell's Palsy (3), TMJ Dislocation (2), Haemorrhagic Disorders (3), Geographic Tongue (2), Cancrum Oris (1), Trigeminal Neuralgia (1), Partial Edentulism (1)

** Numbers were rounded and may not add up to 100% precisely

On further analysis, the distribution of specific presenting complaints under the major categories was as follows; orofacial pathologies - toothache (279/27.7%), Neoplastic/non-neoplastic growths and swellings (247/24.5%), toothache with abscess (27/2.6%),

ulcerations (22/2.2%), orofacial pain (12/1.2%), and miscellaneous (20/2.0%). (Table 1). Other presenting complaints under dental and maxillofacial trauma were: soft tissue injuries (67/6.6%), maxillofacial fractures (59/5.9%), dental/dentoalveolar fractures (39/3.9%),

combined soft tissue and maxillofacial fractures (11/1.1%) and foreign body impaction (1/0.1%). Also, amongst life threatening infections were orofacial abscesses constituting 131/13% of cases, followed by necrotizing fasciitis (NF) with 8/0.8% cases while NF with neck and chest involvement recorded 5/0.5% cases and orbital cellulitis recorded one (0.1%) case respectively. In addition, developmental anomalies recorded 49/4.9% cases of ankyloglossia while orofacial cleft cases were 29/2.9%. Cleft palate only, were 14 (48.3%) cases of the orofacial clefts, followed by cleft lip and palate (9/31.0%) and cleft lip only (6/20.7%). (Table 1). In the orofacial pathology group, females accounted for more cases presenting with pain, (predominantly toothache), with 177 cases (55.6%) compared with 141 cases (44.4%) among males. The age range was 2–83 years, with a mean age of 27.5 ± 14.6 years. Children aged 16 years or younger constituted 54 cases (17.0%).

Cases presenting with neoplastic or non-neoplastic growths and swellings ranged in age from 2 weeks to 90 years, with a mean age of 29.6 ± 20.5 years. Females accounted for 134 cases (54.3%), while males accounted for 113 cases (45.7%). Children aged 16 years or younger constituted 83 cases (33.6%); approximately one-third of all cases presenting with a neoplastic or non-neoplastic growth or swelling.

Trauma cases occurred predominantly among males, who accounted for 142 cases (80.2%), compared with 35 cases (19.8%) among females. The age range was 3 weeks to 81 years, with a mean age of 19.6 ± 14.6 years. Children aged 16 years or younger constituted 78 cases (44.0%) of the trauma cases.

There was nearly equal gender distribution among cases of life-threatening infections, with 72 males (49.6%) and 73 females (50.4%). The age range was 1 month to 76 years, with a mean age of 25.9 ± 17.2 years. Children aged 16 years or younger constituted 40 cases (27.6%).

Developmental anomalies occurred in patients aged 6 days to 25 years, with a mean age of 2.9 ± 4.2 years. Overall, there were 43 males (55.1%) and 35 females (44.9%). Ankyloglossia showed a male predominance, with 30 cases (61.2%) among males and 19 cases (38.8%) among females. Conversely, orofacial cleft lip and palate showed a slight female predominance, with 16 cases (55.2%) among females compared with 13 cases (44.8%) among males.

DISCUSSION

In the present study, 1,007 participants were recorded to have visited the dental clinic for various complaints over the study period. This was less than 3,636 recorded by Olajide et al.¹⁴ in their study over the same duration of study of one-year and that of Omitola et al.⁴ who recorded 2,249 patients over an eighteen-month period. This may be due to the differences in population and study locations of both studies because Lagos and Port-Harcourt, Nigeria; where both previous studies were conducted, are highly populated cities, compared to the present study which was conducted in The Gambia with a much less population.

Additionally, there was a slight male preponderance in this study, which contrasts with studies by Olajide et al.¹⁴ and Omitola et al.⁴ who both reported female preferences in their studies. Also, the peak age of presentation of 3rd decade of life recorded in this study, was same as reported by Omitola et al.⁴ and Olajide et al.¹⁴. However, the mean age of patients in both previous studies differed from the mean age obtained in the present study. While this study recorded mean age of patients to be 25.8 ± 18.3 years, Omitola et al.⁴ and Olajide et al.¹⁴ reported 29.9 ± 16.8 and 34.39 ± 19.73 years respectively. These differences may be due to differences in sampling techniques and study populations.

