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A cross-sectional study of fasting practices among paediatric elective surgery patients at Chris Hani Baragwanath Academic Hospital.

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Abstract
Background:
All patients are required to fast preoperatively to avoid the risk of pulmonary complications and, in some cases, mortality. Several guidelines have been published worldwide to guide the fasting practices of paediatric patients. Although guidelines are in place, it is essential to study actual fasting practices to determine if they align with current recommendations.

Methods:
This was a cross-sectional study of fasting practices among elective pediatric patients over ten weeks at Chris Hani Baragwanath Academic Hospital (CHBAH), South Africa. Data collected included paediatric elective surgical patients from various surgical specialities, prescribed fasting times for solids and clear fluids, actual fasting times for solids and clear fluids, fasting glucose levels, and timings of anaesthesia commencement and conclusion. The data were analysed using descriptive statistics.

Results:
The dataset included 100 paediatric patients scheduled for elective surgery at CHBAH. Patient ages ranged from infancy to 17 years. Median prescribed fasting times were 9.6 hours for solids and 9.0 clear fluids. However, median actual fasting times were 14.8 hours for solids and 13.7 hours for clear fluids, exceeding recommendations ($p<0.001$). Only 2.0% of patients complied with the guidelines for clear fluids; there was zero compliance for solids. Guidelines approximated breast milk and formula fasting times but showed wide variability. Eighteen per cent of patients were hypoglycaemic preoperatively.

Conclusion:
This study revealed widespread over-fasting among paediatric surgical patients at CHBAH, with actual fasting durations far exceeding prescribed times and international guidelines, particularly for clear fluids and solids. These findings indicate a systemic disconnect between prescription and practice, suggesting a need for institutional changes to align perioperative care with best practice standards.

Recommendations:
We recommend implementation of updated institutional fasting guidelines that align with international best practice (6:4:1 rule) and allow clear fluids one hour before induction of anaesthesia.

Keywords: Paediatric surgery fasting times outcomes, paediatric fasting, anaesthesia, paediatric fasting guidelines, South Africa
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Introduction
Preoperative fasting is essential to reduce gastric content volume and minimise the risk of pulmonary aspiration during anaesthesia, a serious complication leading to respiratory issues and mortality (1,2). Anaesthetic agents suppress the protective gag reflex and relax the lower

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oesophageal sphincter, increasing the risk of regurgitation and subsequent pulmonary aspiration (2). The severity of aspiration depends on the volume or acidity of the aspirate. A higher risk is observed when the volume exceeds 25 ml or 0.4 ml/kg, and the pH is below 2.5 (3,4). Risk factors for intraoperative pulmonary aspiration include obesity, emergency surgery, high American Society of Anesthesiologists (ASA) physical status classification system status, gastrointestinal conditions, and large gastric volumes (5).

Despite low aspiration rates in paediatric patients regardless of fasting duration, studies show fasting often exceeds recommended guidelines (6,7). The ASA defines fasting as the act of abstaining from oral intake before procedures to reduce the risk of aspiration (1). Gastric ultrasound helps estimate gastric content volume; an antrum area greater than 1.5 ml/kg signals a full stomach (3). Guidelines aim to maintain gastric volume below this threshold to prevent the risk of aspiration (3,4).

Historically, fasting protocols evolved from allowing a light breakfast pre-surgery to recommending nil per os (NPO) after midnight following Mendelson's landmark study linking a full stomach to aspiration pneumonia (8,9). Further studies have shown that aspiration risk is low (0.6–12 per 10,000), which has led to more liberal guidelines (6). Global and local anaesthetic societies such as the European, American, Canadian and South African societies support varied fasting protocols reflecting evolving evidence, generally recommending minimum fasting of 1–2 hours for clear fluids, 4 hours for breast milk and 6 hours for solids, with some advocating 6-hour solids and 1-hour fluids fasting (6:4:1 or 6:4:2 rules) (1,6,10-13). Clear fluids empty from the stomach within an hour – validated by studies showing safe gastric emptying after ingesting 3–5 ml/kg of clear fluids (14,15).

Both short and prolonged fasting carry risks: aspiration on the one hand; nausea, vomiting, insulin resistance, hypoglycaemia, and discomfort on the other (16-19). Paediatric patients are vulnerable to perioperative hypoglycaemia. Hypoglycaemia in this population may result in lethargy, irritability, and seizures (18-20). Studies report variable hypoglycaemic incidences. The risk factors for hypoglycaemia include low weight-for-age, young age, high ASA status, and abdominal surgery (18,20,21).

