Exploring Perceptions of Students and Faculty on the Integration of Research in the Outcome-based Integrated Curriculum: A Qualitative Focus Group Study at Defence Services Medical Academy Myanmar

Tayzar Hein

Assistant Lecturer, Defence Services Medical Academy, Yangon, Myanmar

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Abstract

This study explores the perceptions of students and faculty members regarding the integration of a research component in the Outcome-Based Integrated Curriculum at the Defence Services Medical Academy (DSMA) in Myanmar. Using qualitative focus group discussions, this research investigates the benefits, challenges, and overall impact of this educational initiative. The findings reveal that both students and faculty perceive the research component as beneficial, enhancing knowledge, critical thinking, and presentation skills. However, challenges related to resources, support, and early engagement need to be addressed. Recommendations for improving the research component are provided to strengthen the curriculum and better prepare graduates.

Keywords

Defence Services Medical Academy, Outcome-Based Integrated Curriculum, educational initiative, Myanmar

Introduction

Background

In recent years, integrating research within medical education has become essential for producing competent and well-rounded healthcare professionals (Abu-Zaid & Alkattan, 2013). Recognizing the importance of nurturing research skills among future healthcare professionals, educational institutions have increasingly incorporated research components into their curricula. One such institution is the Defence Services Medical Academy (DSMA) in Myanmar, which took a significant step forward in 2017 by implementing an Outcome-Based Integrated Curriculum. This new curriculum framework emphasizes acquiring essential competencies and skills by medical students, including a dedicated research component that is now a prerequisite for graduation from DSMA.

The inclusion of research within the medical curriculum serves various purposes (Thistlethwaite et al., 2012). Firstly, it promotes a culture of inquiry, critical thinking, and evidence-based practice among students, equipping them with the necessary tools to contribute to scientific advancements and enhance patient care. Furthermore, integrating research into the curriculum can foster a deeper understanding of medical concepts, encourage problem-solving abilities, and instill lifelong learning habits (Fatmi et al., 2013). By engaging in research activities, students have the opportunity to explore their areas of interest, develop intellectual curiosity, and gain practical experience in conducting scientific investigations (Ferguson & Lee, 2012).

However, the implementation of a research component within the curriculum brings forth questions and considerations regarding its effectiveness, relevance, and impact on students and faculty members. It is crucial to understand the perceptions, attitudes, and experiences of the key stakeholders involved. Thus, this research aims to delve into the perceptions of both students and faculty members at DSMA concerning the presence of the research component in the Outcome-Based Integrated Curriculum.

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Rationale

The inclusion of a research component within the Outcome-Based Integrated Curriculum at DSMA signifies a momentous shift in the landscape of medical education. This addition reflects a collective recognition of the growing importance of research in advancing medical knowledge, promoting evidence-based practice, and nurturing critical thinking skills among future physicians. By integrating research into the curriculum, DSMA aims to foster a new generation of medical graduates who are not only competent clinicians but also knowledgeable contributors to the scientific community.

Medical research plays a pivotal role in driving advancements in healthcare (Mills et al., 2013). It serves as a catalyst for discovering novel diagnostic and treatment approaches, enhancing our understanding of diseases and their underlying mechanisms, and facilitating the development of evidence-based guidelines and best practices (McLean, 2016). Recognizing the significance of research in improving patient outcomes, DSMA acknowledges the need to prepare its graduates to actively engage in research activities, contribute to medical literature, and translate scientific findings into clinical practice.

The integration of research within the curriculum also fosters a culture of lifelong learning among medical students (Al-Eyd et al., 2018). Research engagement encourages curiosity, intellectual exploration, and a deeper understanding of medical concepts beyond the confines of traditional didactic teaching methods. Through research activities, students are exposed to the intricacies of the scientific method, experimental design, data analysis, and scholarly communication. These experiences enhance their analytical and problem-solving abilities and equip them with transferable skills such as teamwork, communication, and time management (Stollhans, 2016).

