

Explaining the Childbearing Experiences of Female Medical Students during Their Academic Years: An Interpretive Phenomenological Study

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Abstract

Background

Childbearing during academic years presents multifaceted challenges for female medical students, as this period often coincides with their peak reproductive years alongside intense educational, economic, and social pressures. This study aimed to explore and explain the lived experiences of female medical students regarding childbearing during their studies, and to identify the associated barriers and consequences.

Methods

This qualitative study was conducted utilizing Creswell and poth(2018) descriptive phenomenological approach at Dezful University of Medical Sciences. Purposive sampling with maximum variation was employed to select 14 female students who had experienced pregnancy and childbearing during their academic tenure. Data were collected through in-depth interviews and analyzed using an interpretive phenomenological method.

Results

Data analysis yielded three main themes: “Structural conflict in managing dual roles,” “Mental health strains and isolating lack of support,” and “Existential growth and personal meaning-making.” The overarching core theme emerged as “Role conflict within a rigid educational structure,” illustrating how the clash between stringent academic demands and the bio-social requisites of motherhood shapes both the challenges and developmental aspects of the students’ experiences.

Conclusion

Childbearing among female medical students transcends individual decision-making and is profoundly influenced by prevailing educational, cultural, and support structures. To facilitate this experience and mitigate role conflict, implementing supportive policies, providing childcare facilities, offering educational flexibility, and ensuring psycho-social support are imperative. Addressing these necessities can enhance students’ mental well-being, sustain academic excellence, and foster informed childbearing decisions.

Trial registration number:

Not applicable

Background

Women's participation in higher education has expanded dramatically in recent decades, and in many countries female students now constitute the majority of the student population (1). Yet the years of university study coincide with the peak years of fertility and with the period in which marriage and childbearing are socially expected (2). A growing number of women therefore find themselves navigating the simultaneous demands of academic pursuit, marital roles, and motherhood—a concurrency that has turned childbearing during education into a multidimensional personal and social challenge (3).

The relationship between women's education and fertility is well established: increased educational attainment is associated with delayed marriage and postponed childbearing (4, 5). However, this macro-level association tells us little about how women actually live these transitions. For individual women, childbearing during studies is not merely a demographic outcome but a situated experience shaped by institutional structures, cultural expectations, and personal aspirations. Mothers today increasingly seek to redefine their maternal identities, yet they often feel pressured by the absence of adequate support institutions (6). Pregnancy and motherhood, while bringing joy, are profoundly mediated by social and cultural values (6).

This tension is especially acute in medical sciences education. Medical students face heavy workloads, long residency hours, limited childcare access, financial strain, concerns about burdening colleagues, and fear of pregnancy complications—factors that push many to postpone childbearing (7, 8). Although fertility rates among medical sciences students may exceed those of the general population, this group experiences a disproportionate burden of obstetric complications (9). The psychological toll of pregnancy and childbirth—anxiety, stress, and pre- and postpartum depression—is well documented and linked to preterm labor, low birth weight, and adverse neonatal outcomes (10–15). The concurrence of the student period with peak fertility has thus rendered the simultaneous pursuit of educational and parenting roles a multidimensional challenge (2), particularly in societies where traditional expectations of women coexist with the pressures of a competitive educational system (16).

However, a critical reading of this literature reveals a paradox: while the existence of role conflict, stress, childcare stigma, and inadequate institutional support has been extensively documented, we still lack a theoretically grounded understanding of how these phenomena are produced, sustained, and experienced within the specific cultural and institutional context of Iran. Most existing studies have been conducted in Western or other non-Iranian settings, and their findings have been treated as if culturally universal. Yet the meaning of motherhood, the moral weight of maternal sacrifice, gendered family expectations, and the institutional logic of Iranian medical universities differ substantially. In Iran, childbearing is simultaneously encouraged by macro-level pronatalist policies—such as the Family Protection and Youth Population Law (17, 18)—and discouraged by the implicit norms and rigid structures of medical education, where a female student who bears a child may be perceived as violating the expected order of academic life. This contradiction between policy-level encouragement and institution-level resistance has not been adequately theorized. Moreover, the specific ways in which

Iranian cultural scripts—the idealization of the self-sacrificing mother, intergenerational pressures, and the stigma attached to visibly pregnant or mothering students in clinical spaces—shape the lived experience of childbearing remain largely unexplored. Existing qualitative studies on Iranian student mothers are scarce and tend to describe challenges descriptively rather than interpretively(19, 20).

What is therefore genuinely new about the present study is not the documentation of stress or role conflict per se, but rather the interpretive excavation of how the cultural and institutional context of Iran shapes the very nature of this experience: how pronatalist policies coexist with institutional resistance; how traditional maternal ideals collide with the modern identity of the medical student; how the absence of childcare facilities functions as a symbolic statement about who belongs in medical education; and how women themselves make meaning of, resist, or accommodate these contradictions.

