Exploring the Relationship Between Burnout and Childbearing Attitudes Among Female Pediatric Nurses: A Correlational Study

Abstract

Aims: Pediatric nurses face unique challenges in balancing professional and personal responsibilities, with burnout potentially influencing their attitudes toward childbearing. Understanding how occupational burnout impacts reproductive intentions is critical, especially in contexts like Iran, where declining fertility rates are a growing concern. This study aimed to explore the relationship between burnout and childbearing attitudes among female pediatric nurses working in selected children's hospitals affiliated with Tehran University of Medical Sciences in 2024.

Instruments & Methods: In this correlational study, data were collected from 194 married female nurses through convenience sampling. The data were collected using a demographic information form, the Copenhagen Burnout Inventory (CBI), and the Attitudes Toward Fertility and Childbearing Scale through an online electronic questionnaire. Data analysis was performed using SPSS version 25, with descriptive and inferential statistics.

Findings: The findings revealed significant positive correlations between personal burnout ($r=0.69$, $P<0.001$) and nature work-related burnout ($r=0.57$, $P<0.001$) with perceiving childbearing as an obstacle. However, no significant relationships were found between burnout dimensions and other childbearing attitudes, such as the importance of fertility for the future or childbearing as a social identity. Client-related burnout also showed no significant association with childbearing attitudes.

Conclusion: Burnout, particularly personal and work-related burnout, was significantly associated with nurses' attitudes toward childbearing and perceiving childbearing as an obstacle. Addressing burnout through interventions promoting mental health and work-life balance is essential to improve nurses' well-being and foster positive attitudes towards childbearing.

Keywords: Burnout, Childbearing, Fertility, Attitudes, Pediatric, Nurses

Introduction

A young population is a critical driver of a nation's economic growth and societal development. As the primary contributors to the labor force, young individuals bring innovation and energy to various sectors, thereby fostering economic advancement and technological progress (1, 2). In contrast, an aging population presents significant challenges, including increased healthcare costs, strained pension systems, and reduced workforce availability, which can slow economic growth and innovation (3, 4).

In recent decades, fertility rates have declined worldwide, becoming a critical concern for governments, policymakers, and researchers (5). Many countries, including Iran, are witnessing below-replacement fertility rates, which puts them at risk of an aging population. This demographic shift poses a serious hindrance to the country's development (6). A recent study revealed that the total fertility rate in Tehran, Iran, has experienced a notable decline. The results indicated a steep downward trend over the next decade, with the TFR decreasing from 1.4 children per woman in 2019 to an estimated 1.06 children per woman by 2029 (7). Social, cultural, and economic changes have altered the way people view marriage, parenthood, and family life (8, 9). Shifts in gender roles, financial instability, delayed marriages, and the pursuit of higher education and careers—particularly among women—have contributed to reduced fertility rates (10-12). In Iran, where the fertility rate has dropped dramatically over the past few decades, concerns about the population's long-term sustainability have become a national priority (13).

Healthcare professionals, especially nurses, form a substantial part of the working population in every society, making their attitudes toward fertility a critical factor in shaping population dynamics (14, 15). Nurses face unique challenges in balancing personal and professional life, which can significantly influence their family decisions (16). In pediatric nursing, the situation is even more complex. These nurses spend much of their time caring for children and interacting with families, which shapes their perspectives on parenthood in profound ways (17, 18). On the one hand, close exposure to children may naturally inspire a strong desire for parenthood among pediatric nurses. On the other hand, the emotional and physical demands of their profession can lead to burnout which may shape a bad attitude about childbearing.

Burnout, a psychological condition resulting from prolonged occupational stress, is a prevalent issue among healthcare workers, particularly those in high-pressure environments like pediatric units (19-21). A systematic review revealed that the prevalence of burnout syndrome among pediatric intensive care unit nurses ranges between 42% and 77% (22). In a study conducted in Spain, 38.6% of pediatric nurses reported experiencing high levels of burnout (23). Pediatric nurses face burnout due to the emotional and physical demands of their role. Caring for critically ill children, supporting distressed families, and witnessing suffering or loss can lead to emotional exhaustion and ultimately burnout (24-26). Long hours, high workloads, and staffing shortages further exacerbate the issue. These challenges make pediatric nurses particularly vulnerable to burnout (27, 28).