In summary, the inclusion of a research component within the Outcome-Based Integrated Curriculum at DSMA represents a profound paradigm shift in medical education. By embracing research as an integral part of the curriculum, DSMA aims to empower its students to become lifelong learners, critical thinkers, and contributors to scientific advancements. This research-focused approach not only aligns with the evolving demands of the medical field but

also reflects DSMA's commitment to producing competent and well-rounded physicians capable of driving positive change in healthcare.

Context of the Study

DSMA, as a leading medical institution in Myanmar, has a responsibility to assess the effectiveness and impact of the implemented curriculum on its students and faculty members. The research component introduced in the new curriculum has implications for the educational experience, attitudes, and perceptions of those involved. Understanding the viewpoints, experiences, and challenges faced by students and faculty members regarding the presence of research within the curriculum is crucial for evaluating the success of this educational reform and identifying areas for improvement.

Significance and Expected Outcomes

This study's findings will provide valuable insights into the perceptions, experiences, and opinions of students and faculty members regarding the research component in the Outcome-Based Integrated Curriculum. The outcomes of this research will contribute to the ongoing educational reform process at DSMA by informing educational policymakers, curriculum developers, and faculty members about the strengths, weaknesses, challenges, and opportunities associated with research integration. The study aims to facilitate evidence-based decision-making to further strengthen the curriculum's effectiveness and ensure the successful implementation of the research component.

Literature Review

This chapter comprehensively reviews medical education research integration literature. The review examines global trends, best practices, obstacles, and benefits of applying research to medical curricula. By reviewing the literature, this chapter will provide a theoretical

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framework for research integration in the Outcome-Based Integrated Curriculum at Defence Services Medical Academy.

Medical Education Research Importance

By extending medical knowledge and understanding, medical education research advances the discipline (Swanwick, 2018). Systematic research develops new medical therapies, diagnostic methods, and treatment protocols. Healthcare practitioners can stay current on medical advances by conducting research (Wong et al., 2020). This experience boosts their clinical skills and critical thinking, enabling students to evaluate and use evidence-based practices in patient care. Medical education research promotes lifelong learning among healthcare workers (Anabel & Simanjuntak, 2022). Practitioners are urged to seek new knowledge, question procedures, and try innovative patient care methods by actively conducting research. This constant learning benefits healthcare workers and the system (Pratton & Hales, 1986). It guarantees that healthcare personnel have the latest and best practices, improving patient outcomes and quality. Research is necessary to bridge theoretical and practical knowledge in medical education. Theoretical concepts and memorization in traditional medical education can hamper critical thinking and problem-solving skills needed for clinical practice. Medical students learn inquiry, data analysis, and interpretation through research, which fosters a scientific perspective. Students learn how research informs clinical decision-making and how to critically evaluate and use evidence in their practice through this integration.

Finally, medical education research is crucial to training competent, evidence-based healthcare providers. It promotes medical knowledge, critical thinking, lifelong learning, and theory-practice integration. Research integration in medical curriculum is essential for improving healthcare education and patient outcomes.

Top Global Trends and Practices

International trends and best practices in medical education research integration are revealed. Worldwide, medical schools have used many ways to integrate research into their curricula. These programs encourage medical students to develop research abilities, a research-oriented mindset, and active scientific inquiry. Several successful case studies show how research integration benefits. Some schools integrate research into medical education. Students can learn study design, data gathering, and analysis by participating in hands-on research projects from the start. Immersive experiences improve students' scientific method knowledge and foster a lifelong curiosity. Another effective research integration method is experiential learning. These may include research electives, summer programs, or curriculum-based research paths. Students have time and resources to do independent research with experienced mentors in such programs. By participating in research, students learn how to formulate research questions, study literature, gather and analyze data, and present their findings. These experiences improve research, critical thinking, problem-solving, and communication. Mentorship programs help medical students engage in research. Working with seasoned researchers or clinicians in their profession helps students throughout the research process. Mentors guide project design, research methodology, and clinical application. Mentor-student relationships promote collaboration, facilitate learning, and help students manage research.

In conclusion, international research integration in medical education models have successfully developed research skills and involvement among medical students. Medical schools globally use practical methods like research-based curricula, experiential learning, and mentorship. These programs educate well-rounded healthcare workers with research skills to increase medical knowledge and improve patient care.