The central question, therefore, is not whether childbearing during medical education is difficult—a claim already established—but rather how this experience is lived, interpreted, and made meaningful by the women who undergo it, and what this reveals about the structural and cultural conditions of medical education in Iran. Addressing this question requires a qualitative, interpretive approach capable of accessing the situated meanings participants themselves attach to their experience. Given the distinctive conditions of medical sciences students and the unique cultural and institutional landscape of Iran, the present study was conducted using Van Manen's interpretive phenomenological approach to explore and explain the lived experiences of female medical students regarding childbearing during their academic years, and to identify the associated barriers and consequences. Thus, this research was conducted to find the answer to this question: What is the lived experience of becoming a mother during academic studies among female medical sciences students?

Methods

Design

This qualitative study employed a phenomenological approach based on Creswell and Poth's (2018) framework to explore and interpret the lived experience of becoming a mother during academic studies among female medical sciences students at Dezful University of Medical Sciences in 2026. A phenomenological design was chosen because the study sought to understand the essence of a shared experience—motherhood during medical education—as it is lived, perceived, and made meaningful by the women who undergo it. In this approach, the researcher endeavors to suspend pre-existing assumptions and theoretical preconceptions (bracketing) to access the participants' own descriptions of their experience(20).

Participants and Sampling

Participants were selected using purposive sampling with maximum variation to ensure the inclusion of information-rich cases and to prevent premature data saturation. Inclusion criteria comprised: being female, having experienced childbearing (pregnancy, childbirth, or motherhood) during academic studies,

Participants must have been pregnant at the time of the interview and expressing a willingness to participate in the study. Exclusion criteria included any participant behavior that hindered the continuation of the interview process, such as aggression.

Data Collection

Data were collected through semi-structured, in-depth, open-ended interviews. The time and location of the interviews were determined based on the participants' preferences. Participants were encouraged to describe their lived experiences, including their perceptions, thoughts, and feelings regarding becoming a mother during their studies, and their responses guided the subsequent questions. Interviews commenced with open questions such as: "What experiences did you have during your pregnancy while being a student?" and "What challenges did you face?" Subsequently, probing questions were asked based on their initial responses to elicit richer descriptions of the phenomenon. The duration of each interview depended on the participant's tolerance and interest, ranging from 15 to 45 minutes. Data collection continued until data saturation was achieved—that is, until no new codes were added to the code pool.

Data Analysis

Data were analyzed using the phenomenological analysis approach outlined by Creswell and Poth (2018). The analysis proceeded through the following systematic steps:

1. Data management: Organizing transcripts, field notes, and audio files into a structured database to facilitate systematic retrieval and analysis.
2. Reading and memoing: Reading the full transcripts repeatedly to gain a holistic sense of the data and writing reflective memos and margin notes to form initial codes.
3. Describing the meaning: Describing the meaning of the experience and what the participants expressed, staying close to their own words and meanings.
4. Classifying significant statements: Identifying significant statements related to the phenomenon and grouping them into meaning units (sub-themes).
5. Interpreting through textural and structural descriptions: Writing a textural description of what was experienced (the participants' perceptions, feelings, and thoughts) and a structural description of how the phenomenon was experienced (the contexts, settings, and conditions that shaped the experience).
6. Constructing the composite description: Synthesizing the textural and structural descriptions into a composite description of the essence of the experience—what it means for female medical students to become mothers during their academic studies.
7. Representing the findings: Presenting the final narrative of the essence of the experience through tables and narratives, supported by participant quotations.

Throughout the analysis, the researcher continuously moved back and forth between the codes and the themes to ensure fidelity to the original text and to verify the accuracy of the coding.

Trustworthiness

To evaluate the validity and reliability (trustworthiness) of the data in this study, Lincoln and Guba's (1989) evaluative criteria were employed, which encompass four components: credibility, dependability, confirmability, and transferability (21). First, through reflexivity, the researcher continuously monitored their own role in the interpretation process and the potential impact of their preconceived views on understanding the participants' experiences of becoming mothers during their studies. To enhance credibility, the data analysis process was conducted through systematic, step-by-step identification of significant statements, the creation of meaning units, and their subsequent synthesis into textural and structural descriptions, ensuring fidelity to the original text. To guarantee the accurate representation of the participants' experiences, member checking was utilized; findings were reviewed by a subset of participants to ensure the provided interpretations reflected their internal, lived meanings of the childbearing experience. To ensure dependability, an external auditor reviewed the coding process and the audit trail. To support confirmability, the researcher maintained a reflexive journal documenting decisions, assumptions, and interpretations throughout the study. Ultimately, the rigor of the study was ensured by emphasizing descriptive richness and maintaining a continuous link between the raw data and the conceptual analyses. Interviews with new participants continued until no new codes were added to the code pool, thereby achieving data saturation.

During the interview process, one participant did not consent to audio recording; consequently, the researcher documented her experiences through comprehensive note-taking. Additionally, two participants exhibited emotional reactions, such as crying, during the interviews; in these instances, the interviews were paused and resumed only after the researcher provided empathetic support.