Prolonged fasting has also been reported to result in dehydration, haemodynamic instability, and psychological effects such as anxiety and hunger (17,22-24), all of which lead to increased patient dissatisfaction (17,22-24). Preoperative carbohydrate-containing clear fluids reduce these adverse effects and improve outcomes such as insulin sensitivity, well-being, and recovery speed (16,22,25). Studies confirm that carbohydrate loading, performed 1–2 hours preoperatively, reduces gastric volume, nausea, thirst, and anxiety, thereby enhancing patient comfort (24,26-28).

Despite guidelines, worldwide and local studies report excessive fasting durations among paediatric patients, often exceeding recommended times by several hours for clear fluids, breast milk, formula, and solids (6,29,30). This is reportedly due to unclear instructions, poor adherence, procedural delays, and efforts to enhance theatre flexibility. Adhering to fasting guidelines is crucial not only to prevent aspiration and hypoglycaemia but also to promote early recovery and discharge after surgery (31). Therefore, ongoing evaluation and implementation of evidence-based fasting practices are imperative for optimal paediatric perioperative care.

Material and methods

Study design:

This was a prospective cross-sectional study conducted over 10 weeks (May 19 to July 25, 2025).

Study setting:

This study was conducted at CHBAH, a tertiary hospital located in Soweto Township, Johannesburg, South Africa. It has approximately 3200 beds and serves the community of Soweto and the surrounding areas. It also serves as a referral centre for a large part of Gauteng, North West, and some parts of the Northern Cape Province in South Africa. It is a public hospital that is financed and run by the Gauteng Provincial Health Authorities. CHBAH is one of the designated teaching hospitals for the University of the Witwatersrand's Medical School. It has several operating theatres, some of which are dedicated to paediatric surgical patients.

Study sample:

A convenience sampling method was used. All paediatric patients who met the inclusion criteria and were booked on the elective list in the CHBAH main theatre, neonatal theatre, and other remote theatres were enrolled in the study. The sample size consisted of 100 paediatric surgical patients from whom data were collected between May 19 and July 25, 2025. The sample size to achieve a <10% margin of error is 100. Margin of error was calculated by: i) first calculating the precision of the estimate (95% confidence interval), based on mean (SD) fasting duration obtained for each food stuff, over a range of sample sizes (Formula: $t(n-1)*SD/\text{sqrt}(n)$, with $t(n-1)$ from the t-distribution with n-1 degrees of freedom); and then ii)

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calculating the margin of error by halving the width of the 95% confidence interval. The margin of error achieved at a sample size of 100 was then extracted. The comparison between prescribed and actual fasting times with the sample size provided above had over 80% power to detect a small effect (Cohen's d= 0.2) when using a t-test to compare prescribed versus actual fasting times.

Data collection:

The study data were prospectively collected using an online REDCap data collection form. Patient information was collected, so informed consent was required for this study. Permission to collect the data was acquired from the anaesthesia department, as well as the theatre complex's nursing matron and the hospital's medical advisory committee. The collected data were stored in a password-protected REDCap database accessible to the researcher and the supervisors. The following variables were collected during the study period: the patient's surgical procedure, comorbidities, age in years, ASA classification, prescribed fasting time (estimated to the nearest hour), and actual fasting time (estimated to the nearest hour) for clear fluids, breast milk, formula, and solids. The other variables collected were whether intravenous fluids were prescribed and administered during the fasting period, actual fasting glucose levels, and the start and end times of anaesthesia. Data were collected on weekdays during core working hours, 07:30 to 16:00.

Preoperative fasting is the prescribed period before a procedure during which patients are not allowed to consume oral fluids or solids (1). Actual fasting time is the time between the most recent consumption of any liquid or solid until the beginning of a scheduled surgery (32). The prescribed fasting time refers to the period during which the patient was instructed to start fasting, which differs from the actual fasting time (12). Elective surgery is a surgical procedure that has been planned ahead of time (32). A paediatric patient is defined as a child from the first day of life up to and including 18 years of age.

Following the completion of the data collection, the database was exported into a Microsoft Excel spreadsheet.

