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Nursing Students' Knowledge and Perspectives on Iran's Population Support Law: A Mixed-Method Study

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Abstract

Background: Demographic changes have emerged as a primary concern for policymakers across various sectors, particularly in health and healthcare. In response to these challenges, the Family and Youth Population Support Law was developed to increase fertility rates and support families.

Aim: The present study was conducted to examine nursing students' knowledge and perspectives regarding this law in Iran.

Method: This convergent parallel mixed-methods study was conducted in two phases: quantitative and qualitative. In the quantitative phase, a researcher-made questionnaire was developed based on the contents of the Family and Youth Population Support Law in Iran. In the qualitative phase, semi-structured interviews were conducted with 23 nursing students to explore their perspectives. Data management was performed using MAXQDA 10 software. Data were analyzed using a directed qualitative content analysis following the approach proposed by Elo and Kyngäs.

Results: The quantitative findings regarding students' knowledge and awareness of the provisions of the Family and Youth Population Support Law showed that the mean total score was 71.58%. The qualitative findings on students' perspectives regarding the Family and Youth Population Support Law and childbearing led to the emergence of six subcategories and two main categories: 1. Transformation of childbearing in the context of modernity, and 2. Challenges and concerns about the future of children under the shadow of policymaking and law implementation.

Implications for Practice: The findings offer valuable insights for enhancing educational programs related to this law within universities and for promoting active student engagement in its implementation.

Introduction

Today, two-thirds of the world's population live in countries or regions where the total fertility rate is 2.1 or lower. This rapid decline, which has occurred in middle-income countries such as Bangladesh, Brazil, China, Thailand, Turkey, Uruguay, and especially Iran, has been much faster than previous demographic projections (1). According to the World Health Organization, the global population aged over 60 now exceeds the number of children under the age of five. By 2050, the number of people aged 65 and older is expected to surpass that of adolescents and young adults aged 15 to 24 (2). Amidst these shifts, Iran has experienced one of the most rapid fertility transitions in recent decades, with its total fertility rate plummeting from approximately 7 to below 2 over the past four decades, recorded at 1.6 in 2020 (3).

This rapid decline in fertility has raised concerns about population aging, shrinking workforces, and future population decline, prompting governments to reconsider the priorities of population policies (4). However, policies related to fertility and childbearing are inherently complex because reproductive decisions are shaped by a wide range of social, cultural, economic, and individual factors (5). Consequently, governments have adopted various strategies to address demographic challenges and influence childbearing behaviors (6). In Iran, these concerns have been intensified by declining fertility rates, delayed marriage, and a decreasing number of families with children (7).

Evidence suggests that various factors contribute to declining fertility, with economic conditions being among the most significant (8). In Europe, economic recessions have led to decreased fertility rates, while in some Asian countries, economic growth has contributed to increased birth rates (9). Moreover, policies that make childcare more accessible and manageable for mothers have a significant impact on fertility outcomes (10). In Japan, since the 1970s, the decline in fertility has been primarily attributed to a decrease in marriage rates and an increase in women's employment opportunities (11) e. Furthermore, a systematic review identified five broad categories associated with fertility decline in the Middle East: healthcare, cultural, economic, social, and policy-related factors. These include improvements in healthcare and family planning services, changing attitudes toward marriage and childbearing, increasing educational attainment and women's empowerment, economic pressures related to housing and childrearing, and governmental policies affecting reproductive behavior (12). These demographic changes have not only had wide-ranging social and economic consequences but have also become a major concern for policymakers, particularly in the areas of health and healthcare. In response to these challenges, the Family and Youth Population Support Law has emerged as one of the most significant legislative measures enacted in Iran in recent years. This law was developed to increase fertility rates and support families. It encompasses a set of policies and strategies designed to boost birth rates, facilitate marriage, and provide support for families with children (13).

Nurses, as the largest professional group in the healthcare system, play a critical role in promoting and implementing population-related policies. However, a notable disparity exists between their theoretical role in policymaking and their practical involvement; they are often perceived as mere implementers of established protocols rather than active contributors (14, 15). While previous studies have extensively examined the social, cultural, and economic determinants of fertility and have explored the attitudes of healthcare workers toward population policies, limited attention has been given to nursing students (16, 17). This population represents a unique group because they are both future healthcare providers who will contribute to the implementation of reproductive health policies and young adults who are themselves directly affected by the Family and Youth Population Support Law. Moreover, nursing students are at a critical stage of professional development during which their professional identity, policy literacy, and attitudes toward population-related issues are being shaped. Understanding their knowledge and perspectives is therefore essential, as positive awareness and constructive attitudes may facilitate the long-term implementation of population policies, whereas insufficient knowledge or unfavorable perceptions could hinder the achievement of policy objectives. Despite the importance of this group, evidence regarding their views on Iran's Family and Youth Population Support Law remains limited. Therefore, this study employed a mixed-methods approach. By combining a quantitative survey with qualitative semi-structured interviews, it enabled a comprehensive evaluation of nursing students' knowledge and perspectives. The quantitative phase mapped broader trends in knowledge and attitudes, while the qualitative phase explored the underlying reasons behind these perspectives, providing insights for educational and

