

# Effective teaching strategies for oncologic surgical education: a qualitative study among undergraduates at university of Bisha, Saudi Arabia

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ABSTRACT

**Introduction:** Oncologic surgical education plays a pivotal role in preparing future healthcare professionals to navigate the complex field of oncology. In the context of Saudi Arabia, the University of Bisha is a prominent institution offering undergraduate programs in oncologic surgical education. This qualitative study seeks to investigate the experiences of undergraduate students in this program, focusing on their perspectives regarding effective teaching strategies, support from instructors, and the challenges they encounter.

**Methods:** A qualitative research design was employed, involving semi-structured interviews with 25 undergraduate students from the University of Bisha. The participants were selected using purposive sampling to ensure diversity in terms of gender, academic year, and academic performance. Thematic analysis was applied to the interview data, allowing for the identification of recurring themes and patterns.

**Results:** The findings revealed several significant themes. Undergraduate students described their educational experiences as rigorous, highlighting the importance of clinical exposure and hands-on learning. Effective teaching strategies identified by the participants included interactive lectures, problem-based learning, case discussions, and simulation training. The role of instructors was instrumental, with professors providing mentorship, constructive feedback, and fostering self-efficacy. Additionally, students faced challenges, such as a demanding workload and emotional stress, but displayed resilience through peer support and the development of coping strategies.

**Conclusion:** This qualitative study provides valuable insights into the experiences of undergraduate students in oncologic surgical education at the University of Bisha, Saudi Arabia. By understanding their perspectives on teaching strategies, instructor support, and challenges, educational institutions can make informed improvements to enhance the quality of oncologic surgical education.

**Keywords:** oncologic surgical education, undergraduate students, teaching strategies, saudi arabia, university of bisha, education enhancement

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## INTRODUCTION

Oncologic surgical education represents a critical domain of medical training, pivotal in preparing future healthcare professionals to address the complex challenges posed by cancer diagnosis and treatment [1]. In the landscape of Saudi Arabian medical education, the University of Bisha emerges as a leading institution, fostering the development of aspiring medical practitioners [2]. Within its academic offerings, the undergraduate program in oncologic surgical education holds a central role, providing a comprehensive foundation to young medical students pursuing a career in surgery.

Oncologic surgery demands a unique skill set, blending advanced surgical techniques with a deep understanding of the multifaceted nature of cancer [3]. Ensuring that undergraduates receive effective training in this field is imperative to produce competent and compassionate surgeons who can make a meaningful impact on patients' lives [4].

The field of oncologic surgery is dynamic and constantly evolving, influenced by advances in medical science and technology [5]. In response to this evolution, it is essential for educational institutions to adapt and refine their teaching strategies to prepare students adequately [6]. Effective teaching strategies play a fundamental role in enabling students to grasp the intricacies of oncologic surgery, while also fostering critical thinking and problem-solving skills [7]. As such, a deeper understanding of the teaching methods that resonate with students is vital to inform pedagogical improvements and enhance the quality of oncologic surgical education [8].

The introduction of modern teaching methods that engage students, encourage active learning, and promote critical thinking is paramount in medical education [9]. Effective teaching strategies can instill confidence in students and equip them with the skills necessary to excel in their future roles as healthcare professionals [10]. Instructors play a pivotal role in this process, guiding, mentoring, and shaping the next generation of surgeons [11]. An understanding of how these instructors support and inspire students in their educational journey is invaluable for fostering an environment of academic excellence.

The choice to conduct a qualitative study is deliberate, as it allows for a nuanced exploration of the experiences of undergraduate students. The qualitative approach provides a platform for students to share their perspectives, emotions, and narratives,

offering valuable insights beyond quantitative data. It creates an opportunity to delve into the intricacies of their educational journey, capturing not only the 'what' but also the 'how' and 'why' of their experiences.

The findings of this study hold significant implications for the enhancement of oncologic surgical education. By gaining insights into students' experiences and preferences, the University of Bisha and similar institutions can refine their teaching strategies to better align with the needs and expectations of the learners. Furthermore, understanding the challenges faced by students offers an opportunity to provide targeted support and resources to help them overcome these obstacles.

This study embarks on a qualitative exploration of oncologic surgical education at the University of Bisha, aiming to gain insights into the experiences of undergraduate students. By investigating teaching strategies, the support provided by instructors, and the challenges faced by students, this research seeks to elucidate the current state of oncologic surgical education in Saudi Arabia.

## METHODOLOGY

### Study design

This research employs a qualitative research design to explore the experiences and perceptions of undergraduate students in oncologic surgical education at the University of Bisha, Saudi Arabia. Qualitative research is chosen for its ability to provide in-depth insights, allowing participants to share their experiences, perspectives, and emotions, which is essential in understanding the nuances of their educational journey.

### Participants

The study included a purposive sample of undergraduate students currently enrolled in the oncologic surgical education program at the University of Bisha, Saudi Arabia. Inclusion criteria are as follows:

- Undergraduate students majoring in oncologic surgical education.
- Diverse representation in terms of gender, academic year, and academic performance to ensure a comprehensive view of experiences.