Studies have revealed that burnout can significantly affect the professional performance and attitudes of nurses. A recent study in Iran revealed a significant inverse relationship between missed nursing care and job burnout in nurses, suggesting that higher levels of burnout are associated with an increased likelihood of missed nursing care (29). A systematic review indicated that burnout may negatively impact pediatric nurses' attitudes toward patient safety in acute hospital settings (21). Another study conducted in Iraq reported that higher levels of burnout are significantly associated with an increased intention to leave the nursing profession (30). Given the significant impact of burnout on nurses' professional decisions, it is reasonable to posit that burnout may also influence personal life decisions, including family-related choices such as childbearing.

Burnout can reduce the emotional and mental resources necessary for envisioning and managing parenthood. For many nurses, the thought of taking on additional caregiving responsibilities at home can seem overwhelming (31-33). Consequently, they may develop negative or ambivalent attitudes toward childbearing, leading to delays in starting a family or choosing not to have children at all. Nurses experiencing burnout might view parenthood as an additional source of stress rather than a fulfilling life goal (32, 34).

The relationship between burnout and childbearing attitudes is an underexplored area of research, particularly among pediatric nurses. Developing strategies to support nurses' family decisions is essential, not only for improving their quality of life but also for addressing broader concerns about population trends and fertility rates in Iran and beyond. Given the high burnout of nurses' work and the declining fertility trends globally and in Iran, it is crucial to understand how occupational burnout influences reproductive intentions.

Instruments and Methods
Study Design and Objectives
This correlational study aimed to investigate the relationship between burnout and attitudes toward childbearing among female pediatric nurses.

Study Setting and Participants
The study population consisted of all female nurses employed at selected pediatric hospitals affiliated with Tehran University of Medical Sciences, including the Children's Medical Center and Bahrami hospitals affiliated with Tehran University of Medical Sciences in 2024. Participants were recruited through convenience sampling. Eligibility criteria included voluntary participation, being a married female nurse with at least a bachelor's degree, and having a minimum of six months of clinical experience. Nurses who did not answer more than 10% of the questions were excluded from the study. These participants were replaced through additional sampling to ensure the sample size remained adequate.

Sample Size and Power
To calculate the sample size, a 95% confidence level and 80% statistical power were applied, with an assumed minimum correlation coefficient of 0.20 between the variables. The minimum required sample size was determined to be 194 participants.

$$C = 0.5 * \ln[(1+r)/(1-r)]$$
$$N = \left[\left(z_\alpha + z_\beta\right)/C\right]^2 + 3$$

Data collection Instruments
Data was collected using Demographic Information form, the Copenhagen Burnout Inventory, and Attitudes toward Fertility and Childbearing Scale. The questionnaires were distributed to participants in person during their shifts. To ensure a high response rate and accurate data collection, the research team was available to address any questions or concerns during the completion of the questionnaire.

Demographic Information form: This form collected information such as age, number of children, average number of shifts per month and level of education.

The Copenhagen Burnout Inventory: This tool was developed by Kristensen et al. in 2005. It consists of 19 items across three dimensions: personal burnout (6 items, total score ranging from 0 to 30), work-related burnout (7 items, total score ranging from 0 to 35), and client-related burnout (6 items, total score ranging from 0 to 30). Each dimension is evaluated separately, with no overall score calculated. Responses are provided on a 5-point Likert scale, where 0 indicates "never" or "very low degree," and 5 represents "always" or "very high degree (35).

Mahmoudi et al. (2017) validated the Persian version of the inventory, maintaining the 19-item structure but dividing it into four dimensions: personal burnout (7 items, total score ranging from 0 to 35), nature of work-related burnout (3 items, total score ranging from 0 to 15), work-aversion-related burnout (3 items, total score ranging from 0 to 15), and client-related burnout (6 items, total score ranging from 0 to 30). The Cronbach's alpha coefficients for the dimensions ranged between 0.84 and 0.89, confirming the reliability of the tool (36). In the current study, the Cronbach's alpha coefficients for the dimensions of personal burnout, nature of work-related burnout, work-aversion-related burnout, and client-related burnout were 0.86, 0.83, 0.86, and 0.87, respectively, which confirmed the reliability of this tool.

Attitudes toward Fertility and Childbearing Scale: This scale was originally developed by Soderberg et al. in 2013. It comprises 27 items across three dimensions: the significance of fertility for the future (9 items, total score ranging from 9 to 45), childbearing as a present barrier (12 items, total score ranging from 12 to 60), and childbearing as part of social identity (6 items, total score ranging from 6 to 30). Each dimension is scored independently, without generating an overall score. Responses are rated on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating stronger agreement with the respective dimension (37).