Furthermore, dental related pain was the most prevalent cause of patients' presentation at the dental clinic. This finding is unanimous in most previous studies as pain of dentoalveolar origin is known to be the main reason for attendance of dental clinics in most climes^{7,14,15}. This study recorded a prevalence of 31.5% for pain which was higher than 16.1% recorded by Horst et al.¹⁶ and 18.5% by Omitola and Arigbede¹⁷. Also, females presented more on account of pain in this study, which is similar to the report by Shetty et al.¹⁸ in their study.

Also, orofacial pain of non -dental origin constituted 12% of all presentations, which was higher than 7% obtained by Horst et al.¹⁶ in their study. This variation may be due to differences in the population sampled. This study was conducted in a tertiary dental facility while Horst et al.¹⁶ conducted a survey amongst random patients visiting private dental facilities, where some patients were on routine visits.

Regarding trauma cases, soft tissue injuries constituted the bulk of dental and maxillofacial trauma cases presenting at the clinic. This was similar to the findings of Pillay et al.¹⁹

and Miguens-Jr et al.²⁰ in their studies. Also, the gender distribution of maxillofacial trauma cases revealed a male preponderance. This was in line with those of previous studies who reported similar findings^{19, 20}. However, the mean age of 19.6 ± 14.6 years recorded for trauma cases in this study differed from 26.3 ± 15.4 years reported by Pillay et al.¹⁹. Curiously, the proportion of maxillofacial traumas in this study was 17.6% of cases which differed from 2.9% reported by Pillay et al.¹⁹. These differences could be attributed to differences in study populations and locations. Our study was conducted in the only tertiary institution in the country. Thus, there is a tendency for cases to be concentrated there.

Additionally, life threatening infections constituted 14.4% of all cases presenting at the dental clinic. This was higher than 10.4% recorded by Pucci et al.²¹ in their study. Also, this study recorded an almost equal gender distribution in patients with orofacial abscesses similar to the study by Ekici et al.²². However, this finding slightly differed from reports by Kudiyirickal and Hollinshead who reported a slight female predilection, as well as in the studies by Meisgeier et al., Pucci et al., Mutwiri et al., and Yankov et al. who reported a clear male predominance²³⁻²⁶. Also, the mean age of patients with orofacial abscesses in this study was 25.9 ± 17.2 years, near 27 years recorded by Mutwiri et al.²⁵. The differences noted in these studies and the present study could be due to variations in the cases studied; for instance, Pucci et al.²¹, and Yankov et al.²⁶ excluded paediatric cases. Also, the present study analyzed all cases of orofacial infections irrespective of the source while some other studies were limited to those of odontogenic origin^{21,24,26}.

Comparison of neoplastic/non-neoplastic growths and swellings in this study was challenging because of the variation in the pathogenesis of various lesions in the orofacial region. Growths and swellings in this study were defined clinically as signs of inflammatory, cystic and neoplastic disorders of the jaw caused by hypertrophy, hyperplasia, neoplasia and pooling of fluids²⁷. Notwithstanding, the findings in this study contrasted with those of Omitola et al.⁴ who reported neoplastic and cystic jaw swellings constituted 2.9% of oral diseases presenting at their centre while this study recorded 24.5% of cases presenting with complaints of growths and swellings. Also, the mean age of these participants was 29.6 ± 20.5 years, which was less than 32.4 ± 17.1 years recorded in the study by Lasisi et al.²⁸. Similarly, this study recorded a female preponderance amongst patients with growths and swellings, which differed from a male preponderance

recorded by Lasisi et al.²⁸. These differences may be due to variation in the demography studied in both studies since Lasisi et al.²⁸ engaged patients' histological samples.

In addition, all oral ulcerations seen in the present study constituted 2.2% of the entire presenting complaints. This contrasted with previous studies that recorded much higher proportions in their studies, approximately ranging from 20% to 50%²⁹⁻³¹. This wide variation may be attributable to the study locations; Oyetola et al.³⁰ and Zakiawati et al.³¹ conducted their studies in specialized clinics, while Dave et al.²⁹ conducted theirs at a private dental facility. Whereas this study was conducted in a dental outpatient clinic of a tertiary facility. It is expected that the specialized clinics would pool more cases compared to an outpatient clinic.

