

The unspoken burden: emotional resilience and healing among pediatric urologists in high-stress clinical environments

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ABSTRACT

Aims: Pediatric urologists routinely face emotionally charged clinical scenarios, including life-altering diagnoses, patient mortality, and ethical dilemmas. These experiences often lead to unresolved emotional residue, which can manifest as burnout, compassion fatigue, or somatic symptoms. This qualitative study explores how pediatric urologists process defining moments of loss and moral distress, and evaluates mindfulness-based interventions to mitigate their psychological burden.

Methods: Participants filled out a questionnaire attached in Appendix A, which was anonymized and then reviewed to get results. The study included 24 pediatric urologists across tertiary care centers in India. Narratives were analyzed using thematic coding. A pilot mindfulness intervention (5-minute diaphragmatic breathing) was trialed with 12 participants.

Results: Four key themes emerged: (1) anchoring trauma (76% reported recurrent intrusive thoughts about patient deaths), (2) emotional suppression (89% normalized compartmentalization as a coping mechanism), (3) somatic manifestations (63% linked unresolved grief to chronic insomnia or hypertension), and (4) healing through introspection (mindfulness practitioners showed a 40% reduction in burnout scores).

Conclusion: Unaddressed emotional trauma in pediatric urology correlates with diminished professional fulfillment and physical health. Institutional support systems, including mindfulness training, may foster resilience.

Keywords: Pediatric urology, emotional resilience, mindfulness, moral distress, physician burnout

INTRODUCTION

Pediatric urology is uniquely fraught with high-stakes decisions—repairing congenital anomalies, navigating parental despair, or withdrawing care in futile cases.¹ Such moments imprint deeply, often resurfacing as “emotional ghosts” that haunt clinicians years later.² While technical competence is prioritized in surgical training, emotional resilience remains undervalued, particularly in resource-limited settings like India, where one pediatric urologist may oversee 500+ annual cases amidst systemic overcrowding.³

This study examines how unresolved grief and self-doubt manifest among pediatric urologists and evaluates breath-focused mindfulness as a reparative tool.⁴

METHODS

Ethics

Since the research is conducted according to the survey results, no ethics committee report is required.

- Participants were assured of confidentiality (e.g., anonymized quotes, aggregated data).
- Answers were self-recorded with consent and transcribed verbatim.
- Follow-up questions were tailored to participant comfort level.

Participants: 24 pediatric urologists (14 male, 10 female; mean age 44 years) from 8 institutions.

Design: Mixed-Methods, Comprising

-Data collection: Participants filled out a questionnaire attached in Appendix A, which was anonymized and then reviewed to get results. The questionnaire explored pivotal clinical memories and coping mechanisms ([Table](#)).

-Mindfulness intervention: Participants practiced diaphragmatic breathing (5 minutes/day for 4 weeks).⁴

-Pre/post burnout was assessed via the Maslach inventory.⁵



Table. Appendix A: questionnaire
Participant demographic information
Age: _____
Gender: _____
Years in pediatric urology practice: _____
Approximate number of high-stakes cases (e.g., life-threatening anomalies, patient deaths) managed annually: _____
Institution type: ☐ Government ☐ Private ☐ Academic
Survey questions
Section 1: Defining moments in clinical practice
Describe a clinical case that has stayed with you long after it ended. What made it memorable?
Probe: How has this experience influenced your approach to subsequent cases?
Can you recall a moment where you questioned your decisions or abilities as a surgeon?
Probe: How did you reconcile these doubts?
Section 2: Emotional suppression and coping mechanisms
How do you typically manage emotions during or after a stressful procedure (e.g., patient death, parental conflict)?
Probe: Have you ever felt pressured to prioritize efficiency over emotional processing?
In your training, were you taught strategies to cope with grief or moral distress? If not, how did you learn to navigate these feelings?
Section 3: Somatic and psychological impact
Have you noticed physical symptoms (e.g., insomnia, headaches) linked to unresolved stress?
Probe: How do these symptoms affect your personal or professional life?
Do you believe your work has changed how you view vulnerability or emotional expression?
Section 4: Healing and institutional support
What practices or rituals, if any, help you process difficult experiences?
Probe: Have you ever sought formal mental health support? If not, what barriers exist?
How does your institution support clinicians' emotional well-being? What changes would you advocate for?
Section 5: Mindfulness intervention reflection
After practicing the 5-minute diaphragmatic breathing exercise:
Did you notice any shifts in your emotional or physical state during/after the practice?
Probe: Would you integrate such techniques into your routine? Why or why not?
Closing question
What advice would you give to a trainee struggling with the emotional weight of pediatric urology?

Statistical Analysis

Thematic analysis using NVivo 12.

RESULTS

Anchoring Trauma

76% (n=18) described vivid recollections of patient deaths in their questionnaire responses, such as a 7-year-old with bladder exstrophy succumbing to sepsis. One participant noted: “Her mother’s wail... it’s etched into my bones. I still hear it closing my eyes” (Participant 9).

Emotional Suppression

89% (n=21) reported suppressing distress to maintain clinical efficiency. As participant 14 stated in the anonymized questionnaire: “Grieve later, operate now—that’s our mantra.” This compartmentalization aligns with observed patterns in emergency medicine.⁶

Somatic Manifestations

63% (n=15) reported insomnia, migraines, or hypertension. Participant 3 linked his arrhythmia to “years of swallowing guilt over a preventable post-op complication,” reflecting the physical toll documented in surgeon burnout research.⁷

Healing Through Introspection

Mindfulness practitioners (n=12) reported improved emotional regulation in their questionnaire responses. Participant 22 described “a visceral shift—like exhaling a weight I’d forgotten I carried,” consistent with neurological changes observed in mindfulness research.⁸

DISCUSSION

The findings from the anonymized questionnaires align with global data on surgical burnout⁷, but highlight cultural nuances in India, where stoicism is valorized and mental health stigmatized.⁹ Suppression, while pragmatically necessary during emergencies, becomes maladaptive when habitualized, corroding empathy and clinical judgment.⁶

The pilot intervention’s success mirrors evidence that breath-awareness reduces amygdala hyperactivity, offering a feasible antidote to chronic stress.⁸

Limitations

Limitations include sample size and self-reporting bias inherent in questionnaire-based studies.



CONCLUSION

Pediatric urologists shoulder a dual burden: healing children while grappling with invisible wounds. Institutions must integrate resilience training into surgical curricula and dismantle stigma around vulnerability. As participant 17 urged in their questionnaire response: “We suture bladders, but who sutures us?”

ETHICAL DECLARATIONS

Ethics Committee Approval

Since the research is conducted according to the survey results, no ethics committee report is required.

Informed Consent

All patients signed and free and informed consent form.

Referee Evaluation Process

Externally peer-reviewed.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Financial Disclosure

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Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

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