policy planning. Accordingly, this mixed-methods study aimed to investigate nursing students' knowledge and perspectives regarding Iran's Family and Youth Population Support Law and to explore the factors shaping their views.

Methods

Study design and setting

This mixed-methods study employed a convergent parallel design, combining a cross-sectional descriptive survey and directed qualitative content analysis (DCA), conducted in 2025 (1404 in the Iranian calendar). The study was conducted at the School of Nursing, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

The quantitative phase: Questionnaire survey

Participants: The study population in this cross-sectional study consisted of nursing students at the undergraduate, master's, and doctoral levels who were in good physical and mental health. The sample size was calculated using the formula for correlation studies provided in the reference, with a 95% confidence level and 80% test power, assuming a minimum correlation coefficient of 0.2 between knowledge and attitude for statistical significance; this formula yielded a sample size of 202 participants (18).

One-third of the sample (n=62) were master's and doctoral students, while 140 participants were undergraduate students. Eligible individuals were recruited using a convenience sampling method.

Instruments and Measures: The data collection tool was a researcher-developed questionnaire consisting of two parts.

The demographic questionnaire assessed age, gender, academic level (bachelor's, master's, and doctoral), marital status, and number of children.

The questionnaire assessing knowledge of the Family and Youth Population Support Law was derived from the provisions of the law and included 84 items across seven domains: Deputy of Health and Treatment (42 items), Deputy of Food and Drug (3 items), Deputy of Management Development and Resources (24 items), Deputy of Cultural and Student Affairs (3 items), Deputy of Education (6 items), Deputy of Research and Technology (3 items), and Public Relations (4 items). Items were rated on a five-point Likert scale ranging from "completely unaware" (score 1), "unaware" (score 2), "neutral/don't know" (score 3), "aware" (score 4), to "completely aware" (score 5). Participants indicated their level of agreement or awareness for each item by selecting one of the five options. The total possible score ranged from a minimum of 84 to a maximum of 420. Higher scores indicate greater knowledge among students regarding the provisions of the Family and Youth Population Support Law. The face validity of the questionnaire was confirmed by the feedback of five nursing faculty members. The reliability of the instrument was assessed using the test-retest method over a 14-day interval, yielding a correlation coefficient of $r = 0.92$ for the entire tool. After obtaining the necessary approvals, the researcher attended classes at various academic levels, provided explanations about the study's objectives and methodology, and obtained informed consent from eligible participants. Subsequently, the questionnaires were distributed and collected. Of the 202 distributed questionnaires, 200 were completed and included in the final analysis, yielding a response rate of 99.0% of 200 completed.

Data Analysis: Descriptive statistics (mean and frequency percentages) and inferential tests, including Chi-square, independent t-test, correlation coefficient, and regression analysis, were performed using SPSS version 21, with a significance level set at 0.05.

The qualitative phase: Semi-structured interviews

Participants: In the qualitative phase, based on purposive sampling, 23 nursing students were invited to participate in interviews, considering diversity in terms of age, gender, marital status, and academic level.

Data Collection: Data were collected through semi-structured interviews. The main question was designed to explore students' perspectives on the Youth and Population Law. For instance, one of the key questions addressed their experiences with the policies implemented in recent years. Given that the Youth and Population Law includes various provisions for different social groups—such as employed women, homemakers, students, and individuals with two or more children—participants

were asked to describe their experiences regarding these policies. Additionally, they were encouraged to express their attitudes and preferences toward childbearing, especially concerning their socio-economic status. To gain deeper insights, exploratory questions were also asked. Interviews were primarily conducted in the break room of the faculty. The timing and location of each session were determined by mutual agreement with the participants to ensure a calm and comfortable environment for face-to-face interaction. Data collection continued until saturation was achieved after 23 interviews. On average, each interview lasted about 40 minutes.