Kordzanganeh and Mohammadian (2019) validated the Persian version of this scale, which includes 20 items divided into four dimensions: postponing childbearing to a future time (5 items, total score ranging from 5 to 25), childbearing as a hindrance (5 items, total score ranging from 5 to 25), fertility as a future goal (6 items, total score ranging from 6 to 30), and childbearing as a social identity (4 items, total score ranging from 4 to 20). They also reported a Cronbach's alpha of 0.88 for the Persian version, confirming its reliability (38). In the current study, the Cronbach's alpha coefficients for the dimensions of postponing childbearing to a future time, childbearing as a hindrance, fertility as a future goal, and childbearing as a social identity were 0.85, 0.87, 0.84, and 0.86, respectively, confirming the reliability of the tool.

Statistical Analysis

The data were analyzed using SPSS software, version 16. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used alongside inferential statistics, including Pearson's correlation coefficient. The Kolmogorov-Smirnov test confirmed the normal distribution of the data. A significance level of $P<0.05$ was set to determine statistical significance.

Findings

Demographic Characteristics

A total of 194 female pediatric nurses participated in the study. The participants had an average age of 33.26 ± 7.00 years, and most held a bachelor's degree (86.1%), with 13.9% holding a Master of Science or higher. On average, the nurses had one child (1.00 ± 0.56) and worked 26.99 ± 1.83 shifts per month (**Table 1**).

Descriptive Statistics of Burnout and Childbearing Attitudes

Among the burnout dimensions, **personal burnout** had the highest mean score (22.10 ± 5.47). **Nature work-related burnout** exhibited the lowest mean score (8.81 ± 3.95). In terms of attitudes toward childbearing, participants scored highest on the dimension of **childbearing as an obstacle** (16.01 ± 2.82) and lowest on the **importance of fertility for the future** (7.97 ± 2.50) (**Table 2**).

Correlation Between Burnout and Childbearing Attitudes

The results of the Pearson correlation analysis revealed several significant associations. **Personal burnout** was strongly correlated with **childbearing as an obstacle** (r=0.69, P<0.001). A significant and positive correlation was also found between **nature work-related burnout** and **childbearing as an obstacle** (r=0.57, P<0.001). No significant relationships were observed between burnout dimensions and the **importance of fertility for the future** or **childbearing as a social identity**.

Similarly, correlations between **work-aversion-related burnout** and **client-related burnout** with childbearing attitudes were weak and statistically insignificant (P>0.05) (**Table 3**).

Discussion

This study was conducted with the aim of exploring the relationship between burnout and childbearing attitudes among female pediatric nurses.

The results revealed a strong correlation between personal burnout and the perception of childbearing as an obstacle. This finding highlights that burnout can alter perceptions of parenthood. Our finding supports the notion that job burnout can influence family-related decisions and make long-term commitments such as parenthood seem overwhelming. Personal burnout reflects the accumulation of physical and psychological fatigue, which leaves individuals feeling depleted and unable to manage additional responsibilities (35). For nurses experiencing personal burnout, the thought of balancing professional duties with the demands of parenthood may seem unmanageable. As a result, childbearing is perceived as a hindrance rather than a meaningful or desirable life event. Childbearing demands a substantial amount of time and energy, which can contribute to increased work-family conflict and, ultimately, burnout (39, 40). Several studies have identified work-family conflict as a primary contributor to burnout among nurses (41, 42). Furthermore, many individuals perceive childbearing as a hindrance to career advancement (43, 44). Aligning with our results, a study conducted in Bushehr province, Iran, on employed married women reported that burnout is directly associated with work-family conflict, suggesting that burnout may exacerbate challenges in balancing professional responsibilities and family life (45). Consistent with our results, a study in Iran reported a direct and significant relationship between work-family conflict and burnout among nurses (41). Additionally, it is important to note that the intention to have children requires mental resources such as hope, optimism, and good mental health, all of which can be negatively affected by burnout. Supporting our results, a study conducted in Greece reported that burnout can significantly reduce hope among healthcare providers (46). Another study revealed the negative effect of burnout on optimism among nurses (47). A similar study also demonstrated that burnout can deteriorate the mental health of nurses (48).

The significant correlation between nature work-related burnout and childbearing as an obstacle underscores the challenges faced by pediatric nurses. Our results suggest that nature work-related burnout, which arises from the high demands and stressors specific to pediatric care, can make nurses feel overwhelmed, contributing to a sense of incapacity to take on additional responsibilities like parenting. According to a qualitative study, pediatric nurses face burnout due to several challenges of pediatric care, including emotional exhaustion from caring for critically ill children and compassion fatigue (49). Compassion fatigue, which can arise from caring for pediatric patients, is prevalent in pediatric nursing. In consistent with our results, findings of a systematic review indicated a significant link between compassion fatigue and burnout among pediatric nurses (50).

