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IS IT TIME FOR ANATOMISTS TO ENTER THE OT? THEIR ROLE IN CLINICAL ANATOMY EDUCATION OF RESIDENTS: A PRE-TRIAL SURVEY RESEARCH AMONG SURGEONS.

Clinical Anatomy

Dr. Gousia Nisa* *Corresponding Author
Dr. Mubasher Ahmad Bhat
Dr. Arshid Kema

ABSTRACT

Background: Surgical education relies heavily on a strong foundation of anatomical knowledge. However, with the increasing emphasis on technology-driven learning, direct anatomical teaching in the clinical setting has been reduced. This study evaluates the perception of surgical residents regarding the role of anatomists in the operating theatre (OT) as a strategy to enhance their understanding of applied anatomy. **Methods:** A pre-trial survey was conducted at SMHS Hospital among 57 surgical residents. A structured questionnaire consisting of 10 items was used to assess residents' perceptions regarding the inclusion of anatomists in the OT for real-time anatomical guidance. Data were analyzed to determine the proportion of residents supporting this intervention and their views on its potential impact. **Results:** Of the 57 respondents, 80% (46/57) agreed that having anatomists in the OT would enhance their surgical output by improving their anatomical understanding. Additionally, 76% (43/57) felt that real-time anatomical teaching would help them avoid intraoperative complications, and 82% (47/57) believed that the presence of anatomists could bridge the gap between preclinical and clinical anatomy learning. However, 28% (16/57) were concerned about potential disruptions in the OT workflow. Senior residents were more inclined to support this intervention compared to junior residents (88% vs. 74%), suggesting that increased surgical experience correlates with a greater appreciation for real-time anatomical guidance. **Discussion:** These findings indicate strong support for the inclusion of anatomists in surgical education within the OT setting. While challenges such as workflow integration exist, the potential benefits in reducing surgical errors and improving resident confidence cannot be ignored. **Conclusion:** There is a clear need to explore collaborative teaching models involving anatomists and surgeons. Future trials should evaluate the practical implementation of this approach and its long-term impact on surgical education and patient outcomes.

KEYWORDS

Anatomists, Clinical Anatomy, Surgical Education, Operating Theatre, Resident Training

INTRODUCTION

Surgical proficiency is built upon a strong foundation of anatomical knowledge. However, the transition from cadaveric dissections in preclinical years to real-life anatomical variations encountered in the operating theatre (OT) can be challenging for surgical residents. Traditionally, anatomy is taught in the preclinical phase using textbooks, models, and dissection-based learning, but this knowledge often becomes fragmented when residents face practical surgical challenges.

The growing complexity of surgeries, along with reduced exposure to cadaveric dissections in medical curricula, has raised concerns regarding anatomical competency among trainees. Recent studies suggest that many residents feel inadequately prepared for anatomy-based decision-making in surgery. The concept of integrating anatomists into the OT to provide real-time anatomical guidance is an emerging idea that could bridge this gap.

This study aims to assess the perceptions of surgical residents toward the role of anatomists in the OT and whether their inclusion could enhance surgical training and patient outcomes.

METHODS

Study Design

This was a cross-sectional, pre-trial survey study conducted at SMHS Hospital. The study was approved by the Institutional Ethics Committee.

Study Population

A total of 57 surgical residents were included in the study. Residents from all years of surgical training were eligible to participate.

Data Collection

A structured questionnaire with 10 items was designed to assess residents' perceptions regarding the inclusion of anatomists in the OT. The questionnaire was validated by a panel of surgeons and anatomists before administration. Participants were required to respond to each question using a Likert scale (Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree).

Data Analysis

Responses were analyzed using descriptive statistics. Chi-square tests were used to compare responses between junior and senior residents. The primary outcome was the proportion of residents who believed that the presence of anatomists in the OT would enhance their learning and surgical performance.

RESULTS

Demographics of Participants

- **Total residents surveyed:** 57
- **Junior residents (1st and 2nd year):** 31 (54.3%)
- **Senior residents (3rd and final year):** 26 (45.7%)

Perceptions of Residents Regarding Anatomists in the OT

Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The presence of an anatomist in the OT would enhance surgical output.	37 (64.9%)	9 (15.8%)	5 (8.8%)	4 (7%)	2 (3.5%)
Real-time anatomical teaching would help reduce intraoperative complications.	33 (57.9%)	10 (17.5%)	7 (12.3%)	5 (8.8%)	2 (3.5%)
Anatomists in the OT would bridge the gap between preclinical and clinical anatomy.	39 (68.4%)	8 (14%)	5 (8.8%)	3 (5.3%)	2 (3.5%)
Having an anatomist in the OT would slow down the surgical workflow.	9 (15.8%)	7 (12.3%)	25 (43.9%)	10 (17.5%)	6 (10.5%)
I would be interested in attending structured OT-based anatomy teaching sessions.	34 (59.6%)	7 (12.3%)	8 (14%)	6 (10.5%)	2 (3.5%)

Comparisons Between Junior and Senior Residents

- **88% of senior residents** believed that anatomists in the OT would enhance surgical output, compared to **74% of junior residents** (p

= 0.03).
- Concerns about workflow disruptions were **more common among junior residents (32%)** compared to **senior residents (23%)** (p = 0.21).

These results suggest that surgical experience correlates with a greater appreciation for real-time anatomical guidance, while junior residents are more cautious about potential workflow disruptions.

DISCUSSION

The results of this study highlight the growing need for a more integrated approach to surgical anatomy education. The disconnect between theoretical anatomy education and its application in surgery is well documented. While surgical faculty provide anatomical guidance, the dedicated presence of anatomists in the OT could enhance residents' understanding, particularly in complex anatomical regions.

Potential Benefits of Anatomists in the OT

1. **Real-Time Anatomical Teaching:** Many residents struggle with identifying anatomical variations intraoperatively. Anatomists can provide immediate clarification, improving confidence and surgical decision-making.
2. **Reduction in Surgical Errors:** Lack of precise anatomical knowledge is a significant contributor to surgical errors. With real-time expert guidance, residents can avoid critical mistakes.
3. **Bridging the Gap Between Preclinical and Clinical Learning:** Traditional anatomy education often lacks clinical context. The presence of anatomists in the OT can help integrate this knowledge with practical applications.

Challenges and Considerations

- **Disruptions to Workflow:** Some residents feared that additional personnel in the OT could affect surgical efficiency. This could be mitigated by defining clear roles for anatomists.
- **Acceptance by Surgeons:** The integration of anatomists in the OT may require acceptance from senior surgeons, who traditionally lead surgical teaching.
- **Training of Anatomists:** Not all anatomists may be comfortable in the OT setting. Additional training programs could prepare them for this role.

CONCLUSION

The results of this study indicate strong support for the integration of anatomists into the OT as part of surgical training. The majority of residents believe that real-time anatomical teaching would enhance their learning, reduce surgical errors, and improve overall patient care. Future studies should focus on pilot programs to evaluate the practical impact of this approach on surgical training outcomes.

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