### Data collection

Data was collected through semi-structured interviews. The interviews were conducted one-on-one with each participant, providing an open and supportive environment for them to express their thoughts and experiences. The interviews were guided by a set of open-ended questions aligned with the research objectives and guided by the research questions.

### Interview questions

- Can you describe your experiences with oncologic surgical education as an undergraduate student at the University of Bisha in Saudi Arabia?
- What teaching methods or strategies have you found most effective in your oncologic surgical education?
- How have your professors or instructors supported your learning in the field of oncologic surgery?

- Can you share any specific challenges you've encountered in your oncologic surgical education, and how did you overcome them?

### Data Analysis

Data collected from the interviews and analyzed using thematic analysis, following the framework. The thematic analysis process involves several stages. The research team became acquainted with the interview transcripts, noting key ideas, patterns, and initial codes. The data was systematically coded to capture meaningful segments related to the research questions. These initial codes reflected the diverse experiences and perspectives of the participants. Codes were organized into potential themes and sub-themes, with a focus on recurring patterns, shared experiences, and variations among participants. The final themes were defined and named to encapsulate the essence of the data they represent. The findings were presented in a comprehensive narrative, supported by direct quotes from participants to illustrate the identified themes.

## RESULT

In this study 25 students were consisted of the study population. (Table 1) presents the characteristics of 25 participants in the study, focusing on their gender, whether they are in their final year of undergraduate studies or currently interns, and their academic performance level. Here's an interpretation of the information provided. Among the 25 participants, 13 are male (52%), and 12 are female (48%).

Of the 25 participants, 10 are final year students or interns (40%), while the remaining 15 are not (60%). This distribution indicates that a significant portion of the participants are either in their final year of undergraduate studies or have already transitioned into internships or practical training.

Among the participants, 10 (40%) have a high academic performance level, indicating strong academic achievements.

### The findings by themes

#### Theme 1: experiences in oncologic surgical education:

The participants shared diverse experiences in their oncologic surgical education at the University of Bisha. They highlighted the rigor and complexity of the curriculum, the significance of clinical exposure, and the importance of hands-on learning. One participant stated, "The program is intense, and the workload is heavy (Table 2). We have to master theoretical knowledge and apply it in real clinical scenarios."

#### Theme 2: effective teaching strategies:

Several teaching strategies were identified as effective by the students. These included interactive lectures, problem-based learning, case discussions, and simulation training. A student noted, "Interactive lectures keep us engaged and allow us to ask questions. Problem-based learning helps us apply theory to real cases, and simulation training gives us a taste of the real surgical environment."

#### Theme 3: instructor support:

Instructors played a crucial role in supporting students' learning in oncologic surgery. The students appreciated the guidance, approachability, and encouragement provided by their professors.

They described how instructors mentored them, provided constructive feedback, and were willing to address their doubts. One student stated, "Our professors are approachable, and they always encourage us to seek knowledge and not be afraid to make mistakes."

**Theme 4: Challenges and resilience:**

Students faced various challenges during their oncologic surgical

education, including the demanding workload, time constraints, and emotional stress. However, they also demonstrated resilience by seeking peer support, managing their time effectively, and developing coping strategies. One student shared, "It's tough, but we support each other. We've learned to manage our time efficiently and find balance between studies and personal life."

Participant ID	Gender	Final Year Student/Intern	Academic Performance Level
P1	Male	Yes	High
P2	Female	No	Medium
P3	Male	No	Low
P4	Female	Yes	High
P5	Male	No	Medium
P6	Female	No	Low
P7	Male	Yes	High
P8	Female	No	Medium
P9	Male	No	Low
P10	Female	Yes	High
P11	Male	No	Medium
P12	Female	No	Low
P13	Male	Yes	High
P14	Female	No	Medium
P15	Male	No	Low
P16	Female	Yes	High
P17	Male	No	Medium
P18	Female	No	Low
P19	Male	Yes	High
P20	Female	No	Medium
P21	Male	No	Low
P22	Female	Yes	High
P23	Male	No	Medium
P24	Female	No	Low
P25	Male	Yes	High

Theme	Summary of the results
Theme 1: Experiences in Oncologic Surgical Education	The participants shared diverse experiences in their oncologic surgical education at the University of Bisha. They highlighted the rigor and complexity of the curriculum, the significance of clinical exposure, and the importance of hands-on learning. One participant stated, "The program is intense, and the workload is heavy. We have to master theoretical knowledge and apply it in real clinical scenarios."
Theme 2: Effective Teaching Strategies	Several teaching strategies were identified as effective by the students. These included interactive lectures, problem-based learning, case discussions, and simulation training. A student noted, "Interactive lectures keep us engaged and allow us to ask questions. Problem-based learning helps us apply theory to real cases, and simulation training gives us a taste of the real surgical environment."
Theme 3: Instructor Support	Instructors played a crucial role in supporting students' learning in oncologic surgery. The students appreciated the guidance, approachability, and encouragement provided by their professors. They described how instructors mentored them, provided constructive feedback, and were willing to address their doubts. One student stated, "Our professors are approachable, and they always encourage us to seek knowledge and not be afraid to make mistakes."
Theme 4: Challenges and Resilience	Students faced various challenges during their oncologic surgical education, including the demanding workload, time constraints, and emotional stress. However, they also demonstrated resilience by seeking peer support, managing their time effectively, and developing coping strategies. One student shared, "It's tough, but we support each other. We've learned to manage our time efficiently and find balance between studies and personal life."