Results

Based on yable 2, Fourteen female medical sciences students who had experienced pregnancy and childbirth during their academic studies participated in the study. The participants had a mean age of approximately 29 years (range: 20–40 years). Most participants held a bachelor's degree (42.8%), followed by master's (28.6%) and doctoral (PhD) degrees (21.4%); 7.2% held an MD degree. At the time of interview, 42.8% were students, 28.6% were nurses, and the remaining 28.6% were faculty members or staff. Most participants (78.6%) had experienced their first childbirth during their academic studies, while 21.4% had experienced their second childbirth.

Following repeated reading of the transcripts, identification of significant statements, clustering into meaning units, and movement between descriptive and interpretive levels of analysis, three overarching themes and six subthemes were identified. The analysis initially generated 801 codes, which were subsequently reduced to 18 non-duplicative codes. Across the participants' accounts, the experience was organized around the core phenomenon of “Role Conflict in a Rigid Educational Structure.” This core

phenomenon reflected the persistent intersection between the demands of medical education and the socio-biological and relational demands of motherhood.

Theme 1. The Pathological Lived Experience of Role Concurrency

The first theme captured the embodied and emotional experience of simultaneously inhabiting the roles of student and mother. Participants described the coexistence of competing responsibilities not simply as having multiple roles, but as an experience characterized by emotional contradiction, physical depletion, and continuous pressure to perform adequately in both domains.

1.1 Syndrome of Emotional Contradictions

Textural description—what was experienced.

Participants described a persistent oscillation between competing sources of anxiety. On one side was the fear of academic failure and falling behind peers; on the other was concern about fetal or maternal well-being. These competing concerns were accompanied by guilt toward both the child and academic responsibilities. Participants also described concealing their emotional distress in academic environments, presenting an outward appearance of normal functioning while experiencing substantial internal strain.

Thus, emotional experience was characterized by polarized anxiety, concealed psychological distress, and bilateral guilt. Rather than being able to prioritize either motherhood or academic performance, participants experienced both as simultaneously demanding attention.

Structural description—how the experience was shaped.

This emotional contradiction emerged within an educational environment in which academic responsibilities continued largely according to institutional expectations, while pregnancy and motherhood introduced biological, emotional, and caregiving demands that could not be suspended. Participants therefore experienced a persistent discrepancy between what was expected of them as medical students and what was required of them as mothers. The pressure to remain academically functional appeared to coexist with an internal awareness of maternal vulnerability and responsibility.

1.2. Syndrome of Physical Collapse

Textural description—what was experienced

Participants described pregnancy and motherhood during academic training as physically exhausting. Fatigue was experienced as pervasive, while pain became a recurring element of everyday life. The pregnant body was also experienced as highly visible within academic and clinical environments, generating feelings of embarrassment and bodily discomfort.

Participant 5 described this persistent physical burden as follows: *“Back pain and pelvic pain were no longer a question, but had become a constant shadow.”* Participant 8 similarly described the experience of bodily visibility in the academic setting: *“I felt my pregnant body was a shameful performative object in the amphitheater and at the patients’ bedsides.”*

These accounts indicate that physical experience extended beyond pain and fatigue to include an altered relationship with the body and heightened awareness of how the pregnant body was perceived in educational and clinical spaces.

Structural description—how the experience was shaped

The physical experience occurred within demanding academic and clinical settings that required continued attendance, participation, and performance. The institutional environment was therefore experienced as insufficiently responsive to pregnancy-related physical needs. The combination of bodily changes, academic expectations, and clinical exposure created conditions in which participants had to negotiate their physical limitations while continuing to perform the role of a medical student.

Theme 2. The Lived World of Absences

The second theme concerned the experience of absence and disconnection. Participants described feeling simultaneously present within academic spaces and absent from their social and maternal worlds. This experience was reinforced by limited institutional accommodations and, for some participants, by family and gendered expectations surrounding motherhood.

2.1. Dual Isolation

Textural description—what was experienced

Participants described progressive distancing from peers and a sense of not fully belonging within their academic community. Although physically present in classrooms and university settings, they often experienced themselves as socially absent. Motherhood also generated tensions within intergenerational relationships, particularly when family members viewed childbearing as incompatible with continued education.

Participant 4 recalled her mother's response: *“Now that you have had a child, leave studying to the single girls.”* Participant 1 similarly stated: *“No one sat next to me to chat anymore; it was as if I smelled of milk.”*

The experience therefore involved both social exclusion and emotional displacement. Participant 10 captured this divided presence particularly clearly: *“My body was on the chair, but my soul was hovering over the cradle.”*

Structural description—how the experience was shape.

The experience of isolation developed at the intersection of academic peer culture, motherhood, and family expectations. Participants occupied a social position that did not fully correspond to either the conventional student role or the expected maternal role. Within the university, they could be perceived primarily through their academic responsibilities; within family networks, motherhood could be treated as a reason to withdraw from education. Consequently, participants experienced a lack of stable social belonging across both domains.

