



Navigating the PhD thesis journey: A qualitative study of doctoral students and supervisors at a medical university in Iran

Shahnaz Ghaseminangi, Fariba Jokar¹, Alireza Yousefy²

Abstract:

BACKGROUND: The PhD thesis serves as a cornerstone of doctoral education, yet it is often accompanied by considerable stress and inefficiencies for both students and supervisors. Although global research has extensively addressed issues such as supervision quality, institutional support, and student well-being, there is limited investigation into these dynamics from a qualitative perspective in non-Western academic settings. This study examines the lived experiences of doctoral students and their supervisors at Isfahan University of Medical Sciences to identify challenges and propose tailored reforms for this specific context.

MATERIALS AND METHODS: Employing a qualitative exploratory design, semi-structured interviews were conducted with 54 participants (31 PhD students and 23 faculty supervisors) chosen through purposive sampling. The collected data underwent conventional content analysis, with themes integrated across both groups to form a unified framework.

RESULTS: The analysis revealed five overarching themes and 21 associated categories, including supervisory competencies, administrative ambiguity, resource limitations, psychological stress, and the importance of early research engagement. While students stressed the need for emotional support and resource availability, supervisors emphasized clearer regulations and opportunities for professional development. Both groups underscored the necessity of fostering a supportive academic environment.

CONCLUSION: The PhD thesis process operates as a dynamic system influenced by interpersonal relationships, institutional frameworks, and procedural clarity. Efforts to reform this process should prioritize supervisor training programs, simplified administrative procedures, enhanced resource availability, and comprehensive psychological support embedded throughout the doctoral journey.

Keywords:

Doctoral supervision, higher education, institutional reform, PhD thesis, qualitative research, student well-being

Introduction

Pursuing a doctoral degree is often seen as the pinnacle of academic success, involving the development of advanced research skills, critical thinking, and a sense of scholarly independence. Yet, the journey to completing a PhD thesis is

rarely straightforward and is filled with challenges that go beyond just academic demands. Doctoral writing is influenced by shifting interpersonal relationships and unpredictable paths, which can shake students' confidence and hinder their progress.^[1] Common hurdles—like poor time management and insufficient guidance—are frequently mentioned in discussions about postgraduate education.^[2]

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PhD Candidate in Medical
Education Research
Center, Department
of Medical Education,
Isfahan University of
Medical Sciences, Isfahan,
Iran, ¹Assistant Professor,
Medical Education
Research Center,
Department of Medical
Education, Isfahan
University of Medical
Sciences, Isfahan, Iran,
²Full Professor, Medical
Education Research
Center, Department
of Medical Education,
Isfahan University of
Medical Sciences, Isfahan,
Iran

Address for correspondence:

Dr. Fariba Jokar,
Medical Education
Research Center, Isfahan
University of Medical
Sciences, Isfahan, Iran.
E-mail: faribajowkar@
gmail.com

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Research based on real cases reveals ongoing struggles, such as limited access to feedback from supervisors and unclear institutional expectations.^[3] Additionally, social factors, including feelings of isolation and a perceived lack of support, significantly impact the mental health of doctoral students.^[4]

Recent analyses of the economy and policies show that the psychological struggles faced by PhD candidates aren't just individual hurdles; they're part of a larger systemic issue within academic settings.^[5] Central to this experience is the PhD thesis, which showcases a student's ability to create and carry out original research that truly adds value to their field.^[6]

Supervisors are also feeling the impact of changes in the educational landscape, which means they need to rethink how they mentor and what they expect from their students. Even though there's more focus on supervision these days, many still lack structured support and practical feedback, which is a common shortfall.^[7] Despite the growing focus on supervision, many still face the challenge of lacking structured pedagogical support and actionable feedback, which is a common issue.^[8,9]

The relationship between supervisors and students plays a crucial role in determining the quality of research, the success of completion outcomes, and the overall well-being of doctoral candidates.^[10,11]

However, while these challenges have been thoroughly documented in Western academic environments, there's a noticeable absence of qualitative insights into how these dynamics play out in non-Western, resource-constrained settings. This is especially true in medical universities, where the demands for research are high but institutional support is often inconsistent.^[12,13] In Iran, the landscape of doctoral education is influenced by frequent changes in policy, limited funding, and shifting expectations from academic stakeholders.^[14,15]

While quantitative studies have looked into doctoral satisfaction and dropout rates,^[16,17] there's a scarcity of research that captures the rich, lived experiences of both students and supervisors. Additionally, the perspectives of these two groups are seldom combined to create a comprehensive understanding of the thesis journey.^[18,19] This study aims to fill these gaps by exploring the experiences of PhD candidates and faculty supervisors at Isfahan University of Medical Sciences. Using a qualitative approach, it highlights the interpersonal, procedural, and structural challenges faced, and proposes a conceptual framework that views the thesis process as a dynamic system influenced by relationships, institutional contexts, and academic expectations.^[20,21]