Data analysis:

Statistical analyses were conducted using R software (version 4.01). Categorical variables (e.g., ASA classification, surgical discipline comorbidities) were summarised as frequencies and percentages. Continuous variables were reported using median and interquartile range (IQR), unless otherwise indicated.

Continuous variables (e.g., fasting duration, age, glucose) were assessed for normality using the Shapiro-Wilk test and quantile-quantile (Q-Q) plots. All variables were significantly non-normal, and non-parametric tests were used throughout.

Paired comparisons between prescribed and actual fasting times were conducted using the Wilcoxon signed-rank test. To further analyse the relationships between prescribed and actual fasting durations, quantile regression (median-based) models were applied. These methods are suitable for skewed or heteroscedastic data and account for the influence of outliers. All statistical tests were two-tailed, and significance was set at $\alpha = 0.05$. Data were presented in tables and figures or described narratively where appropriate.

Ethical approval:

This study was approved by the Human Research Ethics Committee of the University of the Witwatersrand (Protocol number M250222 and Ethics approval Reference number REC-250208-004). It was approved on the 21st of May 2025.

Bias:

Several potential sources of bias were identified and addressed during the design and implementation of this study.

Selection bias was mitigated by including all eligible paediatric patients scheduled for elective surgery across multiple theatre locations within the hospital during the 10-week study period. Although data collection was limited to weekdays and core working hours, a broad spectrum of surgical disciplines and patient profiles was captured to enhance representativeness. To reduce information bias, data collection was conducted prospectively using a standardised and pre-piloted REDCap electronic form, which ensured consistency in data entry and variable definitions. Prescribed and actual fasting times were documented using both caregiver reports and clinical records, and where possible, any discrepancies were clarified immediately.

Recall bias, particularly about last intake times, was minimised by collecting data as close as possible to the time of surgery, often directly from caregivers or attending staff on the day of the procedure.

Observer bias was limited by ensuring that data collection was performed systematically by a single trained researcher using predefined criteria. The data collection process did not influence any clinical decisions, and data analysis was conducted independently using statistical software to avoid subjective interpretation.

While the single-centre design may limit external generalisability, the large sample size, diverse surgical

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procedures, and varied age range contribute to the internal validity and relevance of the findings within similar tertiary public healthcare settings. Despite these efforts, residual bias may still exist due to uncontrollable operational factors such as theatre delays or communication gaps. However, appropriate steps were taken to minimise their impact on the overall conclusions of the study.

Results

The dataset included 100 paediatric patients scheduled for elective surgery at CHBAH. Patient ages ranged from infancy to 17 years, with a median age of 5.0 years (IQR: 3.0–10.0), indicating a moderately broad age distribution. Patient weights ranged from 3.3 to 63.0 kg, with a median of 17.0 kg (IQR: 12.8–25.5), reflecting the expected variation across developmental stages.

Most children (77%) were classified as ASA I, and the remainder (23%) as ASA II (Table 1). This distribution differed significantly from the uniform expectation (χ^2 = 29.16, p<0.001). Similarly, surgical disciplines were unevenly distributed, with most patients undergoing procedures in paediatric surgery (38%) or orthopaedics (28%); this was significantly different from uniformity (χ^2 = 61.28, p<0.001).

Table 1. Clinical characteristics of 100 paediatric elective surgery patients at CHBAH

Variable	Count (%)
ASA classification	
I	77 (77.0%)
II	23 (23.0%)
Surgical discipline	
ENT	15 (15.0%)
Ophthalmology	15 (15.0%)
Paediatric orthopaedic	28 (28.0%)
Paediatric surgery	38 (38.0%)
Plastic surgery	1 (1.0%)
Other (including two pulmonologists)	3 (3.0%)
Aspiration risk	
Yes	5 (5.0%)
No	95 (95.0%)

The surgical procedures comprised a wide range of operative interventions. The most commonly performed procedures involved four main areas: 1) examination under anaesthesia (EUA) performed in various contexts, which accounted for a combined total of 9% of all procedures, including EUA alone (7%), EUA with rectal biopsy (1%) and EUA with suctioning of bilateral ears (1%) 2) adenotonsillectomy was the most frequently recorded individual procedure, comprising 7% of all cases; 3) Cochlear implants and umbilical hernia repairs were each performed in 3% of cases; 4) bronchoscopy, cauterisation of perianal warts, laparoscopic right inguinal hernia repair, reversal of stoma and posterior sagittal anorectoplasty (PSARP) each contributed 2% to the total count. All other procedures occurred once each, representing 1% of the total individually and included a diverse array of surgical specialties. They included orthopaedics (e.g., femur open reduction and internal fixation (ORIF), tibial osteotomy), urology (e.g., orchidopexy, hypospadias repair), ear, nose, and throat (ENT) (e.g., bilateral ear keloidectomy), general paediatric surgery (e.g., gastroscopy, colostomy), ophthalmology (e.g., cataract extraction), plastic surgery (e.g., syndactyly release), and oncology-related procedures (e.g., chemo port insertion/removal). The anaesthesia time was a median of 1.10 hours (IQR: 0.45 – 1.47).

