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Title	Prevalence and Clinical Patterns of Orofacial Clefts at St. Francis Regional Referral Hospital, Ifakara, Tanzania (January 2020 – September 2025)
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Keywords Orofacial clefts Cleft lip Cleft palate Prevalence Clinical patterns Tanzania Ifakara Abbreviations OFC – Orofacial cleft CL – Cleft lip CP – Cleft palate	Abstract Background: Orofacial clefts are among the commonest congenital craniofacial anomalies. Reliable facility-based data from semi-urban Tanzania are limited. Objective: To determine the prevalence and clinical patterns of orofacial clefts at St. Francis Regional Referral Hospital from January 2020 to September 2025. Methods: Retrospective descriptive study using total population sampling of all recorded orofacial cleft cases. Data analysed with SPSS version 27. Results: Twenty-nine cases were identified among 18 434 live births (prevalence 1.57 per 1 000). Isolated cleft palate was the commonest type (58.6 %), followed by cleft lip and palate (24.1 %) and isolated cleft lip (17.2 %). Females predominated (58.6 %). Left-sided clefts were most frequent among unilateral cases. Associated anomalies occurred in 10.3 %. Conclusion: Orofacial clefts occur at 1.57 per 1 000 live births in this setting, with isolated cleft palate predominant. Strengthened surveillance and early multidisciplinary referral are recommended.
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CLP – Cleft lip and palate SFRRH – St. Francis Regional Referral Hospital	
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Introduction

Orofacial clefts (OFCs) comprise cleft lip (CL), cleft palate (CP) and combined cleft lip and palate (CLP). They result from incomplete fusion of facial processes during the first trimester. Global birth prevalence is approximately 1 in 700 live births, with ethnic and geographic variation.^{1,2} African populations generally report lower rates than Asian or Native American groups, yet the absolute burden remains significant because of high fertility and constrained access to specialised care.³

In Tanzania, most published series originate from tertiary centres in Mwanza and Mbeya.^{4,5} Contemporary prevalence and phenotype data from the Kilombero valley have not been reported. St. Francis Regional Referral Hospital serves a large south-eastern Tanzanian catchment. This study therefore aimed to establish the prevalence of orofacial clefts at the hospital and to describe their distribution by phenotype, sex and laterality between January 2020 and September 2025.

Case report/Material and methods

A retrospective descriptive study was performed at St. Francis Regional Referral Hospital, Ifakara, Tanzania, covering 1 January 2020 to 30 September 2025. All patients with a recorded diagnosis of cleft lip, cleft palate or combined cleft lip and palate were included by total population sampling, irrespective of age or department. Records lacking essential diagnostic information were excluded.

Data were extracted from paediatric, surgical and medical registers with a structured checklist. Variables comprised age at presentation, sex, district of origin, cleft phenotype, laterality and associated congenital anomalies. Live-birth denominators were obtained from hospital maternity statistics. Analysis was performed with IBM SPSS Statistics version 27. Prevalence is expressed per 1 000 live births. Categorical data are presented as frequencies and percentages.

Ethical clearance was obtained from the Research Ethics Committee of St. Francis University College of Health and Allied Sciences. Hospital administrative permission was granted. All identifiers were removed before analysis.

Observations

Eighteen thousand four hundred and thirty-four live births were recorded during the study period. Twenty-nine patients with orofacial clefts were identified, giving a prevalence of 1.57 per 1 000 live births.

Isolated cleft palate accounted for 17 cases (58.6 %), combined cleft lip and palate for 7 cases (24.1 %) and isolated cleft lip for 5 cases (17.2 %). Seventeen patients (58.6 %) were female. Among unilateral clefts, left-sided lesions predominated. Associated congenital anomalies were documented in three patients (10.3 %).

Table 1. Distribution of orofacial cleft phenotypes (N = 29)

Phenotype	n	%
Isolated cleft palate (CP)	17	58.6
Cleft lip and palate (CLP)	7	24.1
Isolated cleft lip (CL)	5	17.2
Total	29	100.0

Discussion

The prevalence of 1.57 per 1 000 live births falls within the range reported from other sub-Saharan African hospital series and is higher than some earlier Tanzanian tertiary-centre figures.^{3–5} Predominance of isolated cleft palate differs from several African reports in which cleft lip or combined phenotypes were more frequent; possible explanations include true population differences, incomplete capture of stillbirths, or referral of more conspicuous lip defects to larger surgical centres.

The modest female excess is consistent with the recognised slight female predominance for isolated cleft palate.¹ Left-sided laterality among unilateral clefts is a well-established developmental feature. The low recorded rate of associated anomalies (10.3 %) may reflect under-ascertainment in routine notes rather than a genuinely low syndromic burden.

Limitations include the retrospective single-centre design, possible under-recording of early neonatal deaths and stillbirths with major clefts, and absence of systematic maternal risk-factor data. Nonetheless, the findings provide a useful local baseline for congenital-anomaly surveillance and service planning in the Kilombero district.

Conclusion

Orofacial clefts occurred at a prevalence of 1.57 per 1 000 live births at St. Francis Regional Referral Hospital between January 2020 and September 2025. Isolated cleft palate was the dominant phenotype. Strengthened facility-based surveillance and clear early-referral pathways to multidisciplinary cleft care are recommended.

Take home message

Orofacial clefts constitute a measurable burden in semi-urban Tanzania. Systematic recording and timely referral improve the likelihood of early intervention and better functional outcomes.

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