Materials and Methods

Study design and setting

We took a qualitative exploratory approach to really dive into the PhD thesis process, aiming to capture the intricate lived experiences and the context-sensitive challenges that come with it.^[22] We analyzed the interview data using conventional content analysis as described by Graneheim and Lundman.^[23] To ensure trustworthiness, we followed Lincoln and Guba's criteria, which include credibility, dependability, confirmability, and transferability.^[24]

Study participants and sampling

We brought together 54 participants from Isfahan University of Medical Sciences, which included 31 PhD candidates and 23 faculty supervisors. To ensure a mix of perspectives, we used purposive sampling, focusing on diversity in gender, academic fields, and years of experience.^[24]

Data collection tools and technique

We collected data through detailed, semi-structured interviews that typically lasted between 45 and 60 minutes. These conversations were guided by a flexible framework that matched the objectives of our study.^[25] Conducted in Persian, every interview was recorded with the participants' permission and transcribed verbatim.^[25] Previous research indicates that doctoral students who don't have clear procedures or consistent emotional support during data collection can become disengaged from their research activities. This disengagement is a significant factor in doctoral attrition, as highlighted by Lovitts.^[26]

Data analysis

We analyzed the interview transcripts using conventional content analysis as outlined by Graneheim and Lundman.^[23] Thematic coding was done separately for students and supervisors, and then we integrated the findings across groups to create a cohesive framework.^[27,28]

Trustworthiness

To maintain a high standard, we applied Lincoln and Guba's criteria: credibility, dependability, confirmability, and transferability.^[29] We used techniques like member checking, peer debriefing, and audit trails to ensure thoroughness.

Ethical considerations

The study was granted ethical approval by the Research Ethics Committee of Isfahan University of Medical Sciences (**IR.MUI.RESEARCH.REC.1398.239**). Every participant provided written informed consent.

Table 1: Summary of recommended reforms

Challenge Area	Recommended Reform	References
Supervisory deficiencies	Structured mentorship programs	[24,32]
Procedural ambiguity	Centralized thesis workflow systems	[10,25]
Skill gaps	Embedded writing and methodology instruction	[27,30,33]
Resource limitations	Reform in budgeting and research infrastructure	[2,29]
Emotional distress	Counseling services and wellness initiatives	[5,6,18,31]
Academic isolation	Peer writing groups and community-based learning	[30,34]
Joint supervision challenges	Clearly defined supervisory roles and expectations	[34]

Table 2: Demographic Characteristics of Faculty Supervisors (n=23)

Participant ID	Gender	Age	Academic Discipline
P1	Male	34	Health Promotion
P2	Female	48	Health Promotion
P3	Female	50	Reproductive Health
P4	Male	40	Medical Education
P5	Male	47	Medical Education
P6	Female	40	Nutrition Sciences
P7	Female	44	Medical Physics and Engineering
P8	Male	50	Immunology
P9	Female	55	Physiology
P10	Male	35	Molecular Biology and Genetics
P11	Male	47	Pharmaceutical Chemistry
P12	Male	35	Pharmaceutical Biotechnology
P13	Female	50	Nursing
P14	Male	38	Environmental Health Engineering
P15	Female	38	Nutrition Sciences
P16	Male	51	Orthotics and Prosthetics
P17	Female	36	Epidemiology
P18	Male	32	Health Services Management
P19	Female	28	Medical Library and Information Science
P20	Male	42	Disaster and Emergency Health
P21	Male	35	Medical Library and Information Science
P22	Female	45	Reproductive Health
P23	Male	45	Biochemistry

Results

A summary of the recommended reforms derived from the qualitative findings is presented in Table 1.

Theme 1: Human Dynamics in Supervision

"My supervisor had the technical know-how, but during the toughest times of my thesis, I felt emotionally abandoned." (Student 12) "We aren't trained to provide emotional support to students. We learn how to supervise through trial and error." (Faculty 5)

Theme 2: Administrative and Structural Barriers

"I was lost about what to do next. No one clearly explained the process." (Student 7) "The regulations can be vague, and even we as faculty sometimes struggle to interpret them." (Faculty 10)

Theme 3: Research Skill Development

"We weren't adequately prepared for writing proposals or conducting research." (Student 15) "Some of the newly hired faculty lack experience and could benefit from training workshops." (Faculty 3)

Theme 4: Resource and Financial Constraints

"I had to change my thesis topic because the lab didn't have the materials I needed." (Student 5) "When funding is tight, students often cut corners, which negatively impacts the quality of their theses." (Faculty 10)

Theme 5: Institutional Culture and Support Systems

"I felt like I was sailing through a storm all by myself." (Student 18) "A good supervisor makes sure the student doesn't feel abandoned." (Faculty 2). The demographic characteristics of the faculty supervisors are shown in Table 2. Table 3 presents the demographic s of the phd students who participants in the study. Our analysis revealed five main themes and 21 integrated categories. These themes highlight the intricate relationships between human interactions, institutional frameworks, and the clarity of procedures in the PhD thesis journey.