Data Analysis: Directed qualitative content analysis was conducted using the Elo and Kyngäs approach (19). In the preparation phase, each interview was audio-recorded and transcribed verbatim. To immerse in the data, transcripts were read multiple times. In the organizing phase, the researchers developed a categorization matrix to organize the codes within predefined categories. Using MAXQDA 10 for data analysis, extracted statements related to various aspects of the concept were identified as meaning units. Initial codes were generated by merging similar meaning units and categorized based on their similarity to the matrix. Coding was applied to relevant meaning units, leading to the emergence of new main categories. Through constant comparison, the codes were sorted into main categories, generic categories, and subcategories, which were reported in the third reporting phase.

Trustworthiness: The trustworthiness of the qualitative study was maintained via the criteria of Lincoln and Guba (20). Constant comparison of the data, prolonged engagement with data gathering and analysis, and member checking to ensure congruence between participants' experiences and our findings helped ensure credibility. Dependability, which refers to the stability of the data and findings over time, was ensured via peer checking, in which two external qualitative research experts assessed and confirmed the accuracy of data analysis. Comprehensive descriptions of participants' experiences and study context were provided to ensure transferability. Confirmability was also ensured by documenting all steps of the study, particularly the data analysis step, to help others trace the study steps.

Finally, quantitative and qualitative findings were merged during the interpretation phase through comparison, convergence, and complementarity of results to provide a comprehensive understanding of students' knowledge and perspectives.

Ethical Consideration

This mixed-method study was approved by the Committee for Ethics in Biomedical Researches, Shahid Beheshti University of Medical Sciences, Tehran, Iran (Ethical approval code: IR.SBMU.PHARMACY.REC.1403.205). All methods were performed in accordance with the Declaration of Helsinki. After obtaining the permission and providing explanations about the research objectives, informed consent was obtained from all participants, who were informed of the confidentiality of the data.

Results

The quantitative phase

Data from 200 nursing students aged between 18 and 48 years were analyzed. The mean age of the participants was 23.10 ± 4.5 years. Most (52.5%) were male, predominantly single (91.1%), and held a bachelor's degree (81.2%). Results related to other demographic variables are presented in Table 1.

Table 1. Demographic characteristics of participants (N=200)

Variable	N (%)
Education	164 (81.20)
Bachelor's in Nursing	22 (10.09)
Master in Nursing	16 (7.90)
PhD candidate	
Number of children	184 (91.10)
No child	10 (4.90)
1-2 children	8 (4.00)
3-4 children	

The results showed that the percentage of knowledge and awareness regarding the provisions of the Youth and Population Law was above 70% in all domains except for the cultural, student, and general domains, where it was lower. The overall mean score was also above 70%. According to the Friedman test results, the differences in domain scores were statistically significant (p=0.001). The healthcare and food & drug domains received the highest scores (rank 1), while the cultural, student, and general domains received the lowest scores (rank 3). Furthermore, regression analysis indicated that among the demographic variables, only gender was significant; the mean score for male students was 0.38 points higher than that for female students (p=0.026), whereas other variables were not significant (p>0.05) (Table 2).

Table 2. Average scores obtained in each of the dimensions related to the law of youth of the population from the perspective of the participants (N=200)

Dimensions	Health and Treatment	Food and Drug	Management Resources	Student Cultural	Educational	Research	General	Total
Rank	1	1	2	3	2	2	3	P=0.001
Mean based on 5	3.76	3.69	3.57	3.40	3.58	3.59	3.44	3.58
Mean based on 100 (%)	75.25	73.86	71.42	68.12	71.62	71.88	68.89	71.58
Standard Deviation	1.05	1.17	1.31	1.46	1.38	1.26	1.32	1.18
Min-max	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5

The Qualitative phase

Among the eligible interviewees, 12 were undergraduate nursing students, 6 were master's students, and 5 were doctoral nursing students. Most of the interviewees were female (60%) and single (85%). The majority (75%) were aged between 20 and 26 years.

Based on the participants' statements, 78 codes were extracted, which were organized into 19 subcategories, 6 generic categories, and 2 main categories (Figure 1).