Aspiration risk was identified in only 5%. Both variables were significantly lower than a 50:50 null expectation (comorbidities: χ^2 = 38.44, p<0.001; aspiration risk: χ^2 = 81.00, p<0.001) (Table 1). Of the 19 patients with comorbidities, the most common diagnosis was cerebral palsy (32%), which included one with co-occurring epilepsy. Retinoblastoma was recorded in 3 patients (16%) and glaucoma in 2 patients (11%). The remaining cases each occurred once (5%) and included conditions such as acute lymphoblastic lymphoma, epilepsy, Hirschsprung's

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disease, liver tumour, osteogenesis imperfecta, osteosarcoma, and scoliosis.

Solid food fasting times were prescribed for 71 patients, but actual durations were recorded for 95 patients (Table 2). The median prescribed fasting time until the anaesthesia start time was 9.6 hours, while the median actual fasting time to anaesthesia start time was 14.8 hours. For formula milk, data were available for 11 children, with a similar prescribed median (9.7 hours) and actual fasting times (10.8 hours) to anaesthesia start time. Breast milk fasting data were available for 5 (prescribed) and 6 (actual) children. The median prescribed duration was 7.5 hours, and the median actual fasting time was 7.9 hours to anaesthesia start time. Clear fluid fasting times were prescribed for 95 patients, and actual durations were recorded for 100 patients. The median prescribed time was 9.0 hours to anaesthesia start time, whereas the median actual time was 13.7 hours to anaesthesia start time. Of the 95 patients given oral fluids, most received water (n = 52, 54.7%), followed by tea (n = 41, 43.2%), and apple juice (n = 2, 2.1%). The latter two patients had been prescribed and had drunk apple juice.

Table 2. Prescribed and actual fasting times (in hours) to anaesthesia start time for patients on clear fluids, solid foods, formula milk, and breast milk

Fasting category	**n**	**Median (IQR) hours**
Solids		
Prescribed	71	9.6 (7.7 – 11.4)
Actual	95	14.8 (13.0 – 16.5)
Formula milk		
Prescribed	11	9.7 (7.6 – 10.9)
Actual	11	10.8 (10.1 – 13.2)
Breast milk		
Prescribed	5	7.5 (6.3 – 12.8)
Actual	6	7.9 (6.1 – 10.1)
Clear fluids		
Prescribed	95	9.0 (6.0 – 11.2)
Actual	100	13.7 (11.1 – 16.3)

To assess whether actual fasting durations to anaesthesia start times significantly deviated from those prescribed, the data were analysed using Wilcoxon signed-rank tests due to non-normal data distributions. Actual fasting times were significantly longer than prescribed for solids (W = 593.5, $p<0.001$) and clear fluids (W = 512.0, $p<0.001$). Analyses were not performed for formula milk and breast milk due to the insufficient number of paired observations. However, there was a slightly higher actual fasting time compared to the prescribed fasting time for formula milk. Comparable values were observed for actual and prescribed fasting times for breast milk.

To further characterise the relationship between prescribed and actual fasting durations, median-based quantile regression was used for each intake category (Figure 1). Actual fasting times consistently exceeded the recommended limits, often by a substantial margin. The estimated median actual fasting durations were 13.9 hours for solids and 14.5 hours for clear fluids, regardless of the prescribed regimen. For both, small positive slopes indicated a weak tendency for actual fasting times to increase with prescribed times, although neither relationship was statistically significant (solids: slope = 0.4, p = 0.173; clear fluids: slope = 0.3, p = 0.159). Together, these results reinforce that actual fasting durations were prolonged and showed minimal alignment with prescribed instructions.

