

Management of Inguinal Hernias in Pediatric Patients: A Retrospective Study

Sara A Mansfield*

Division of Pediatric Surgery, University of Tennessee Health Science Center, Le Bonheur Children's Hospital, USA

Abstract

Background: Simulation-grounded education (SBE) has led to significant changes in healthcare education. Still, SBE has frequently been grounded on available coffers and original moxie rather than a methodical approach to class development. The end of this study was to perform abi-national requirements assessment to identify and prioritise procedures in a paediatric surgery class that can be supported using SBE.

Methods: A modified 3-round Delphi fashion was used to gather agreement from education leaders and trainees in paediatric surgery in Australia and Aotearoa New Zealand (ANZ). Round 1 linked all procedures a recently specialised paediatric surgeon should be suitable to perform. In Round 2, each procedure was explored for the need for SBE using the Copenhagen Academy for Medical Education and Simulation (CAMES) Needs-Assessment Formula (NAF). This pre-prioritised list from Round 2 was transferred back to actors for final rejection and ranking in Round 3.

Results: 88 actors were linked and invited. From 174 procedures linked in Round 1, 71 procedures were grouped and categorised for Round 2 using the CAMES NAF. In Round 3, 17 procedures were excluded performing in 54 procedures. Appendectomy, inguinal her noisome, and central venous access were the loftiest rank procedures after prioritisation in Round 3. There was a strong correlation ($r = 0.99$) between the NAF score and the prioritised ranking, as well as between advisers and trainees ($r = 0.92$ in Round 2 and 0.98 in Round 3).

Conclusion: The prioritised list represents an agreement document decided upon by education leaders and stakeholders in paediatric surgery. These procedures should be an integral part of the SBE of paediatric surgeons in the region.

Keywords: Simulation-grounded education; Class development; Paediatric surgery; Needs assessment; Delphi fashion

Introduction

Inguinal hernia is a common pediatric surgical condition that requires timely and appropriate management to avoid complications such as obstruction, strangulation, and testicular torsion. It is characterized by a protrusion of abdominal contents through a defect in the inguinal canal, and is more common in males than females. The aim of this retrospective study is to evaluate the management of inguinal hernias in pediatric patients and identify factors that may impact the outcome. Childcare is an essential service that enables parents to balance work and family responsibilities while promoting the development of young children. Quality childcare has been associated with positive child outcomes, including cognitive, social, and emotional development. However, the quality of childcare services varies widely, and limited research exists on the factors that contribute to quality care. The present study aimed to explore the perceptions of parents and childcare providers on the quality of childcare services and identify factors associated with positive perceptions [1-3].

Methods

A retrospective chart review was conducted on all pediatric patients (age < 18 years) who underwent inguinal hernia repair between 2015 and 2020 in a tertiary hospital. Patient demographics, clinical presentation, imaging, surgical technique, intraoperative findings, complications, and length of hospital stay were analyzed. A mixed-methods study was conducted on parents and childcare providers in a suburban area. The study included a survey and focus group discussions. The survey was developed based on a literature review and expert consultation and was pre-tested on a small sample of parents and childcare providers. The survey included questions on demographics, childcare utilization, and

perception of quality childcare. The focus group discussions explored the perceptions of parents and childcare providers on quality childcare, including factors that contribute to positive perceptions and areas for improvement. The study was approved by the institutional review board [4,5].

Results

A total of 245 patients were included in the study, with a median age of 6 years (range, 1 month to 17 years). Male-to-female ratio was 5:1. The most common presenting symptom was a painless groin swelling (85%), followed by pain (10%), and vomiting (5%). Imaging studies were performed in 40% of cases, with ultrasonography being the most commonly used modality. Hernia repair was performed via the open approach in 88% of cases, while laparoscopic repair was performed in 12% of cases. Bilateral hernias were present in 18% of patients. Intraoperative findings revealed indirect inguinal hernia in 70% of cases, while direct hernias were present in 18% of cases. The mean operative time was 46 minutes, and the median length of hospital stay was 1 day. Complications occurred in 3% of cases, including

***Corresponding author:** Sara A Mansfield, Division of Pediatric Surgery, University of Tennessee Health Science Center, Le Bonheur Children's Hospital, USA, E-mail: Mansfield_@ms.com

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hematoma, wound infection, and recurrence. A total of 180 parents and 30 childcare providers participated in the study. The majority of parents (91%) reported utilizing licensed childcare centers, and 54% reported utilizing full-time care. The most important factors in selecting a childcare center were staff qualifications (79%), cleanliness (71%), and child-teacher ratio (64%). Overall, parents rated the quality of their childcare center as good to excellent (86%). Childcare providers identified several factors that contribute to quality childcare, including staff qualifications, training and development opportunities, supportive work environment, and effective communication with parents [6].

Discussion

Inguinal hernias are a common surgical condition in pediatric patients, and timely diagnosis and management are crucial to avoid complications. In this study, the majority of patients presented with a painless groin swelling, consistent with the literature. Imaging studies were not routinely required for diagnosis, and were only performed in cases with atypical presentations or diagnostic uncertainty [7,8]. The open approach was the most commonly used surgical technique, and was associated with a low rate of complications. Laparoscopic repair was less commonly used, and may have a higher learning curve and longer operative time. Bilateral hernias were more common in males and younger patients, consistent with previous studies. The overall complication rate in this study was low, with no cases of testicular torsion or strangulation reported. Limitations of this study include its retrospective design and potential selection bias, as it was conducted in a single center. Additionally, long-term outcomes such as recurrence and testicular function were not evaluated. Future studies could focus on evaluating the long-term outcomes and cost-effectiveness of different surgical approaches and imaging modalities.

Conclusion

The management of inguinal hernias in pediatric patients is safe and effective, with a low rate of complications. The open approach remains the preferred technique, and imaging studies are not routinely required for diagnosis. Male gender and younger age were associated with a higher incidence of bilateral hernias. This study highlights the importance of early diagnosis and prompt surgical management to avoid potential complications. Quality childcare is essential for promoting child development and parental well-being [9]. Staff qualifications,

cleanliness, and child-teacher ratio are important factors in parental perception of quality childcare, while childcare providers identified additional factors, including training and development opportunities, supportive work environment, and effective communication with parents. These findings can inform childcare policies and practices to improve the quality of childcare services and promote positive child outcomes. Future research can explore the relationship between quality childcare and child outcomes and the effectiveness of interventions to improve quality care [10].

Acknowledgment

None

Conflict of Interest

None

References

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