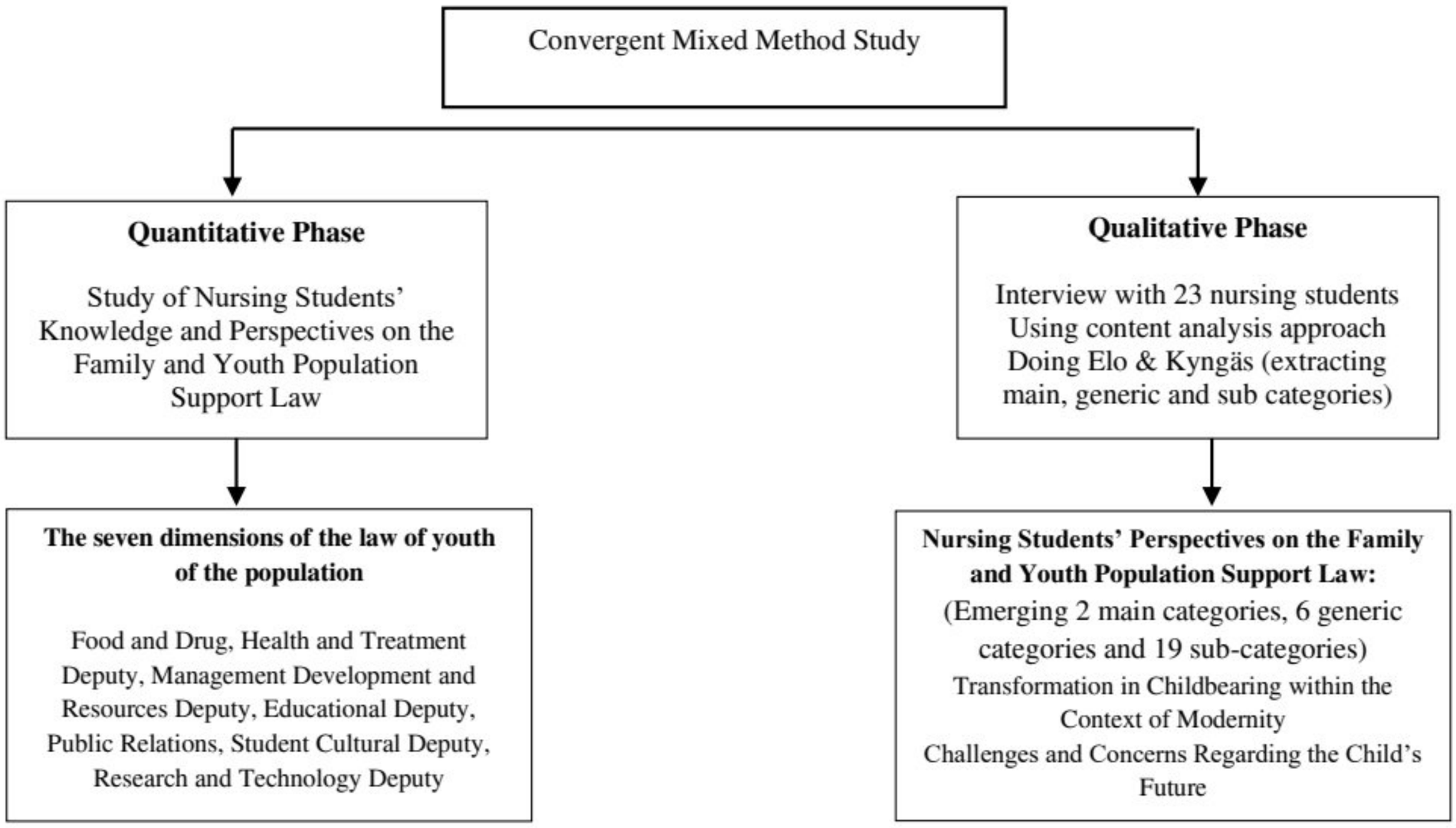
1.Transformation in Childbearing within the Context of Modernity

The first main category that emerged after comparing and classifying the codes and subcategories was "Transformation in Childbearing within the Context of Modernity." The process and concept of childbearing are adapting to the values and lifestyles of modern society and can no longer be regarded solely as a natural or instinctive act. This reflects that childbearing has become a complex decision influenced by various factors. This category comprises three subcategories: "Changes in Family Structure," "Shifts in Values and Beliefs," and "Postponement of Childbearing."

1.1. Changes in Family Structure

Over time, the structure of families, along with values and gender roles, has undergone profound changes because of modernity. Families have become smaller, and there has been a growing tendency toward independent living, migration, and keeping pets instead of having children, as financial constraints, limitations, and individual priorities have influenced the formation of traditional families. The modern lifestyle emphasizes individualism and the pursuit of personal enjoyment, with many individuals preferring to achieve personal goals and travel before considering parenthood:

"When I have a child, I won't be able to travel or do the things I enjoy" (P.10). As one participant stated, "Nowadays, because of the costs of marriage and the high divorce rate, many young people choose cohabitation without formal marriage, and naturally, they have no inclination to have children" (P.12).