No significant correlations were found between burnout dimensions and other reproductive attitudes, such as the importance of fertility for the future or childbearing as a component of social identity. These results suggest that burnout may primarily influences immediate and practical concerns—such as the feasibility of parenthood—rather than long-term reproductive goals or symbolic views of parenthood.

The absence of a significant correlation between client-related burnout and negative childbearing attitudes is also noteworthy. Our results showed that client-related burnout, which arises from interactions with patients and families, may not have a negative influence on personal decisions about childbearing. One possible explanation is that caring for pediatric patients may reinforce feelings of empathy and dedication to children. This could foster a feeling of motherhood among pediatric nurses, allowing them to view their caregiving role as a personal fulfillment. This finding underscores the complexity of burnout. It appears that different sources of burnout may influence personal life choices in diverse ways.

The findings of this study carry important implications for healthcare institutions and policymakers, especially in contexts like Iran, where declining fertility rates are a growing concern. Based on our findings, addressing burnout among nurses is essential not only for improving their psychological well-being but also for supporting their family aspirations. High levels of burnout can contribute to nurses perceiving childbearing as an added burden, which may discourage them from having or expanding families. Healthcare institutions should develop strategies to reduce occupational stress. Potential measures include flexible work schedules and mental health support services. Such

interventions can alleviate personal and work-related burnout, reducing the perceived conflict between professional and personal life responsibilities. By supporting nurses in balancing their roles, healthcare institutions can indirectly foster a more positive outlook toward childbearing and family formation.

The strengths of this study lie in its use of reliable and validated measurement tools, which enhance the accuracy and reliability of the data collected. Furthermore, the study's sample size was determined based on a 95% confidence level and 80% statistical power, which ensures that the results are statistically significant and that the analysis has sufficient power to detect meaningful correlations. Additionally, the focus on female pediatric nurses addresses an important gap in the literature, as this demographic has been underrepresented in previous research. By investigating burnout and attitudes toward childbearing among this group, the study contributes valuable insights into the unique challenges faced by pediatric nurses.

However, there are several limitations to consider. The study used a convenience sampling method, which may limit the generalizability of the findings. The sample was drawn from two hospitals affiliated with Tehran University of Medical Sciences, and the results may not be applicable to nurses working in other regions or healthcare settings. A more randomized sampling technique could improve the external validity of the study and allow for broader generalizations. The reliance on self-reported data also introduces the possibility of response bias, as participants may not fully disclose their experiences or may provide answers that align with social expectations.

Future research should also investigate the effectiveness of interventions designed to reduce burnout and their impact on reproductive attitudes. For example, studies could examine whether nurses who participate in stress management programs are more likely to develop positive attitudes toward childbearing. Additionally, qualitative research could provide deeper insights into the personal experiences of nurses and how they navigate the challenges of balancing work and family life.

Conclusion

This study highlights a significant relationship between burnout and childbearing attitudes among female pediatric nurses, with personal and nature work-related burnout strongly associated with the perception of childbearing as an obstacle. These findings suggest that the emotional and psychological toll of caregiving roles in pediatric nursing can shape attitudes toward childbearing, often making it seem an obstacle. The different dimensions of burnout appear to impact reproductive decisions in different ways, as evidenced by the lack of association between client-related burnout and childbearing attitudes. This complexity underscores the need for a nuanced understanding of how occupational stress and burnout influences personal life choices among healthcare professionals.

Ethical Permissions

In this study, we adhered to the principles of the Committee on Publication Ethics (COPE) and the Helsinki Declaration of Ethics. The study received ethical approval from the Ethics Committee of Tehran University of Medical Sciences (IR.TUMS.FNM.REC.1402.227). Participants were fully informed about the purpose and procedures of the study and written informed consent was obtained before participation. Individuals were informed that their participation was voluntary and that there would be no negative consequences for not participating in this study. The anonymity and confidentiality of the participants was maintained.

Conflicts of Interests

The authors declare that they have no conflicts of interests.

Authors' Contribution

Sadat Hosseini AS (First Author), Methodologist/Discussion Writer (25%); Alviri S (Second Author), Assistant Researcher (15%); Pakzad P (Third Author), Assistant Researcher (15%); Rostamian F (Fourth Author), Assistant Researcher (15%); Rajabi MM (Corresponding Author), Introduction Writer/Main Researcher/Data Analyst (30%).