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Figures:

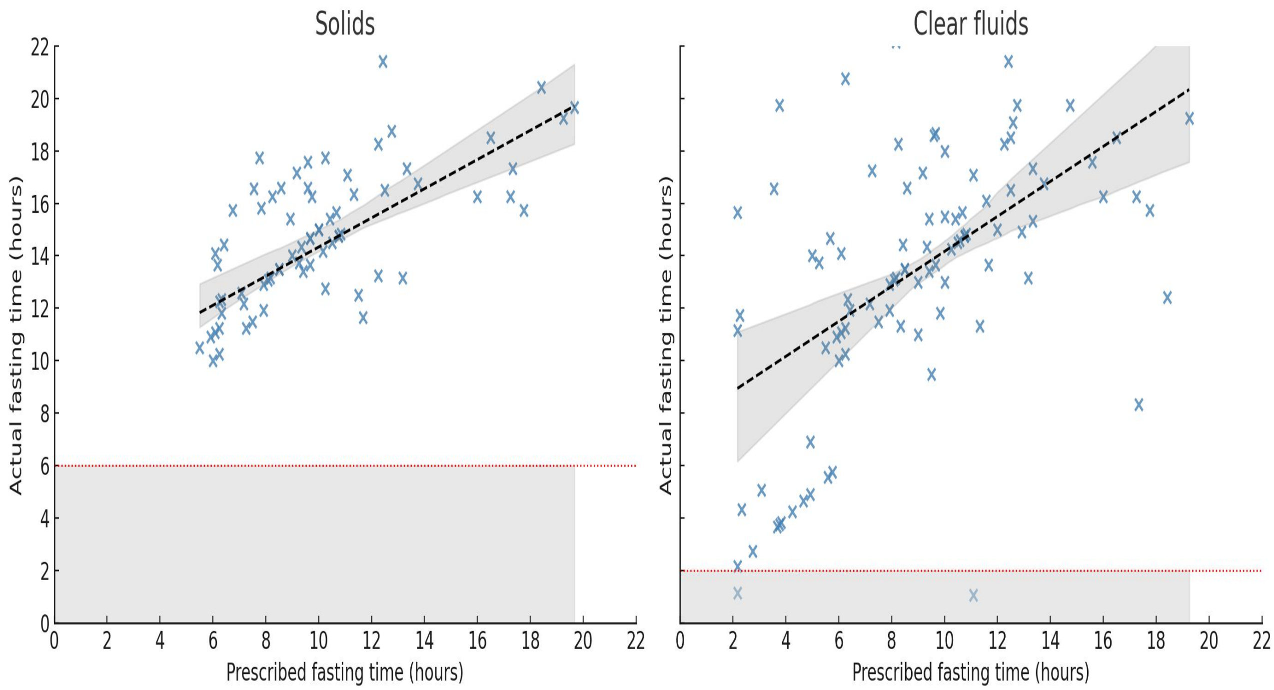

Figure 1. Relationship between prescribed and actual fasting times for solids and clear fluids in paediatric elective surgery patients

Each panel plots the prescribed versus actual fasting durations for a specific intake type. Points represent individual patients. The dashed black lines depict median quantile regression fits with 95% confidence interval bands. Grey shaded zones (at the bottom of each panel) indicate compliance with current international fasting guidelines: 6 hours for solids and ≤2 hours for clear fluids.

International fasting guidelines for paediatric elective surgery recommend preoperative fasting durations of 6 hours for solids, 4 hours for formula or breast milk, and 1–2 hours for clear fluids in both Europe and North America, with similar standards applied in South Africa (6:4:1/2). However, in the current study, both prescribed and actual fasting durations substantially exceeded these recommendations across all intake types. The median prescribed fasting times were 9.6 hours for solids, 9.7 hours for formula milk, 7.5 hours for breast milk, and 9.0 hours for clear fluids – each notably higher than the respective guideline values. Actual fasting times were even longer, with median durations of 13.9 hours for solids, 12.2 hours for formula milk, 7.9 hours for breast milk, and 14.5 hours for clear fluids.

The results demonstrate widespread non-compliance with paediatric fasting guidelines across all intake types (Figure 2). Only 2.0% of patients were compliant with recommendations for clear fluids. There was zero compliance for solids, formula milk, and breast milk, indicating that most children fasted well beyond the prescribed limits, regardless of the type of intake.