Dimensions of quantitative study	Categories and subcategories of qualitative study	Themes
Dimensions of the law of youth of the population -	Categories (Subcategories) Changes in Family Structure (changes in family structure, tendencies toward migration, preference for pet-keeping instead of childbearing, modern lifestyle) Postponement of Childbearing (infertility and high-risk pregnancies, instability and reduced commitment in marital relationships, impatience and insufficient resilience) Shifts in Values and Beliefs (Women's Social Participation, Delayed Marriage, Idealism in Childrearing)	Transformation in Childbearing within the Context of Modernity
Educational Deputy Public Relations Student Cultural Deputy Research and Technology Deputy	Financial Constraints (Job insecurity, the high cost childbearing and childrearing, inadequate housing and renting) The Gap Between Legislation and Implementation (inadequate enforcement of the Youthfulness and Population Law, administrators' attitudes toward law implementation, insufficient awareness about the Youth and Population Law) Socio-Cultural Challenges (Insufficient social support, social harms, negative impact of media culture)	Challenges and Concerns Regarding the Child's Future

Figure 1. Comparison and integration of results from quantitative and qualitative studies

1.2. Shifts in Values and Beliefs

Changes in family values and beliefs regarding childbearing—shaped by women's social participation, delayed marriage, and idealistic approaches to parenting—have contributed to declining fertility rates and transformations in family roles. Educated women who are active in the labor market tend to postpone having children to focus on personal and financial development: "To progress, one needs to learn languages and acquire various skills, and having a child limits those opportunities" (P.9). Moreover, the increasing age at marriage, along with technical and financial constraints, has made the process of childbearing more challenging. Idealistic attitudes toward child-rearing, which demand significant time and financial investment, also reduce the desire for larger families. As one participant explained: "For my child to be raised the way I want, it requires time and money, which, given my financial problems and the resources I have, is not feasible" (P.1).

1.3. Postponement of Childbearing

Postponing childbearing—particularly in the face of concerns about infertility and high-risk pregnancies has significant implications for both individual and social life. Couples who worry about health risks and the high costs of medical treatment often choose to delay until their circumstances improve: "The cost of treatment is so high that I'm afraid I'll spend a lot this time and still not get pregnant" (P.7). In addition, instability in marital relationships and fears of escalating tensions sometimes lead to decisions to postpone parenthood, as expressed by one participant: "Men are not like they used to be—committed to their families and wives; they easily betray each other, and this undermines the foundation of the family" (P.1). Impatience and a lack of resilience also discourage individuals from marrying or starting a family: "With this inflation and social situation, I don't have the patience for child-rearing. I can't even handle my problems yet, so how could I trap a child in my situation?" (P.14).

2. Challenges and Concerns Regarding the Child's Future

The second main category that emerged after comparing and classifying the codes and subcategories was "Challenges and Concerns Regarding the Child's Future in the Context of Policy-Making and Law Enforcement." Concerns about the future play a significant role in reducing fertility rates. Uncertainty about the economic, political, and social future leads individuals to doubt their ability to meet their child's needs throughout their life. Rising living costs, job instability, and environmental risks such as climate change are among the factors that heighten concerns about children's futures. Such worries may prompt individuals to postpone childbearing or forgo it altogether, as they prefer to bring children into a safe environment with a promising future. This category consists of three subcategories: "Socio-Cultural Challenges," "Financial Constraints," and "The Gap between Legislation and Implementation."

2.1. Socio-Cultural Challenges

Socio-cultural challenges related to the child's future—such as limited access to quality education, discrimination and inequality, poverty, and intergenerational tensions—can influence an individual's identity and values. One participant explained: "When kindergartens are so far from my workplace and have such poor hygiene, I'm forced to leave my child with my mother-in-law most of the time, but she has leg pain and can't take proper care" (P.5). Concerns about social harms and the negative impact of media culture also shape family attitudes and behaviors: "There's no control over the distribution of addictive substances—these days you see them in kids' hands as easily as candy" (P.11). Another participant noted: "On Instagram, there are so many videos that only show extravagance and lavish celebrations—parties for a child's birthday or even for every occasion, from the first tooth to any small milestone—all of which cost a fortune" (P.14).

