



Background

- Neural tube defects (NTD) are congenital abnormalities affecting the central nervous system, often in the form of spina bifida, encephalocele, or anencephaly.
- They pose a significant public health challenge in Nigeria with an incidence of 7/1,000 deliveries.
- Despite the relatively high prevalence, NTDs in Nigeria are not well understood due to paucity in the literature and delayed case presentation.

Goal

This study aims to provide a comprehensive overview of NTDs in pediatric populations in Nigeria by assessing the reported demographics, diagnoses, treatments, and outcomes.

Methods

- An initial systematic review of Nigerian neurosurgical literature, spanning January 1962 to December 2021, was conducted using PubMed, Global Index Medicus, Embase, Scopus, Google Scholar, African Journals Online, and Web of Science.
- The search parameters were expanded in an additional review to incorporate data from January 2022 to December 2023.
- After extraction, only papers in English pertaining to Nigerian pediatric populations with NTDs were included in the review.
- Variables extracted from the papers included duration before presentation, patient sex, number of patients, clinical features, diagnosis, location of NTD, treatment type, complications, and patient outcomes.

Results

Table 1. General Demographics

Study Design (n=24)		Patient Sex (n=1504)	
Case Series/Report	11	Male	785
Prospective Cohort	4	Female	719
Retrospective Cohort	9		
Year Published (n=24)		Duration Before Presentation (n=1504)	
1970-2003	9	< 1 month	652
2003-2023	15	1 month - 1 year	461
		>1 year	58
Total Patients		Unknown	333
1504			

Figure 1. Diagnosis and Location of Neural Tube Defect

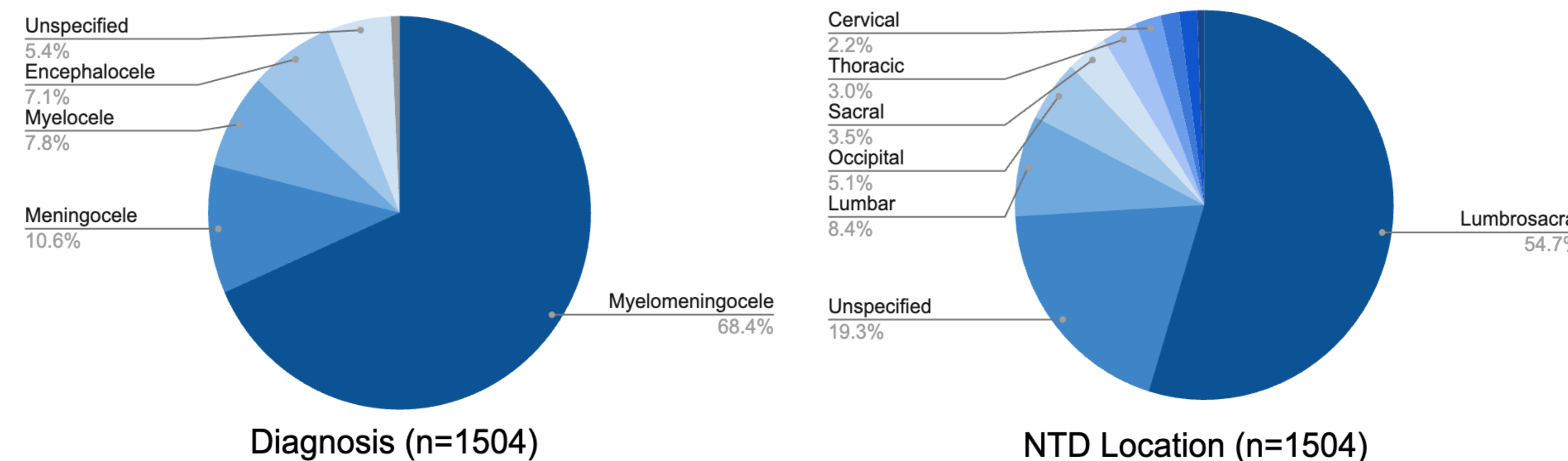


Table 2. Management and Outcomes

Clinical Features (n=1504)		Complications (n=236)	
Back Swelling	1387	Hydrocephalus	78
Head Swelling	87	Wound Infection/Dehiscence	67
Neck Swelling	30	CSF Leak	32
Treatment Type (n=1504)		Meningitis	30
Surgical	909	Other	29
Conservative	324	Mortality (n=1021)	
N/A	271	Alive	810
		Dead	211

Conclusion

- The initial results of this study begin to provide a complete overview of NTD in pediatric populations in Nigeria, highlighting key demographics, clinical characteristics, and treatment outcomes
- These initial findings highlight the need for increased awareness and early intervention strategies
- Limitations of this preliminary report include delayed or lack of presentation for treatment, as well as incomplete patient information

Next Steps

- Continue data extraction with a focus on evaluating the use of folate supplementation during pregnancy
- Continue analyzing the data to gain a deeper understanding of the prevalence and underlying causes of NTDs

References

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