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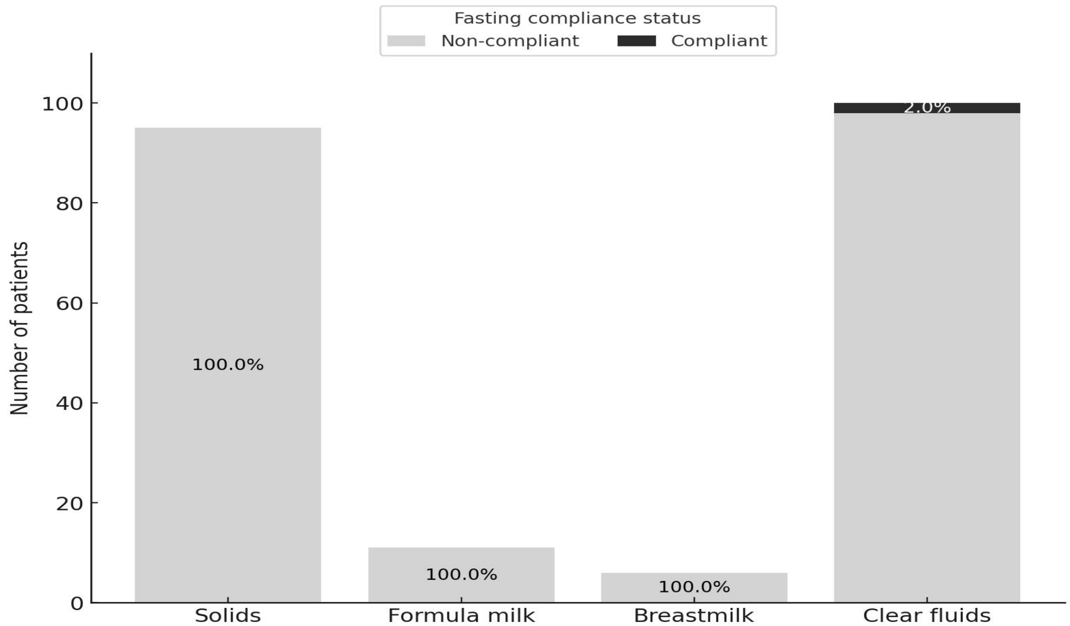

Figure 2. Compliance with guideline-recommended fasting durations among paediatric elective surgery patients by intake type

The bars represent the number of patients who complied with the fasting guidelines (dark grey) or exceeded the recommended durations (light grey) for each intake type. Guidelines specify maximum fasting durations of ≤6 hours for solids, ≤4 hours for formula milk and breast milk, and ≤2 hours for clear fluids.

Blood glucose values were recorded for all 100 children immediately before surgery. The median glucose level was 4.25 mmol/L (IQR: 3.40–5.00), with an overall range of 2.2 to 9.9 mmol/L. The IQR was relatively narrow (1.6 mmol/L), indicating that most values were clustered within a physiologically normal range. However, several outliers were observed at both the lower and upper extremes. Using a conservative hypoglycaemia threshold of <3.3 mmol/L, 18 children (18.0%) were classified as hypoglycaemic at the time of surgery.

An evaluation of prescribed fasting schedules revealed that healthcare workers generally adhered to the recommended intervals between different intake types. According to the guidelines, the interval between solids and milk (formula or breast milk) should be at least 2 hours, between milk and clear fluids at least 2 hours, and, by extension, between solids and clear fluids at least 4 hours.

In the available data, 11 cases included both prescribed times for solids and formula, and 5 cases included solids and breast milk. Among these 16 cases, the interval between solids and milk was ≥2 hours in 64% of formula cases and 60% of breast milk cases. The median interval across all solids and milk prescriptions was 2.5 hours (IQR: 2–3 hours), indicating that while most prescriptions met the minimum requirement, a notable proportion did not. For solids and clear fluids, 76 cases contained both prescribed times. Of these, 45% met the recommended interval of ≥4 hours, with a median interval of 4.0 hours (IQR: 4–4 hours). Although the majority of prescriptions used standard stop times, there were occasional outliers, including one instance with a 15-hour interval.