2.2. Financial Constraints

Financial constraints, as one of the most critical and concerning challenges for a child's future, impose significant limitations on access to education, healthcare, and housing. Job insecurity prevents parents from having a stable and predictable income, which in turn undermines their ability to meet the child's basic needs, including nutrition, clothing, education, and health services: "Nurses can indeed find work almost anywhere, especially now with the nurse shortage crisis, but job insecurity still doesn't remove the doubts about having children" (P.17). In addition, the high costs associated with childbearing—such as "initial expenses like delivery, diapers, formula, and clothing, and long-term expenses like schooling and education" (P.2) make controlling fertility a challenge. In the housing domain, "a lack of adequate space in rental homes, insufficient amenities, and instability and

insecurity in rental contracts" (P.16) complicate child-rearing and everyday family life. These factors contribute to stress, financial pressure, and difficulties in making decisions about having children.

2.3. *The Gap Between Legislation and Implementation*

The gap between legislation and implementation, as a major challenge in the domain of childbearing, raises serious concerns. Such delays prevent supportive policies and tax incentives intended to facilitate childbearing from reaching families in a timely manner, fueling apprehensions about the inadequate enforcement of the Youthfulness and Population Law. As one participant stated: "My brother applied for the childbearing loan months ago, but he still hasn't received it—they say there's no budget" (P.18). Furthermore, insufficient guarantees for the full execution of responsibilities by various agencies have reduced the law's effectiveness. According to interviewees, policymakers' attitudes have a direct and significant influence on whether these laws succeed or fail: "Some officials believe single people have more free time and are more efficient in the workplace, so they don't comply with the provisions of the Youthfulness and Population Law" (P.9). Finally, inadequate public awareness of the law hinders full utilization of its benefits: "Many people don't even know what facilities are included in the Youthfulness and Population Law. I only found out when I was completing the questionnaire—how are people supposed to know otherwise?" (P.13).

Integrated Section: In the present study, the dataset was densely compiled, and ultimately, comparisons and interpretations were conducted on this integrated body of data (Figure 1). The phrases that are underlined were derived from the qualitative component of the study and have no corresponding measures within the quantitative dimensions

Discussion

Identifying the perspectives of young students regarding the laws facilitating youth and population growth and their implementation is one of the supportive approaches to this important issue. This mixed-methods study, conducted to explain and clarify nursing students' understanding, has provided a clearer and deeper insight into their perceptions of the Family Support and Youth Population Law in Iran, which is considered one of the significant demographic challenges.

The comparison of quantitative and qualitative findings indicated that all dimensions present in the quantitative phase were also reflected in the qualitative phase, although some minor differences were observed in certain aspects. The "Food and Drug" dimension, which was considered important by respondents in the quantitative study, addresses factors related to decreased fertility, infertility disorders, and contraceptive methods that influence infertility and high-risk pregnancies. This theme was also evident in the qualitative findings, where "Infertility and High-Risk Pregnancy" emerged as a subcategory associated with delayed childbearing. According to a previous study, women who perceive themselves at risk of infertility consider it one of the main and significant barriers to achieving their pregnancy goals. Given that many individuals have been shown to lack adequate knowledge about the concept of fertility (21), it is essential to implement educational and interventional programs to increase awareness and address these gaps.

Another dimension that ranked first in the quantitative study and was also considered highly important in the qualitative study is the "Transformation in Childbearing in the Context of Modernity." This factor plays a crucial role in maintaining a youthful population and examines students' understanding and attitudes regarding youth and population growth. In the modern context, the transformation in childbearing significantly influences overall family dynamics and values. This transformation, driven by changes in family structures and social tendencies, has led to delays in childbearing, with individuals increasingly postponing this sensitive responsibility. This trend is shaped by shifts in individual and collective values and beliefs (22), focusing more on individualism, comfort-seeking, freedom of choice, and personal development (23). Consequently, societal attitudes toward childbearing are changing, and a more prominent role for fathers in child care is emerging (24), impacting various aspects of social and personal life.

Within this dimension, participants highlighted important issues such as "instability and reduced commitment in marital relationships" and "impatience and insufficient resilience" among couples. These issues, identified solely in the qualitative study and absent in the quantitative findings, underscore the urgent need for awareness-raising and life skills enhancement. Increasing awareness of the importance of a happy, timely, and purposeful marriage can play a vital role in improving communication and strengthening couples' commitment (13, 25), Moreover, marital satisfaction,

hopefulness, and social support are key variables influencing the desire for childbearing (22). Therefore, nurses can help strengthen couples' coping skills, resilience, communication, and conflict management abilities through educational and counseling programs, and as a result, promote healthier family relationships and greater readiness for childbearing.