2.2. The Invisibilizing Institutional Void

Textural description—what was experienced

Participants described the absence of practical structures that could support simultaneous motherhood and academic participation. In particular, they referred to the lack of breastfeeding facilities and childcare services, as well as policies that formally recognized certain absences without addressing the practical realities of combining motherhood with education.

Participant 7 stated: *“There is no breastfeeding room here, nor a kindergarten there; I belong nowhere.”* Participant 9 similarly explained: *“The regulations say excused absence, but they don’t say how to be a mother and a student simultaneously.”*

For some participants, institutional absence was accompanied by experiences of gendered judgment. Participant 2 reported that the dean of the faculty had said: *“A woman who studies shouldn’t have a child; it’s against nature.”*

Structural description—how the experience was shaped

This experience was shaped by an institutional structure in which formal academic regulations did not necessarily translate into practical support for student mothers. The university could recognize motherhood administratively—for example, through excused absence—without providing the physical and organizational infrastructure required for breastfeeding, childcare, and continued academic participation. Participants therefore experienced institutional neutrality or absence as a form of invisibility: their needs existed, but were insufficiently represented within the organization of academic life.

Theme 3. The Lived Temporality of Slow Acceleration

The third theme captured how motherhood altered participants' experience of time. Participants described living according to two simultaneous temporal trajectories: the developmental trajectory of their child and the progression of their academic and professional careers. Rather than experiencing time as a continuous progression, they described it as divided, accelerated in some domains, and delayed in others.

3.1 Endless Temporal Bifurcation

Textural description—what was experienced

Participants described disrupted sleep, prolonged academic trajectories, and the simultaneous progression of two different life timelines. The temporal boundaries between day and night, academic work and caregiving, became increasingly blurred.

Participant 14 stated: *"I end the night breastfeeding, and the day with PowerPoints; there is no morning and night anymore."* Participant 12 described the academic consequences of this temporal division: *"All my classmates had published articles; I had only just changed my proposal title."*

Participant 4 expressed the temporal paradox more explicitly: *"I count my child's age by university semesters; both are running, but I am left behind."*

Structural description—how the experience was shape.

This temporal experience was produced by the simultaneous demands of caregiving and academic progression. Child development followed its own irreversible timeline, while academic advancement was structured through semesters, examinations, research milestones, and professional progression. Participants therefore experienced themselves as moving forward in two domains at once while perceiving themselves as falling behind academically.

3.2. The Collapse of Future Orientation

Textural description—what was experienced

Participants described a gradual narrowing of their future aspirations. Long-term professional ambitions were replaced by short-term concerns such as completing the current semester or simply maintaining sufficient functioning to continue. Success was progressively redefined from achievement and professional advancement toward survival and endurance.

Participant 3 expressed uncertainty about the competing trajectories of motherhood and education: *"I don't know whether I will get my degree first or see my son grow up first."*

Participant 2 described the contraction of professional aspirations: *"I no longer say I want such-and-such fellowship; I just say let me not fail this semester."* Participant 7 similarly stated: *"A grade of 10 for me is the same as the 20 of yesterday; just breathing is enough."*

Structural description—how the experience was shaped.

The collapse of future orientation emerged within conditions of accumulated physical exhaustion, temporal fragmentation, academic delay, and limited institutional support. Under these conditions, participants' horizons shifted from long-term professional development toward immediate manageability. Future planning became increasingly difficult when the demands of motherhood and academic progression were experienced as competing for the same limited temporal and emotional resources.

Composite Description of the Phenomenon

Across the three themes, the lived experience of childbearing during medical education was characterized by the simultaneous occupation of two demanding and partially incompatible social roles. Participants experienced motherhood through their bodies, emotions, relationships, institutional encounters, and perceptions of time. The experience was not limited to the addition of maternal responsibilities to an existing student identity; rather, motherhood altered how participants experienced their bodies, their relationships with peers and family, their sense of belonging within academic institutions, and their expectations for the future.

The textural dimension of the experience consisted of anxiety, guilt, physical exhaustion, pain, bodily self-consciousness, isolation, lack of practical support, temporal disruption, academic delay, and diminished future aspirations. The structural dimension consisted of the conditions under which these experiences emerged: demanding medical education, clinical and academic environments, limited childcare and breastfeeding infrastructure, inadequate accommodation of maternal responsibilities, social expectations surrounding motherhood, and competing temporal demands.

Taken together, these dimensions indicate that participants experienced motherhood during medical education as a continuous process of negotiating competing expectations while attempting to preserve both maternal and academic identities.

Essence of the Experience

The essence of the phenomenon was captured by the core theme “Role Conflict in a Rigid Educational Structure.” The participants' accounts suggest that the central experience was not motherhood or academic difficulty considered separately, but the persistent negotiation between the two within an educational structure experienced as relatively inflexible toward the biological, relational, and temporal realities of motherhood.