An assessment of actual intake times revealed variable compliance with the recommended intervals between solids, milk, and clear fluids. Among the cases with recorded intake times for both solids and formula (n = 11), the interval between solids and formula was ≥2 hours in 6 cases, yielding a compliance rate of 55%. For breast milk (n = 5), the interval was ≥2 hours in 3 cases, resulting in 60% compliance. For solids and clear fluids, 71 cases included both intake times. The interval between solids and clear fluids was ≥4 hours in 29 cases, corresponding to a compliance rate of 41%. The remaining cases showed intervals shorter than recommended, with several instances of simultaneous or near-simultaneous intake of different foods/fluids. These findings indicate that while some patients maintained appropriate spacing between intake

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types, a substantial proportion did not meet the recommended intervals, particularly between solids and clear fluids.

Discussion

This study highlights the significant and concerning discrepancy between prescribed and actual preoperative fasting times among paediatric elective surgery patients at CHBAH. Despite international and local guidelines recommending fasting durations of 6 hours for solids, 4 hours for breast milk, and 1–2 hours for clear fluids, the findings demonstrate that children routinely fasted for substantially longer periods, with median actual fasting times of 14.8 hours for solids and 13.7 hours for clear fluids. This prolonged fasting far exceeds recommended limits and is consistent with reports from other international and local studies indicating a pervasive issue of over-fasting in paediatric populations (30-32).

The clinical implications of such extended fasting are considerable. Prolonged fasting in children is associated with increased risks of dehydration, hypoglycaemia, irritability, and metabolic stress, which can negatively impact perioperative outcomes and patient comfort (16-20). Notably, 18% of patients in the study cohort were hypoglycaemic at the time of surgery, underscoring the metabolic consequences of excessive fasting. Despite this, no patients received carbohydrate-containing fluids preoperatively, a practice increasingly supported by evidence demonstrating benefits such as improved glycaemic control, reduced insulin resistance, and enhanced patient satisfaction (16,24,26). This gap highlights an opportunity for improving perioperative care through the adoption of carbohydrate loading protocols.

Statistical analysis using Wilcoxon signed-rank tests confirmed significant differences between prescribed and actual fasting durations. Quantile regression further revealed a minimal association between prescribed and actual times, indicating a weak link between clinical intention and practice. This suggests systemic inertia or structural barriers that prevent the effective implementation of fasting guidelines, particularly problematic for clear fluids, where prolonged fasting is most detrimental (6).

When compared explicitly to international fasting guidelines (6 hours for solids, 4 hours for breast milk, and 1–2 hours for clear fluids), compliance was very poor. Only 2.0% of patients met the recommended fasting duration for clear fluids, and there was zero compliance for solids, formula milk, and breast milk. Such low compliance raises concerns about increased metabolic risk, delayed recovery, and patient discomfort (16-20). These findings echo a broader international concern regarding over-fasting in paediatric surgery. Notably, fasting durations for breast milk and formula milk were closer to recommended times, although the small sample sizes limit definitive conclusions. The weak correlation between prescribed and actual fasting times suggests the presence of systemic barriers to adherence to guidelines. Factors contributing to prolonged fasting likely include operational inefficiencies such as surgical delays, poor communication between clinical teams and caregivers, conservative institutional policies, and a lack of awareness or enforcement of updated fasting guidelines (6, 30).

Generalizability

The study's findings primarily apply to paediatric elective surgery patients in tertiary public hospitals within South Africa and similar low- to middle-income settings. The diverse patient age range and variety of surgical specialties enhance the relevance to comparable hospital populations. However, the single-centre design and convenience sampling limit direct extrapolation to private hospitals, rural settings, or high-income countries where clinical protocols and resources may differ. Nonetheless, the pervasive issue of prolonged fasting and poor guideline adherence observed aligns with international reports, suggesting these findings reflect widespread systemic challenges. Therefore, the results and recommendations likely hold value for other institutions facing similar operational and communication barriers, although local adaptation is necessary.

Conclusion

This study reveals a critical gap between fasting guidelines and clinical practice in paediatric elective surgery at CHBAH, characterised by excessive fasting durations and associated metabolic disturbances. Addressing these challenges through multidisciplinary efforts is essential to align perioperative care with evidence-based standards, ultimately improving patient safety, comfort, and satisfaction.

Limitations

The limitations of this study include the following:

- Its single-centre design and reliance on recorded fasting times may be subject to documentation inaccuracies.
- The small sample sizes for formula and breast milk fasting times limited a detailed analysis in these subgroups.