Another subcategory derived from this dimension was "Idealism in Childrearing," which emphasizes changes in individuals' values and beliefs. This refers to normative and aspirational attitudes, with very high expectations regarding parenting and the parental role. This perspective places greater emphasis on the quality of child care and focuses on the parents' role in creating an exceptional environment for the growth and development of their children. Parents with this idealism believe they must provide the best and most comprehensive care, set high standards for their children's upbringing and behavior, and hold significant expectations for their children's future. The outcome of such idealism often leads to low self-efficacy among mothers (25, 26). This outlook primarily stresses the qualitative and meticulous aspects of parental care and influences decisions related to childbearing and childrearing, generating concerns and doubts about an uncertain future for the children, thereby becoming a barrier to the decision to conceive. For nurses, understanding unrealistic expectations regarding parenting is essential when providing maternal and child health education. Counseling interventions aimed at improving parental self-efficacy and promoting realistic expectations about childbearing may reduce anxiety and facilitate more positive attitudes toward childbearing.

Two important subcategories, "Women's Social Participation" and "Delayed Marriage," were extracted from the interviewees' statements. These concepts reflect substantial changes in individual and social life trajectories that influence attitudes toward family formation and childbearing. Increased and active participation of women in society has enhanced their role in decision-making related to family life and childbearing, leading to shifts in parenting patterns and gender roles. Conversely, delayed marriage is a consequence of expanded educational, occupational, and financial independence opportunities that have become prevalent in modern society, resulting in changes to traditional family patterns and the timing of childbearing. (23, 25). On one hand, these changes provide greater opportunities for informed and planned decision-making, while on the other hand, they may affect birth rates and fertility levels. Consequently, these transformations signify shifts in individual and social beliefs that have evolved, aligned with changes in lifestyle, values, and personal and collective goals, fostering new trends in family relationships and attitudes. Therefore, nurses should take a person-centered approach when discussing fertility with women. Reproductive health counseling should consider women's educational and career aspirations, while providing guidance on fertility planning and potential messages about delaying childbearing.

These issues align with the items within the "Health and Treatment Deputy" dimension in the quantitative study and reflect an emphasis on structural supports aimed at facilitating women's social activities. This domain addresses matters that create a favorable environment for strengthening women's roles in the family and society, granting significant rights to families and working mothers. For example, providing the option for night shifts for pregnant working mothers enables them to better coordinate family duties and infant care with greater ease. Additionally, granting special leaves, such as maternity leave for mothers with infants up to two years old and paternity leave up to one month after childbirth, plays a crucial role in balancing professional activities with family responsibilities, allowing families to better cope with the challenges of the neonatal and infancy periods. Moreover, offering remote work opportunities upon request for pregnant mothers—especially in jobs where this is feasible—can significantly reduce physical and psychological pressures on mothers and serve as an effective strategy to support maternal and infant health. All these measures improve mothers' experiences of pregnancy and child-rearing, reduce negative perceptions related to pregnancy and its challenges, and encourage mothers to have more children (27). Such policies not only respect the inherent rights of mothers but also highlight the supportive roles of related systems and institutions in improving family quality of life and strengthening parental roles. Furthermore, other items within the "Health and Treatment Deputy" dimension include provisions aimed at job security preservation, reducing childbearing and childrearing expenses, which fall under the main category of "Challenges and Concerns Regarding the Child's Future in the context of inadequate policy implementation. Concerns about job security and children's welfare, inadequate well-being, consequent depression, and fear of pregnancy in such circumstances are topics emphasized in various studies (26) and are consistent with the findings of the present study. The findings highlight the

advocacy role of nurses. As frontline healthcare providers, nurses can identify families' economic and welfare-related concerns and support them through appropriate referrals and access to available services, thereby helping to reduce barriers to childbearing and promote family-centered policies.

In the quantitative study, the "Management Development and Resources Deputy" dimension and its related items overlapped with the participants' statements in the category of "Financial Constraints." From the participants' perspective, Housing insecurity and the rising cost of rental accommodation impose substantial economic pressure on families. These issues not only directly affect the financial capacity of families but also raise serious concerns about the child's future, including housing conditions, education, health, and living facilities implementation (25). Such concerns are exacerbated, especially in the context of insufficient policymaking or incomplete implementation of supportive laws (23, 27), reinforcing feelings of insecurity and doubt about the child's future within families. Implementing policies and programs that can alleviate these concerns and improve families' economic conditions is essential to enable them to make childbearing decisions with greater confidence and peace of mind, thereby securing a better future for the next generation.