In this lived experience, participants were required to continue progressing through an academically structured timeline while simultaneously responding to the embodied and relational timeline of motherhood. The resulting experience involved emotional contradiction, physical depletion, social and institutional absence, temporal fragmentation, and contraction of future aspirations. The phenomenon can therefore be understood as an experience of trying to sustain two demanding identities within a structure that did not consistently accommodate their simultaneous existence.

Discussion

The present study was conducted using a phenomenological approach to elucidate the lived experiences of female students in medical sciences universities regarding the phenomenon of childbearing during their academic years. In-depth analysis of the interviews led to the identification of three main themes: “Pathological Lived Experience of Role Concurrency,” “The Lived World of Absences,” and “Lived Temporality of Slow Acceleration.”

The findings indicate that the experience of childbearing for female students is not merely a simple or challenging experience; rather, it is a “painful and existential redefinition of the self.” Rather than describing motherhood or studentship as separate experiences, participants described situations in which the demands of one role frequently affected how they could experience and perform the other. They are suspended on the boundary between two high-pressure identity systems: “traditional/sacrificing motherhood” and the “modern, efficient physician/nurse.” This intersection results in an exhausting existence where academic progress is achieved at the cost of physical and psychological burnout.

Regarding the main theme of the “Pathological Lived Experience of Role Concurrency,” the mother’s dual anxiety concerning her academic success and efficiency, coupled with the fear of harming her fetus, illustrated the emotional tension that accompanied the simultaneous experience of pregnancy, motherhood, and studentship. Participants often described having to manage concern about their academic responsibilities while also remaining attentive to their own health and that of their child. Feelings of guilt and the need to conceal distress in the educational environment further intensified this experience. These findings suggest that the difficulty was not simply the presence of two roles, but the expectation that both roles should continue to be performed successfully at the same time (22).

Within this theme, the constant pain and exhaustion accompanying pregnant women in the university setting, and the feeling of shame towards their body as an “abnormal” body in clinical academic environments, indicate that university and hospital spaces are patriarchally designed and lack suitable accommodations for pregnant women. This is corroborated by the findings of Bigdeli et al., who reported an inadequate understanding of the needs of employed pregnant women in medical university settings (23).

In a qualitative study aimed at exploring the lived experiences of childbearing among nurses at Birjand University of Medical Sciences, Iran, a primary theme was work-family conflict, where the heavy burden and exhaustion of hospital work caused individuals to feel inadequate as parents. A notable difference between the findings of Miraboutalebi et al. and the present study is that students did not emphasize economic issues; rather, concerns regarding time constraints and role conflicts were more prominent among students compared to employed individuals (24).

Furthermore, the findings related to this main theme are consistent with a qualitative study examining the psychosocial challenges of pregnant and parenting student mothers at a university in Ghana, which revealed that these mothers face social stigma, discrimination, feelings of guilt, reduced self-esteem, and difficulties in concentration and learning (5). Similarly, another study demonstrated that paradoxical emotions such as joy, fear, insecurity, anxiety, dissatisfaction, anger, and sorrow are simultaneously experienced by student mothers. In the research titled “Voice of Resilience,” conducted as a qualitative content analysis on student mothers in Iranian medical sciences, emotional and social needs were also identified as a main theme, emphasizing that the educational system rarely addresses these needs(25). At a deeper level, the participants in the current study spoke of an identity conflict between their

maternal and student roles. This identity conflict has been previously reported in a study by Cohen et al., where doctoral student mothers described a “gendered” experience and the necessity for strategic management of their self-presentation across various academic settings (26). In other words, student mothers are compelled to oscillate between two often incompatible social roles, and this fluctuation imposes a significant psychological burden on them (26).

“The Lived World of Absences” is another main theme of the present study. The experience of dual isolation among student mothers is exemplified by Participant No. 4, who speaks bitterly of an intergenerational exclusion through her mother’s words: “Now that you have a child, leave studying to the single people.” Traditional Iranian society perceives perfect motherhood as staying at home and reproducing traditional roles. Conversely, the modern academic community and peers also exclude the mother for reasons such as “smelling of milk” (Participant No. 1). The study indicates that the student is placed in a social limbo; she is neither fully accepted as a traditional mother nor as a carefree student. This finding aligns significantly with the study by Yeboah et al (5), which showed that student mothers employ strategies such as “avoiding communication with other students” to cope with challenges, as well as with the study by Tompkins et al., which reported “barriers to pregnancy disclosure” as a central theme (5).

The experiences described by participants also suggest an important distinction between formal recognition and practical support. The “invisibilizing institutional void and reproduced gender discrimination,” as evidenced by Participant No. 2’s experience regarding the faculty dean’s remark that “a female student should not have a child,” represents structural and symbolic violence against women. reflects an experience of institutional non-acceptance reported by the participant. While this individual account should not be generalized to all university administrators or institutions, it demonstrates how institutional attitudes may shape the experience of student mothers.