Also, this study recorded more males presenting on account of ankyloglossia. This finding was also observed in previous studies^{32,33} except that of Vilarinho et al.³⁴ who reported a slight female predilection. This study was conducted in a dental clinic setting while other previous studies on ankyloglossia were conducted in paediatric hospital settings³²⁻³⁴. There is a dearth in literature on prevalence of ankyloglossia in dental settings, though our findings were largely in agreement with those of paediatric hospital settings.

In this study, orofacial cleft cases recorded a slight female predilection which differed from findings by previous studies who recorded male predilection in their studies³⁵⁻³⁸. Additionally, majority of the cleft cases in this study were cleft palate which agreed with the study by Zaaba et al.³⁹ but differed from the studies by Diwana et al.³⁵, Shivlani et al.³⁸ and Pradhan et al.³⁶ who recorded a majority of cleft lip and palate in their studies. These differences in findings may be due to the variations in study duration and population. Most of the previous studies were conducted over a longer duration; had larger populations and were focused on orofacial clefts rather than the general presentation in a dental clinic.

LIMITATIONS

The present study described patients' presenting complaints at a tertiary dental facility rather than estimating the prevalence of these complaints in the wider region. The cases identified may not represent all reasons for clinic attendance during the study period. However, they likely account for a substantial proportion of cases, as the study site is the only tertiary institution in The Gambia providing dental services. Similarly, cases with inadequate

or incomplete data may have been sufficiently numerous to influence some of the study findings.

CONCLUSION

In summary, this study recorded a slight male predilection for clinic attendance over the study period. The peak age group of presentation was the 3rd decade while children 16 years and below constituted approximately a third of the cases seen. Orofacial pathologies; consisting of toothache with or without abscesses as well as swellings and growths, were the most common reasons for patients' presentation. This was followed by dental and maxillofacial trauma which comprised of mainly soft tissue injuries, dental/dentoalveolar and maxillofacial fractures. Thirdly, life-threatening infections followed, while developmental anomalies were the least seen cases recorded. In view of the higher prevalence of pain, growths and trauma complaints, more emphasis should be placed on increasing oral health awareness in The Gambia, while optimizing preventive and restorative care. Further studies would be necessary to determine the impact of future interventions in oral health care in The Gambia.

Acknowledgement

The authors would like to thank the staff of the Department of Dental and Oral Surgery, Edward Francis Small Teaching Hospital, Banjul, The Gambia who assisted in data retrieval and collection.