Discussion

The results of this study highlight ongoing global concerns about the stress faced by doctoral students and the gaps in supervision, while also shedding light on the unique challenges encountered at Iranian medical universities. It seems that the supervisory relationships often lack the emotional connection that's so crucial, which aligns with broader discussions about the shortcomings in mentorship and the changing expectations for faculty members.^[12,15] The lack of structured teaching frameworks adds to the inconsistencies in how supervision is carried out, underscoring the urgent need for formal mentorship programs and systematic training.^[16,17,27] Both doctoral students and supervisors have pointed out administrative and procedural uncertainties, which echo criticisms of institutional inefficiency and unclear workflows.^[25,30] Implementing

Table 3: Demographic characteristics of PhD students (n=31)

Participant ID	Gender	Age	Academic Discipline
S1	Male	34	Health Promotion
S2	Male	32	Health Promotion
S3	Female	38	Reproductive Health
S4	Male	50	Medical Education
S5	Male	45	Biochemistry
S6	Male	43	Medical Education
S7	Female	38	Medical Education
S8	Female	30	Nutrition Sciences
S9	Female	32	Medical Physics and Engineering
S10	Male	34	Immunology
S11	Male	40	Physiology
S12	Female	32	Molecular Biology and Genetics
S13	Female	28	Physiology
S14	Male	35	Pharmaceutical Chemistry
S15	Male	33	Pharmaceutical Biotechnology
S16	Female	30	Nursing
S17	Male	34	Environmental Health Engineering
S18	Female	32	Nutrition Sciences
S19	Male	34	Orthotics and Prosthetics
S20	Female	29	Epidemiology
S21	Male	32	Health Services Management
S22	Female	28	Medical Library and Information Science
S23	Male	42	Disaster and Emergency Health
S24	Male	35	Medical Library and Information Science
S25	Female	33	Reproductive Health
S26	Female	41	Medical Education
S27	Female	27	Health Economics
S28	Female	31	Physiology
S29	Female	29	Medical Physics
S30	Female	29	Parasitology
S31	Female	44	Molecular Medicine

centralized and digital supervision models could help streamline these processes and clear up any confusion. Additionally, many students feel underprepared for research—especially when it comes to academic writing and developing proposals—indicating a gap between what the curriculum offers and what’s expected for their theses.^[14,27] Therefore, it’s crucial to introduce method training and writing instruction early on.^[31]

Writing groups have become not just effective teaching tools but also vital emotional support systems in doctoral education—something Aitchison and Guerin have explored in various international settings.^[32] These collaborative spaces can significantly boost doctoral students’ feelings of belonging, motivation, and resilience as they navigate their research journeys.^[33] Manathunga and Goozée highlight practical frameworks for tackling the challenges of doctoral work, focusing on structured reflection, proactive engagement, and learning alongside peers as essential strategies for fostering academic perseverance.^[33] However, when the roles and expectations in joint supervision aren’t

clearly laid out, it can lead to confusion and inconsistent guidance, which may negatively affect the quality of thesis outcomes.^[34] Therefore, having well-defined supervision protocols and clear role assignments is crucial for upholding academic standards and supporting student well-being. Such findings reaffirm that addressing doctoral students’ mental health and psychological wellbeing must be considered a central priority in supervision practices.^[6]

Conclusion

This qualitative study views the PhD thesis process as a dynamic and complex journey shaped by interpersonal relationships, clear procedures, and institutional frameworks. Insights gathered from doctoral students and supervisors at Isfahan University of Medical Sciences reveal key areas that need reform, such as supervisory practices, research readiness, resource distribution, and emotional support. To improve the quality of doctoral education, here are some recommendations:

- Create structured mentorship programs to enhance supervisory skills.
- Simplify administrative processes with centralized digital workflows.
- Introduce academic writing and research methodology training early in doctoral programs.
- Increase access to research funding and infrastructure to support academic excellence.
- Establish psychological support systems to alleviate emotional distress and build resilience.
- Foster structured writing communities to help combat academic isolation.
- Clearly define roles and expectations in joint supervision to ensure consistent guidance. By implementing these reforms, we can work towards developing more equitable, efficient, and supportive doctoral programs, especially in academic settings with limited resources.

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Ethics approval and consent to participate

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Author’s contributions

SG: Conceptualization. SG: Data collection and curation. FJ and SG: Formal analysis. SG: Writing – original

draft. AY and FJ: Writing – review and editing. AY: Supervision.

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Conflicts of interest

There are no conflicts of interest.

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