Despite the ratification of the Family Protection and Youth Population Law and macro-level policies in Iran (27, 28), a traditional perspective regarding childbearing among female students persists within the middle layers of university administration. This is while a review study titled “Knowledge and Attitude of Medical Sciences Students and Factors Related to Fertility” demonstrated that students possess a positive attitude towards parenthood and childbearing; however, women are more concerned than men about the impact of childbearing on their academic duration and occupational status (29). The contrast between positive attitudes toward parenthood and concerns about its academic consequences is therefore relevant to understanding why institutional support becomes particularly important for female students. This gap between positive attitudes and the lack of systemic support reproduces the same “paradox of acceptance” previously reported in a study by Moridi et al., titled “Paradox of Acceptance: A Content Analysis of Married Iranian Adolescent Women’s Confrontation with Pregnancy”(30).

The third theme, “Lived Temporality of Slow Acceleration,” describes how participants experienced time differently after childbearing. Their accounts did not simply concern having less time available. Rather, they described living according to two timelines at once: the rapidly changing developmental timeline of

their child and the structured timeline of academic semesters, examinations, research activities, and professional progression. This theme was reflected in two related dimensions: “Endless Temporal Bifurcation” and “The Collapse of Future Orientation.”

Under “Endless Temporal Bifurcation,” participants described a daily life in which academic and caregiving activities were interwoven. Sleep was interrupted, study periods became fragmented, and the boundaries between day and night were less clear. Participant No. 14 expressed this experience by saying, “I end the night breastfeeding, and the day with PowerPoints; there is no morning and night anymore.” The statement illustrates how the two roles occupied the same limited period of time rather than occurring in clearly separated phases.

The experience of living according to two parallel timelines was also evident in Participant No. 4’s statement: “I count my child’s age by university semesters; both are running, but I am left behind.” Here, the participant simultaneously recognized progress in her child’s development and delay in her own academic progression. This perception is important because academic education is organized around relatively fixed temporal milestones, whereas the developmental needs of a child cannot simply be postponed until academic requirements have been completed.

Previous research has similarly described difficulties among student mothers in managing educational and maternal responsibilities. Ashipala et al. reported that student mothers in nursing and midwifery education experienced challenges in balancing their dual roles. Other studies of student mothers have also identified competing responsibilities, limited time, exhaustion, and difficulties maintaining academic activities alongside childcare. These findings support the present interpretation without suggesting that motherhood itself inevitably results in poor academic performance (31, 32)

The second dimension, “The Collapse of Future Orientation,” concerns a change in how participants imagined their future. Several participants described shifting their attention from long-term academic or professional ambitions toward immediate and achievable goals. Participant No. 2 stated, “I no longer say I want such-and-such fellowship; I just say let me not fail this semester.” Similarly, Participant No. 7 described a change in the meaning of academic achievement: “A grade of 10 for me is the same as the 20 of yesterday; just breathing is enough.” These accounts suggest that, during periods of intense role conflict, long-term aspirations may become temporarily less salient than the immediate goal of coping with academic and maternal demands.

Importantly, this finding should not be interpreted as evidence that becoming a mother permanently reduces women’s professional aspirations. Rather, it appears to describe a change in the temporal horizon of the participants during a particularly demanding period. Recent research concerning pregnancy and medical education has similarly drawn attention to the role of time in shaping how pregnancy and parenthood are experienced during medical training (33, 34)

Studies of student mothers have also described the difficulty of maintaining academic progression while responding to the immediate needs of children, suggesting that the tension between short-term

caregiving demands and longer-term educational goals is not unique to the present participants (35, 36)

The findings therefore suggest that the temporal burden of childbearing during medical education extends beyond a simple shortage of hours. Participants experienced time as fragmented, accelerated in relation to their children's development, and slowed in relation to their own academic progress. This temporal mismatch may help explain why some participants focused increasingly on completing the current semester or simply maintaining their academic status rather than on longer-term professional plans.

Finally, comparing our findings with a qualitative evaluation study of the parenting experience in surgical residency reveals that pregnant and mothering residents feel intense pressure not to impose additional burdens on their colleagues. They are compelled to schedule their pregnancy and delivery around the program's requirements and have spoken of the "moral injury" caused by prioritizing parenting over education and patient care. These components bear a striking resemblance to the experiences of undergraduate and graduate student mothers in medical sciences, demonstrating that "being a mother in the healthcare system," regardless of the educational level, is confronted with similar structural challenges (1).

Limitations

One of the primary limitations of the present study was the difficulty in accessing eligible participants. Given the intense schedules and multiple responsibilities of student mothers in medical sciences, identifying and recruiting information-rich cases posed a significant challenge during the sampling process, which may have influenced the depth of the gathered qualitative data.