REFERENCES

1. Watt RG, Daly B, Allison P, Macpherson LM, Venturelli R, Listl S, et al. Ending the neglect of global oral health: time for radical action. *Lancet*. 2019;394(10194):261-72. doi:10.1016/S0140-6736(19)31133-X.
2. Fomete B, Adebayo ET. Review of dentistry in West Africa: challenges and prospects. *J West Afr Coll Surg*. 2018;8(4):93-113. PMID:33553053; PMCID: PMC7861189.
3. Foláyan MO, Bernard OT, Titus OS, Alade O, Aliyu TK, Bhayat A, et al. Cultural practices, oral health service utilisation and oral health policy and guidelines development in Africa: insights from the Yorùbá ethnic group. *Front Oral Health*. 2025; 6:1539827. doi:10.3389/froh.2025.1539827.
4. Omitola O, Osagbemiro B, Akadiri O. Spectrum of diseases and pattern of referral at the oral diagnosis clinic of a tertiary dental center. *Niger Dent J*. 2011; 19:66-70. doi:10.61172/ndj.v19i2.127.
5. Mulla M. Impact of oral diseases and conditions on oral health-related quality of life: a narrative review of studies conducted in the Kingdom of Saudi Arabia. *Cureus*. 2021;13(9):e18358. doi:10.7759/cureus.18358.
6. Hayes A, Azarpazhooh A, Dempster L, Ravaghi V, Quiñonez C. Time loss due to dental problems and treatment in the Canadian population: analysis of a nationwide cross-sectional survey. *BMC Oral Health*. 2013; 13:17. doi:10.1186/1472-6831-13-17.
7. Akaji EA, Chukwuneke FN, Okeke UF. Attendance pattern amongst patients at the dental clinic of the University of Nigeria Teaching Hospital, Enugu, Nigeria. *Niger J Med*. 2012;21(1):74-77.
8. Cunha AR, Bastos LF, Iser BPM, Malta DC, Goes PSA, Hugo FN. Toothache and tooth extraction as reasons for dental visits: an analysis of the 2019 National Health Survey. *Braz Oral Res*. 2022;36: e070. doi:10.1590/1807-3107bor-2022.vol36.0070.
9. Tanikonda S, Rambabu, Koneru S. Reasons for use and nonuse of dental services among people visiting a dental hospital in urban India: a descriptive study. *J Educ Health Promot*. 2018;7. doi: 10.4103/jehp.jehp_193_17.
10. An R, Li S, Li Q, Luo Y, Wu Z, Liu M, et al. Oral health behaviors and oral health-related quality of life among dental patients in China: a cross-sectional study. *Patient Prefer Adherence*. 2022; 16:3045-58. doi:10.2147/PPA.S385386.
11. Devaraj CG, Eswar P. Reasons for use and non-use of dental services among people visiting a dental college hospital in India: a descriptive cross-sectional study. *Eur J Dent*. 2012; 6:422-427.
12. Gray L, McNeill L, Yi W, Zvonereva A, Brunton P, et al. The "business" of dentistry: consumers' patients' criteria in the selection and evaluation of dental services. *PLoS One*. 2021;16(8): e0253517. doi: 10.1371/journal.pone.0253517.
13. FDI. The challenge of oral disease: a call for global action. The oral health atlas. 2nd ed. Switzerland: FDI; 2015. Available from: <https://www.fdiworlddental.org/oral-health-atlas>
14. Olajide M, Babalogbon S, Ladeji A, Fasasi O, Abah A, Akinleye A, et al. Pattern and distribution of patients' dental attendance in a Nigerian tertiary centre. *Saudi J Oral Dent Res*. 2021;6(6):251-260.
15. Hashem I, Gillway D, Doshi M. Dental care pathways for adult inpatients in an acute hospital: a five-year service evaluation. *Br Dent J*. 2020; 228:687-692. doi:10.1038/s41415-020-1446-5.
16. Horst OV, Cunha-Cruz J, Zhou L, Manning W, Mancl L, DeRouen TA. Prevalence of pain in the orofacial regions in patients visiting general dentists in the Northwest Practice-Based Research Collaborative in Evidence-Based Dentistry research network. *J Am Dent Assoc*. 2015;146(12):874-881. PMID:26409981; PMCID: PMC7289192.
17. Omitola O, Arigbede A. Prevalence and pattern of pain presentation among patients attending a tertiary dental center in a southern region of Nigeria. *J Dent Res Dent Clin Dent Prospect*. 2010;4(2):42-46.
18. Shetty A, James L, Nagaraj T, Abraham M. Epidemiology of orofacial pain: a retrospective study. *J Adv Clin Res Insights*. 2015; 2:12-15.