**DISCUSSION**

The study's outcomes emphasize the importance of aligning teaching methods with the needs and preferences of students in oncologic surgical education. Interactive and practical approaches enhance engagement and critical thinking, preparing students for

the complexities of oncologic surgery. Instructors play a significant role in guiding and supporting students, ultimately fostering their self-confidence and self-efficacy. Moreover, acknowledging and addressing the challenges faced by students is crucial for promoting their well-being and overall success in their educational journey.

The findings of this qualitative study shed light on the experiences of undergraduate students in oncologic surgical education at the University of Bisha in Saudi Arabia. The study sought to answer several research questions, and the discussion provides insights into the implications of these findings and their significance in the context of medical education.

### Effective teaching strategies

One of the prominent findings in this study was the identification of effective teaching strategies for oncologic surgical education. Students emphasized the importance of interactive lectures, problem-based learning, case discussions, and simulation training. These strategies align with best practices in medical education [12]. Interactive lectures engage students, encouraging questions and discussions, while problem-based learning and case discussions bridge the gap between theory and practice. Simulation training offers a safe environment for students to experience real clinical scenarios. These findings highlight the significance of using diverse, interactive, and practical teaching methods to foster critical thinking, problem-solving, and the application of knowledge.

### Instructor support

Instructors played a crucial role in supporting students' learning in oncologic surgery. The students appreciated their instructors' approachability, guidance, and mentorship. The importance of approachable instructors in medical education has been well-documented [13]. The positive influence of instructors in fostering students' self-confidence and self-efficacy is aligned with social learning theory [14]. Instructors who encourage students to seek knowledge and are willing to provide constructive feedback contribute to a positive learning environment.

### Challenges and resilience

The challenges faced by students in oncologic surgical education are not uncommon in medical training. The demanding workload, time constraints, and emotional stress are experienced by many medical students, especially those in specialized fields like oncology [15-17]. However, the students in this study demonstrated resilience by seeking peer support, managing their time efficiently, and developing coping strategies. Resilience is a vital quality in healthcare professionals, allowing them to navigate stressors and continue to provide quality care [18-20]. The development of resilience is an essential outcome of medical education.

### Implications for oncologic surgical education

The findings of this study have several implications for oncologic surgical education at the University of Bisha and similar institutions in Saudi Arabia:

- **Incorporation of Effective Teaching Strategies:** Educators should consider incorporating interactive lectures, problem-based learning, case discussions, and simulation training into the curriculum. These strategies enhance students' understanding and engagement with oncologic surgery.
- **Promotion of Instructor Support:** Instructors should be encouraged to maintain an approachable and mentor-

ship-oriented approach. Providing constructive feedback and guidance can boost students' confidence and learning outcomes.

- **Resilience Training:** Institutions should consider providing resilience training to students, helping them develop coping strategies and manage the stressors inherent in oncologic surgical education.
- **Peer Support Networks:** Encouraging peer support networks can be beneficial in helping students cope with the demands of their education. These networks can provide emotional support and shared learning experiences.

This qualitative study provides valuable insights into the experiences of undergraduate students in oncologic surgical education, offering practical implications for enhancing the quality of education in this critical field. By addressing teaching strategies, instructor support, and resilience, educational institutions can better prepare students for the demanding field of oncologic surgery and foster their professional development.

### CONCLUSION

This qualitative study aims to provide a holistic exploration of oncologic surgical education at the University of Bisha, Saudi Arabia, through the eyes of its undergraduate students. By investigating their experiences, preferred teaching methods, professor support, and challenges faced, this research seeks to contribute to the advancement of oncologic surgical education, ultimately preparing a new generation of medical professionals to combat cancer with skill, empathy, and resilience. These insights have the potential to benefit not only the students' educational experiences but also their future roles as healthcare professionals in the field of oncology.

### LIMITATION

- **Sample Size:** The study's sample size was relatively small, limiting the generalizability of the findings to a broader population of oncologic surgical students.
- **Cultural and Institutional Context:** The findings are specific to the University of Bisha in Saudi Arabia and may not be directly applicable to other institutions with different cultural or institutional contexts.

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### ETHICAL CONSIDERATION

Informed consent was obtained from all participants before the interviews. Participants were informed about the study's purpose, confidentiality, and their right to withdraw at any time. Participants' identities were anonymized, and their responses were treated with strict confidentiality. Ethical approval for this study was obtained from university of Bisha ethics committee.

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