Conclusion

The findings of this phenomenological study reveal that the experience of childbearing for female medical and healthcare students transcends mere time management challenges or standard role conflicts; rather, it constitutes a profound existential crisis and a painful redefinition of identity. Caught at the intersection of the contradictory expectations of traditional, self-sacrificing motherhood and the rigorous demands of modern medical education, these women endure an exhausting lived experience manifested through bodily-emotional collapse, dual isolation, and the collapse of foresight. Childbearing during academic studies for female medical sciences students is not merely an individual decision, but rather a phenomenon deeply intertwined with educational, cultural, and institutional support structures. To facilitate this lived experience and mitigate role conflicts, it is imperative to implement supportive policies, provide adequate childcare facilities, ensure educational flexibility, and offer robust psycho-social support systems.

Declarations

Ethics approval and consent to participate

This study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki. Ethical approval was obtained from the Ethics Committee of [Dezful University of Medical Sciences] (Ethics Code: IR.DUMS.REC.1404.024). All participants were fully informed about the study objectives, procedures, and their right to withdraw at any time without any consequences. Written informed consent was obtained from all participants prior to data collection. Confidentiality and anonymity of all data were strictly maintained throughout the study. Audio recordings were transcribed verbatim and subsequently deleted to protect participants' privacy.

Consent for publication

Not applicable

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

MBBSH and FB wrote the main manuscript text and SK. Prepared tables 1 and 1 figure. NR, LK & MBBSH reviewed the manuscript.

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All ethical considerations in human research, including informed consent, permission to record interviews, data confidentiality, and the right to withdraw from the study, were observed. The authors would like to thank the Student Research Committee of Dezful University of Medical Sciences, Dezful, Iran for their support, cooperation and assistance throughout the period of the study(Register code:1403.NRPA.403117)

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References

1. Karamouzian M, Sharifi H, Haghdoost AA. Iran's shift in family planning policies: concerns and challenges. *International journal of health policy and management*. 2014;3(5):231-3.
2. Bai C, Lei X. New trends in population aging and challenges for China's sustainable development. *China Economic Journal*. 2020;13(1):3-23.
3. Smock PJ, Schwartz CR. The Demography of Families: A Review of Patterns and Change. *Journal of marriage and the family*. 2020;82(1):9-34.
4. Gholipour HF, Farzanegan MR. Marriage crisis and housing costs: Empirical evidence from provinces of Iran. *Journal of Policy Modeling*. 2015;37(1):107-23.
5. N-yelbi J. Exploring psychosocial challenges of pregnant and parenting student mothers at a university in Ghana: A dilemma between discontinuity and moving on. *International Journal of Studies in Psychology*. 2024;4(2):50-5.
6. Amorim F MB, Melo V, Almeida C, Magalhães J, Carvalho C, et al. Experiences of motherhood in university students in Brazil: A qualitative study. *The Open Nursing Journal*. 2021;15:313-8.
7. Khorasani F, Amel Barez M, Ebadi A, Jahanfar S, Mirzaei Najmabadi K, Moghri J. Voice of Resilience: A Qualitative Content Analysis Study of the Experiences of Mother Students in Medical Sciences in Iran. *J Nurs Midwifery Sci*. 2025;12(3):e160868.
8. Cimene FTA, Reilly EC, Elçi A. Editorial: Women in educational leadership. *Frontiers in Education*. 2024;Volume 9 - 2024.
9. Xu Y-Y, Manap J, Aziz SFA, Ngah FH. A systematic review of factors influencing the childbearing intentions of college students in developed and developing countries. *Social Behavior and Personality: an international journal*. 2024.
10. Preksha PV. Traditional Childbearing Beliefs and Practices among Mothers at a District Hospital in Goa. *Epidemiology International*. 2021;06(03):27-33.
11. Rajabi G, Khandade A. Effect of Premarital Education Based on Idealistic Marital Expectation's on Reducing Idealistic Marital Expectation's in Marriage Applicant Couples: A Single Case Study. *Journal of Psychological Models and Methods*. 2021;12(43):14-30.
12. Stack SW, Jagsi R, Biermann JS, Lundberg GP, Law KL, Milne CK, et al. Childbearing Decisions in Residency: A Multicenter Survey of Female Residents. *Academic medicine : journal of the Association of American Medical Colleges*. 2020;95(10):1550-7.
13. Johansson M, Benderix Y, Svensson I. Mothers' and fathers' lived experiences of postpartum depression and parental stress after childbirth: a qualitative study. *International journal of qualitative studies on health and well-being*. 2020;15(1):1722564.
14. Wolf HM, Romero R, Strauss JF, 3rd, Tarca AL, Hassan SS, Webb BT, et al. Risk factors for spontaneous preterm birth are mediated through changes in cervical length. *Communications medicine*. 2025;6(1):52.