19. Pillay L, Mabongo M, Buch B. Prevalence and aetiological factors of maxillofacial trauma in a rural district hospital in the Eastern Cape. *S Afr Dent J*. 2018;73(5):348-353. doi:10.17159/2519-0105/2018/v73no5a4.
20. Miguens-Jr SAQ, Borges TS, Dietrich LAB, Oliveira MC, Hernandez PAG, Kramer PF. A retrospective study of oral and maxillofacial injuries in an emergency hospital in southern Brazil. *Pesqui Bras Odontopediatria Clin Integr*. 2016;16(1):339-350. doi:10.4034/PBOCI.2016.161.36.
21. Pucci R, Cassoni A, Di Carlo D, Bartolucci P, Della Monaca M, Barbera G, et al. Odontogenic-related head and neck infections: from abscess to mediastinitis: our experience, limits, and perspectives—a 5-year survey. *Int J Environ Res Public Health*. 2023; 20:3469. doi:10.3390/ijerph20043469.
22. Ekici Ö. Epidemiological analysis and management of patients with facial space infections of odontogenic origin: a retrospective evaluation of two years. *Clin Exp Health Sci*. 2023; 13:58-66.
23. Kudiyirickal MG, Hollinshead F. Clinical profile of orofacial infections: an experience from two primary care dental practices. *Med Oral Patol Oral Cir Bucal*. 2012;17(4): e533-537.
24. Meisgeier A, Pienkows S, Dürrschnabel F, Neff A, Halling F. Rising incidence of severe maxillofacial space infections in Germany. *Clin Oral Investig*. 2024; 28:264. doi:10.1007/s00784-024-05663-w.
25. Mutwiri KD, Dimba E, Nzioka BM. Orofacial infections in Kenya: a retrospective study. *Ann Afr Surg*. 2021;18(1):45-51.
26. Yankov YG, Dimanov S, Nikolaev NI, et al. Etiology and demographic distribution of odontogenic abscesses in the maxillofacial area in patients over 18 years of age: a five-year retrospective study. *Cureus*. 2024;16(4): e59334. doi:10.7759/cureus.59334.
27. Bouquot JE, Gundlach KKH. Oral exophytic lesions in 23,616 white Americans over 35 years of age. *Oral Surg Oral Med Oral Pathol*. 1986; 62:284-291.
28. Lasisi TJ, Adisa AO, Olusanya AA. Appraisal of jaw swellings in a Nigerian tertiary healthcare facility. *J Clin Exp Dent*. 2013;5(1): e42-47.
29. Dave PH, Narayan V, Ramakrishnan M. Incidence of oral ulcers in patients visiting a private dental hospital. *Int J Dent Oral Sci*. 2021;8(6):1302-7.
30. Oyetola EO, Mogaji IK, Agho TO, Ayilara OA. Pattern of presentation of oral ulcerations in patients attending an oral medicine clinic in Nigeria. *Ann Ib Postgrad Med*. 2018;16(1):9-11. PMID:30254553; PMCID: PMC6143886.
31. Zakiawati D, Nur'aeny N, Setiadhi R. Distribution of oral ulceration cases in oral medicine integrated installation of Universitas Padjadjaran Dental Hospital. *Padjadjaran J Dent*. 2020;32(3):237-242.
32. Maya-Enero S, Pérez-Pérez M, Ruiz-Guzmán L, Duran-Jordà X, López-Vílchez MÁ. Prevalence of neonatal ankyloglossia in a tertiary care hospital in Spain: a transversal cross-sectional study. *Eur J Pediatr*. 2021;180(3):751-7. doi:10.1007/s00431-020-03781-7.
33. Ferrés-Amat E, Pastor-Vera T, Rodríguez-Alessi P, Ferrés-Amat E, Mareque-Bueno J, Ferrés-Padró E. The prevalence of ankyloglossia in 302 newborns with breastfeeding problems and sucking difficulties in Barcelona: a descriptive study. *Eur J Paediatr Dent*. 2017;18(4):319-25. doi:10.23804/ejpd.2017.18.04.10. PMID:29380619.
34. Vilarinho S, Dantas-Neta NB, Duarte DA, Imparato JCP. Prevalence of ankyloglossia and factors that impact on exclusive breastfeeding in neonates. *Rev CEFAC*. 2022;24(1): e5121. doi:10.1590/1982-0216/20222415121.
35. Diwana VK, Gupta G, Chauhan R, Mahajan K, Mahajan A, Gupta R, et al. Clinical and epidemiological profile of patients with cleft lip and palate anomaly: 10-year experience from a tertiary care center in the sub-Himalayan state of Himachal Pradesh in Northern India. *J Nat Sci Biol Med*. 2019; 10:82-86.
36. Pradhan L, Shaky P, Thapa S, Nakarmi KK, Maharjan A, Sagtani RA, et al. Prevalence of dental anomalies in patients with cleft lip and palate visiting a tertiary care hospital. *J Nepal Med Assoc*. 2020;58(228):591-596.
37. Ibrahim A, Mshelbwala PM, Obiadazie AC, Ononiwu CN, Asuku ME, Ajike SO, et al. A descriptive study of clefts of the primary and secondary palate seen in a tertiary institution in Nigeria. *Niger J Surg Res*. 2013; 15:7-12.
38. Shivilani VI, Niranjane PP, Diagavane PS, Madhu PP. Demographic profile of patients with cleft lip and palate anomaly: 15-year experience from a tertiary care hospital and teaching institute in Wardha district of Maharashtra, India. *Int J Clin Pediatr Dent*. 2023;16 Suppl 3:278-82. doi:10.5005/jp-journals-10005-2675. PMID:38268625; PMCID: PMC10804307.
39. Zaaba NAAB, Chaudhary M, Sundari KKS. Prevalence of cleft lip and cleft palate among patients visiting a dental institution. *PalArchs J Archaeol Egypt Egyptol*. 2021;17(7):563-573. ISSN:1567-214X.