Obstacles to Research Integration

Incorporating research into the curriculum might be difficult for medical colleges. Resource limits, time constraints, instructor preparation, and student motivation are common barriers.

Faculty development initiatives, institutional support, and academic research culture are also discussed as ways to overcome these problems.

Research Integration Benefits

Medical education with research benefits students, professors, and the institution. Research gives pupils abilities beyond academics. Researching helps students question established procedures, assess facts, and form evidence-based conclusions. This promotes medical knowledge and intellectual curiosity. As they tackle research problems, create new solutions, and adapt to healthcare's ever-changing landscape, students learn to solve problems. Medical students learn evidence-based medicine and patient-centered care through research throughout their courses. Faculty benefits much from research integration. Researching helps them grow professionally by expanding their knowledge, staying current, and contributing to the scientific community. Faculty publish scholarly articles, present at conferences, and receive research funds to boost academic productivity. These accomplishments boost their careers and the institution's reputation. Institutions that stress research integration attract top professors and become medical education and research leaders. Research engagement among faculty members promotes mentorship and collaboration, improving education and enabling interdisciplinary collaboration. Medical knowledge advances more when research is included in medical education. By conducting research, students and teachers increase knowledge about disease processes, treatment methods, and healthcare outcomes. Interdisciplinary allows researchers to tackle difficult healthcare issues. Interdisciplinary cooperation improves patient care and develops a comprehensive view of health and disease. Publishing and presenting research findings allows healthcare practitioners globally to benefit from the newest discoveries and developments. Finally, medical education research integration benefits students, faculty, and the institution. Developing critical thinking and problem-solving skills allows evidence-based practice. Faculty members grow professionally, produce academically, and improve institutional prestige. Research integration also promotes interdisciplinary collaboration and medical understanding. Research integration in medical education improves education, patient care, and the sector.

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In summary, this chapter covers the literature on research integration in medical education. It theoretically underpins research integration in the DSMA Outcome-Based Integrated Curriculum. The chapter analyzes medical education research global trends and best practices, obstacles and barriers, and research integration benefits. This literature evaluation will inform upcoming research study chapters.

Aim and Research Questions

Aim

The aim of this study is to explore the perceptions of students and faculty members at DSMA regarding the integration of the research component in the Outcome-Based Integrated Curriculum.

Research Questions

- How do students and faculty members perceive the inclusion of the research component in the Outcome-Based Integrated Curriculum at DSMA?
- What challenges, opportunities, and recommendations emerge from the research component in the curriculum as experienced by students and faculty members?

Research Methodology

Research Design

This study employs a qualitative research design to gain an in-depth understanding of the perceptions of students and faculty members. Focus group discussions (FGDs) were chosen as the primary data collection method because they effectively capture diverse perspectives and generate rich qualitative data.

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Participants

Participants included six students and six faculty members from DSMA. Purposive sampling was employed to ensure a representative sample. The inclusion criteria included students and faculty who have experienced the research component within the curriculum. Ethical considerations such as informed consent and confidentiality were strictly observed.

Data Collection

Data were collected through FGDs facilitated by trained moderators. A semi-structured interview protocol guided the discussions, ensuring consistency across groups. Discussions were audio-recorded and supplemented with detailed notes.

Data Analysis

Thematic analysis was employed to analyze the data collected from the FGDs. This approach allowed for the identification and exploration of patterns, themes, and categories within the qualitative data. The analysis process involved several steps, including familiarization with the data, generating initial codes, searching for themes, reviewing and refining themes, and finally presenting the findings.

Trustworthiness and Rigor

Several strategies were employed to ensure the trustworthiness and rigor of the study, including researcher reflexivity, member checking, and triangulation of data sources. Researcher reflexivity involved the recognition of the researcher's influence on the study and their active engagement in reflecting on personal biases and perspectives. Member checking was conducted to validate the findings with participants, ensuring that their viewpoints were accurately represented. Triangulation of data sources involved utilizing multiple data collection methods and involving multiple researchers in the analysis process to enhance the credibility and dependability of the findings.