15. Bohne A, Nordahl D, Lindahl Å AW, Ulvenes P, Wang CEA, Pfuhl G. Emotional Infant Face Processing in Women With Major Depression and Expecting Parents With Depressive Symptoms. *Front Psychol*. 2021;12:657269.
16. Delagneau G, Twilhaar ES, Testa R, van Veen S, Anderson P. Association between prenatal maternal anxiety and/or stress and offspring's cognitive functioning: A meta-analysis. *Child development*. 2023;94(3):779-801.
17. Salehi L, Rahimzadeh M, Molaei E, Zaheri H, Esmaelzadeh-Saeieh S. The relationship among fear and anxiety of COVID-19, pregnancy experience, and mental health disorder in pregnant women: A structural equation model. *Brain and behavior*. 2020;10(11):e01835.
18. Inner-City Asthma C, Ramratnam SK, Lockhart A, Visness CM, Calatroni A, Jackson DJ, et al. Maternal stress and depression are associated with respiratory phenotypes in urban children. *Journal of Allergy and Clinical Immunology*. 2021;148(1):120-7.
19. Cui H, Mu Z. Prenatal Maternal Risk Factors Contributing to Atopic Dermatitis: A Systematic Review and Meta-Analysis of Cohort Studies. *Annals of dermatology*. 2023;35(1):11-22.
20. Creswell JW PC. *Qualitative inquiry and research design: Choosing among five approaches*. Sage publications. 2016.
21. Ajjawi R, Bearman M, Luong V, O'Brien BC, Varpio L. Researching lived experience in health professional education. *Medical education*. 2024;58(9):1049-57.
22. Rowshani S. Consequences of Fulfilling Concurrent Occupational and Maternal Roles among Faculty Members. *Journal of Woman and Family Studies*. 2025;13(4):1-22.
23. Kolivand H, Bigdeli SMB, Ashrafizadeh H, Rashidi N. It Bothers Me to Remember My Pregnancy: Lived Experiences of Female Faculty Members at Type 3 University in Iran on Pregnancy and Childbirth: A Phenomenological Study. 2025.
24. Mirabutalebi N, Zeidabadi A, Keshtegar M, Biabni F, Rajabnoruzi S, Chatrouz A. Explaining the Lived Experiences of Childbearing Among Nurses at Birjand University of Medical Sciences. 2025.
25. Amorim F, Maia B, Melo V, Almeida C, Magalhães J, Carvalho C, et al. Experiences of motherhood in university students in Brazil: A qualitative study. *The Open Nursing Journal*. 2021;15:313-8.
26. Sirgebayeva A. Experiences of International Doctoral Student Mothers at a US Research University. *Journal of College Student Development*. 2025;66(1):66-84.
27. Alijanzadeh M, Bahrami N, Jafari E, Noori M, Miri F, Joftyar M, et al. Iranian women's attitude toward childbearing and its' association with generalized trust, social support, marital satisfaction and governmental childbearing incentives. *Heliyon*. 2023;9(5).
28. Barghi MM, Rasti M. Analyzing the Criminal Policy of the "Protection of the Family and Youth of the Population" Law Approved in 1400 Regarding Criminal Abortion and Related Crimes. *Medical Law Journal*. 2023;17(58):311-24.
29. Yaghoubi T, Rezai Abhari F, Araghian Mojarrad F. Awareness and attitude of medical sciences students and related factors towards fertility: A narrative review. *Journal of Nursing Reports in Clinical Practice*. 2023;2(1):38-44.

30. Moridi M, Amin Shokravi F, Ahmadi F. The paradox of acceptance: A content analysis of Iranian married female adolescent in confronting pregnancy. *Plos one*. 2019;14(5):e0216649.
31. Glick L, Heifetz EM, Finkelstein A. Nourishing two hearts: The journey of nursing student mothers during academic studies and clinical rotations: A qualitative study. *Nurse education in practice*. 2024;79:104068.
32. Baluyos QR, Alvarico AB. Lived Experiences of Student Mothers in Balancing Motherhood and Academic Pursuits: A Phenomenological Study. *Mediterranean Journal of Basic and Applied Sciences*. 2025.
33. Drumm CM, Martin PC, Schulz EV, Wyatt TR. Lurking in the shadows: time as an actor in the narratives of pregnancy within graduate medical education. *Advances in health sciences education : theory and practice*. 2026;31(1):43-58.
34. Maluleka U, Senekal JS, Munnik E, Somhlaba NZ. Balancing dual roles as mothers and students like a walk on a tight rope? Reflections and experiences of student mothers at a South African higher education institution. *South African Journal of Higher education*. 2023.
35. Behboodi Moghadam Z, Ordibeheshti Khiaban M, Esmaeili M, Salsali M. Motherhood challenges and well-being along with the studentship role among Iranian women: A qualitative study. *International journal of qualitative studies on health and well-being*. 2017;12(1):1335168.
36. Khadjooi K, Scott P, Jones L. What is the impact of pregnancy and parenthood on studying medicine? Exploring attitudes and experiences of medical students. *The journal of the Royal College of Physicians of Edinburgh*. 2012;42(2):106-10.

Tables

Tables 1 and 2 are available in the Supplementary Files section.

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