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Recommendations

The findings emphasise the need for targeted interventions to optimise fasting practices. These may include the following:

- Implement updated institutional fasting guidelines that align with international best practice (6:4:1 rule) to reduce unnecessary prolonged fasting.
- In line with global evidence supporting safety and improved patient comfort, allow clear fluids up to one hour before induction of anaesthesia for elective paediatric patients.
- Introduce carbohydrate-containing clear fluids (e.g., apple juice or specific paediatric electrolyte drinks) preoperatively to reduce hypoglycaemia, dehydration, and metabolic stress.
- Improve communication between surgical, anaesthetic, and nursing teams to ensure consistency and clarity regarding fasting instructions and surgical scheduling.
- Provide written and verbal fasting instructions to caregivers, ideally in the patient's home language, to reduce confusion and improve compliance.
- Further research should investigate caregiver and staff perceptions regarding fasting practices.

Internationally, implementing such measures has been shown to reduce fasting times without increasing the risk of aspiration, thereby enhancing patient comfort and safety (10, 11).

Data availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request. In accordance with ethical guidelines and institutional policies, the dataset will be retained securely for a period of six years following study completion and will then be permanently destroyed to protect participant confidentiality. Access to the data is subject to approval by the Human Research Ethics Committee of the University of the Witwatersrand.

Main author's Biography:

Lesedi Moatlanegi is a medical doctor specialising in the field of anaesthesiology and is currently in her third year as a registrar. This research was done in partial fulfillment of her MMed (Anaesthesia) degree. She completed her undergraduate medical studies at the University of the Witwatersrand, where she graduated in 2014. She is currently completing her clinical rotations in various hospitals, which form part of the University of the Witwatersrand's anaesthesia circuit, of which CHBAH is the largest. She is passionate about academics and research.

Co-author's Biography:

Raphael Maja is a medical doctor and specialist anaesthetist. He completed his undergraduate medical degree at the University of KwaZulu-Natal and earned his MMed in Anaesthesia from the University of the Witwatersrand. He is a certified specialist anaesthetist, having obtained the Fellowship of the College of Anaesthetists of South Africa (FCA(SA)) through the College of Medicine of South Africa. Additionally, he holds a Diploma in Pain Medicine. Dr Maja currently serves as the Clinical Head of Unit in the Department of Anaesthesia at Rahima Moosa Mother and Child Hospital in Johannesburg, Gauteng.Orcid: https://orcid.org/0000-0002-6913-0044.

Co-author's Biography:

Elizabeth Semenya is a medical doctor and specialist anaesthetist. She completed her undergraduate medical degree at the University of Cape Town. Dr Semenya is a certified specialist anaesthetist, having obtained the FCA(SA) through the College of Medicine of South Africa. Additionally, she holds a Postgraduate Diploma in Health Science Education. She currently serves as the Clinical Head of Unit in the Department of Anaesthesia at Chris Hani Baragwanath Academic Hospital in Johannesburg, Gauteng. Orcid:http://orcid.org/0009-0003-8067-8670.

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Conflict of interest:

All authors declare no conflict of interest.

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Declaration:

This publication was submitted in partial fulfillment of the requirements for Lesedi Moatlanegi's MMED (Anaesthesia) degree at the University of the Witwatersrand.

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Authors' contributions:

Lesedi Moatlanegi:
I have actively led the development of innovative research ideas, meticulously drafted and refined proposals with continuous input from my supervisor, secured departmental permissions, and navigated the complex ethics approval processes. I collaborated closely with a statistician to ensure robust data collection and analysis, demonstrating my commitment to rigorous research standards. Furthermore, I authored a comprehensive research report and diligently incorporated supervisor feedback.
Raphael Maja:
Modification and development of research ideas. Corrections and review of the research proposal before and during the post-graduate committee review phase, followed by corrections and finalisation of the final report to produce a publishable article.
Elizabeth Semenya:
Modification and development of research ideas. Corrections and review of the research proposal before and during the post-graduate committee review phase, followed by corrections and finalisation of the final report to produce a publishable article.

Abbreviations

ASA American Society of Anaesthesiologists
CHBAH Chris Hani Baragwanath Academic Hospital
ENT Ear, nose, and throat
EUA Examination under anaesthesia
FCA(SA) Fellowship of the College of Anaesthetists of South Africa
IQR Interquartile range
MMED Masters of Medicine
NPO Nil per os
ORIF: Open reduction and internal fixation
PSARP Posterior sagittal anorectoplasty
REDCap Research electronic data capture

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