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Title	PREVALENCE AND ASSOCIATED FACTORS OF GASTROSCHISIS AMONG NEWBORNS IN KILOMBERO VALLEY, TANZANIA: A HOSPITAL-BASED STUDY
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only. No direct patient contact was involved. Confidentiality of all records was strictly maintained.

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Why was the paper written (Introduction, background and problem statement)

Gastroschisis is a congenital defect of the abdominal wall in which the intestines and sometimes other organs come out through a hole next to the umbilicus, usually on the right side, without a covering membrane. It is one of the common abdominal wall defects and its occurrence has been increasing worldwide, especially in low- and middle-income countries.

In high-income countries the mortality is less than 5%, but in many parts of sub-Saharan Africa the mortality remains very high, often above 50–90%. Young maternal age and primigravidity are well-known risk factors. Other possible factors include environmental exposures such as pesticides, poor antenatal care and delayed presentation.

In Tanzania, data on the prevalence and outcomes of gastroschisis are still limited, especially outside the major referral centres in Dar es Salaam. The Kilombero Valley in Morogoro Region is a rural area with agricultural activities and limited specialised paediatric surgical services. There was a clear need to document the local burden, associated factors and outcomes of gastroschisis so that health planners and clinicians can improve early detection, referral and care.

This study was therefore carried out to determine the prevalence of gastroschisis among newborns in selected hospitals in Kilombero Valley, to describe maternal factors (especially age and parity), and to report the immediate outcomes of the affected babies.

What was done (Methods and materials)

A hospital-based retrospective descriptive study was conducted at St. Francis Regional Referral Hospital (SFRRH) and Kibaoni Health Centre in Kilombero Valley, Morogoro Region, Tanzania. The study period covered January 2021 to September 2025.

All live-born newborns diagnosed with gastroschisis during the study period were included through total population (consecutive) sampling. Records with incomplete demographic or diagnostic information and referred cases without confirmed diagnosis were excluded.

Data were extracted from the hospital Health Information Management System (HIMS), surgical logs, paediatric and obstetric registry books (MTUHA) using a structured data extraction form. Variables collected included age at presentation, sex of the baby, maternal age, parity, geographic origin (residence), year of diagnosis and outcome (discharged after surgery, referred or died).

Data were cleaned in Microsoft Excel and analysed using SPSS version 27. Descriptive statistics (frequencies, percentages and prevalence rates) were calculated. Prevalence was expressed as cases per 1,000 live births.

Ethical clearance was obtained from SFUCHAS Research Review Board and administrative permission from the participating facilities. Only anonymised records were used.

What was observed (Results)

A total of 57 newborns with gastroschisis were recorded among 12,031 live births between January 2021 and September 2025. This gives an overall prevalence of 4.74 cases per 1,000 live births (0.473%).

The highest number of cases was recorded in 2024 (15 cases, 26.3% of all cases) and the lowest in 2025 (5 cases, 8.8%), noting that 2025 data covered only nine months.

Most babies presented within the first three days of life; 40 (70%) were aged one day or less at presentation. Males were 35 (61.4%) and females 22 (38.6%).

Regarding maternal factors, 46 babies (80.7%) were born to primigravid mothers and only 11 (19.3%) to multiparous mothers. Most mothers were young; the majority were aged between 16 and 19 years.

The largest numbers of cases came from Kibaoni (8 cases, 14%) and Mlimba (7 cases, 12.3%). Other villages and wards contributed smaller numbers.

Outcomes at the facility were as follows: 25 babies (43.9%) were discharged after surgical intervention, 8 (14.0%) were referred to higher centres, and 24 (42.1%) died.

No antenatal diagnosis of gastroschisis was recorded in the available notes.

What the authors want to say on this topic (Discussion, opinions, recommendations)

The prevalence of approximately 4.7 per 1,000 live births found in this study is higher than many global estimates (usually reported as 2–5 per 10,000 births). This may reflect true local burden, improved case detection at SFRRH, or both. The figure is consistent with some reports from other parts of Africa that show higher rates in certain settings.

Young maternal age and primigravidity were the dominant associated factors, in keeping with international literature. Almost 81% of the affected babies were born to first-time mothers, most of whom were adolescents or in their late teens. This finding supports the need for targeted antenatal education and support for young mothers in the Kilombero Valley.

The mortality of 42% is lower than the very high rates (often >70–90%) previously reported from many sub-Saharan African centres, but it is still unacceptably high compared with high-income countries. Survival of 44% after surgery at a regional referral hospital is encouraging, yet further improvement is possible. Late presentation, infection, lack of specialised neonatal intensive care and limited numbers of paediatric surgeons remain major challenges.

The complete absence of antenatal diagnosis is a serious gap. Routine obstetric ultrasound and better antenatal screening could allow planned delivery in a centre with surgical capability and early counselling of parents.

Recommendations:

1. Strengthen congenital anomaly surveillance and documentation in all health facilities in Kilombero Valley and the wider Morogoro Region.
2. Train midwives, nurses and medical officers in labour wards and neonatal units to recognise gastroschisis immediately and initiate appropriate first-aid measures (covering the bowel, keeping the baby warm, nasogastric decompression and early referral).
3. Expand access to paediatric surgical expertise, either by posting or rotating paediatric surgeons or by strengthening referral pathways to centres that already offer the service.
4. Improve antenatal ultrasound coverage and train sonographers to detect abdominal wall defects.

5. Conduct community education focusing on young mothers and the importance of early antenatal care.
6. Encourage multi-centre prospective studies in Tanzania to obtain more accurate national data and to evaluate interventions that can reduce mortality.

In conclusion, gastroschisis is an important congenital anomaly in the Kilombero Valley with a relatively high local prevalence, strong association with young primigravid mothers, and still high mortality. Strengthening early detection, documentation, surgical capacity and antenatal screening will be essential to improve outcomes for these newborns.

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