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Ethical Considerations

Ethical considerations were of utmost importance in this study. The research adhered to ethical guidelines and obtained informed consent from all participants. Confidentiality and anonymity were ensured by assigning pseudonyms to participants and securely storing the data. The study obtained ethical approval from the DSMA ethical review board to ensure the protection and well-being of participants.

Results and Analysis

Thematic Analysis of Faculty and Student Perceptions on the Research Component in the Outcome-Based Integrated Curriculum at DSMA

1. **Early Exposure to Research**

- **Theme**: Both faculty and students perceive early exposure to research as beneficial for developing foundational skills in research methodology and critical thinking.
- **Supportive Quotes**:
    - Faculty 1: "It is valuable for students to be exposed to research early on. They become knowledgeable and competent from the outset. Research studies begin in Year 1 which is beneficial. By Year 2 students are required to study research methodology leading to more frequent research activities"
    - Student 3: "Understanding and engaging with research starts only after selecting a research title in Year 2. Developing the habit of reading research papers early on is crucial for grasping complex concepts"

2. **Enhancement of Presentation and Leadership Skills**

- **Theme**: Both groups noted significant improvements in students' presentation and leadership skills due to their involvement in research activities.
- **Supportive Quotes**:
    - Faculty 5: "By Year 5 they analyze and present their research in small groups which enhances their presentation skills. For example, one of the cadets in the

research group was able to interact with teachers more fluently during his research presentation session compared to his skills in earlier years"

- Student 2: "Hospital investigations become clearer because of the research linkage. Initially research seems daunting but by the later years we become comfortable and even enthusiastic about conducting research"

3. **Challenges in Data Collection and Resources**

- **Theme**: Challenges related to data collection, limited resources, and lack of support from faculty were highlighted by both faculty and students.
- **Supportive Quotes**:
  - Faculty 3: "There are some administrative weaknesses in the data collection phase. It is necessary to provide a specific timeline for the data collection of each group"
  - Student 4: "We face challenges due to the limited availability of laptops and the short two-week timeframe for detailed procedures. Incomplete data entry during the data collection phase often necessitates a second round of data collection"

4. **Need for Improved Support and Resources**

- **Theme**: Both groups emphasized the need for better support and resources, including internet access, software, and closer supervision.
- **Supportive Quotes**:
  - Faculty 6: "Software (SPSS, Excel, PowerPoint, references, textbooks) should be provided. Internet access needs to be provided at the students' hostel because in DSMA, literature searches can only be conducted at the library"
  - Student 1: "Providing software such as SPSS, Excel, and PowerPoint, as well as references and textbooks, is essential. Internet access at the students' hostel is crucial since literature searches are currently confined to the library"

5. **Integration and Implementation Strategies**

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- **Theme**: Both groups recognized the importance of integrating research throughout the curriculum and suggested strategies for better implementation.
- **Supportive Quotes**:
    - Faculty 2: "The research component should be included in the curriculum because of its multiple benefits"
    - Student 5: "We suggest including the research component from the foundation year to build a stronger foundation in research skills early on"

Summary

The thematic analysis reveals that both faculty and students at DSMA value the integration of the research component in the curriculum, especially its role in developing early research skills and enhancing presentation and leadership abilities. However, challenges such as insufficient resources, inadequate support, and logistical issues in data collection were significant concerns. Recommendations include providing better resources, internet access, and closer supervision to ensure the successful implementation and enhancement of the research component in the curriculum.

Discussion

The findings of this study indicate a positive perception of the research component in the DSMA curriculum among both students and faculty members. The integration of research from the early years of medical education is viewed as beneficial in enhancing knowledge, critical thinking, and practical skills. However, the study also highlights significant challenges that need to be addressed to maximize the benefits of the research component.

Conclusion

This study underscores the importance of integrating a research component within the medical curriculum at DSMA. By addressing the identified challenges and providing the

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necessary resources and support, DSMA can further strengthen its curriculum and better prepare its graduates for future challenges in the medical field. The findings provide valuable insights for educational policymakers, curriculum developers, and faculty members, contributing to the continuous improvement of the curriculum and the educational experience at DSMA.

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