The items related to the "Educational Deputy" dimension indicate that supportive policies in universities—such as academic leave, virtual learning facilities, and reduced night shifts—aim primarily to alleviate academic and social pressures on student mothers, enabling them to better fulfill their family roles and facilitate decision-making regarding childbearing. These policies are designed based on the objectives of the Youth and Population Law and the creation of equal opportunities for mothers, representing supportive measures to balance education and family responsibilities. However, interviewees raised challenges concerning "administrators' attitudes toward law implementation" and "insufficient awareness about the Youth and Population Law," which may affect the effectiveness of these policies. This highlights the need to improve implementation processes and information dissemination within the university education system. Overall, while these measures represent effective steps in supporting mothers and families, certain emerging issues may act as barriers within the context of policy implementation challenges and law enforcement that negatively impact the child's future and the family's role. For nursing education, these findings indicate the need to incorporate population policies, reproductive health legislation, and fertility-related counseling competencies into nursing curricula. Improving students' policy literacy may enhance their future ability to implement population-related health programs effectively.

The dimensions of "Public Relations," "Student Cultural Deputy," and "Research and Technology Deputy" within the Youth and Population Law, which focus on promoting the importance of marriage and childbearing, strengthening the family's role, and countering the negative effects of media culture, offer a comprehensive and complementary approach to addressing the cultural and social challenges arising from declining fertility rates. These dimensions aim to utilize cultural programs, advertising, and research activities to promote family values and their positive role in society, while mitigating the adverse impacts of media culture, social harms, and reduced social support. The primary goal of these efforts is to create a favorable social environment for achieving the country's population objectives. This aligns with the subcategory of "Socio-Cultural Challenges" in the qualitative study and seeks to reduce negative consequences while reinforcing family culture and social cohesion. These initiatives demonstrate that attention to cultural and social dimensions constitutes a fundamental strategy for reforming social attitudes and behaviors toward realizing population policies, which is supported by multiple studies. (25, 26). Nurses, as health educators and culturally sensitive counselors, can help dispel misconceptions about family formation and childbearing while promoting healthy family relationships through community-based education and health promotion initiatives.

The distinguishing feature of the qualitative study compared to the quantitative component in the present research is fundamentally based on the "Change in Family Status," identified as a subcategory in examining the effects and transformations related to population and family policies. This category reflects fundamental changes in family structure, tendencies toward migration, preference for pet-keeping instead of childbearing, and modern, Western-oriented approaches to lifestyle. In the context of modernity, these factors have led to profound shifts in family attitudes and behaviors, resulting in decreased desire for having children and the emergence of new cultures related to family life, individualism, and patterns of human relationships. This distinction in the qualitative findings appears to be associated with a deeper and more nuanced understanding of experiences, attitudes, meanings,

and behavioral transformations within the family. Consequently, in the present study, particular attention to this rich and meaningful category is of special importance, as it directly impacts population status and future policy development. The identification of changing family structures and lifestyle preferences has important implications for nursing practice. Nurses need to recognize emerging family patterns and evolving social values when providing reproductive health services. Tailoring counseling and educational interventions to these changing realities may improve communication with younger generations and increase the effectiveness of fertility-related health programs.

Overall, the integration of quantitative and qualitative findings demonstrated that nursing students' perceptions of the Family and Youth Population Support Law are shaped by a complex interplay of economic, sociocultural, health-related, and policy factors. While structural supports provided by the law were generally recognized as valuable, concerns regarding economic security, changing family norms, delayed marriage, and uncertainties about children's future emerged as major barriers to childbearing intentions. The qualitative findings further revealed several culturally embedded issues that were not adequately captured by the questionnaire, highlighting the importance of mixed-methods approaches for understanding fertility-related attitudes among young adults. These findings provide valuable evidence for policymakers, educators, and healthcare professionals seeking to improve the implementation and effectiveness of population-supportive policies.

This study identifies new dimensions of individuals' knowledge and attitudes toward the Family and Youth Population Support Law that may not be captured by standard assessment tools. The use of a mixed-methods design contributed to a more comprehensive understanding of participants' perspectives and enhanced the depth and credibility of the findings.

However, several limitations should be acknowledged. First, participants in both the quantitative and qualitative phases were recruited from a single School of Nursing, which may limit the transferability of the findings to other educational settings or regions. Second, the use of convenience sampling may have introduced selection bias, as students with a greater interest in population-related issues may have been more likely to participate, potentially influencing the results. Third, although participants were drawn from undergraduate, master's, and doctoral programs, differences in knowledge, attitudes, and experiences across educational levels were not specifically analyzed. Given the potential influence of age, education level, and life experience on perspectives regarding childbearing and population policies, future studies should compare these groups separately. In addition, although the questionnaire demonstrated acceptable validity and reliability, some culturally embedded and contextual factors influencing childbearing decisions emerged only in the qualitative phase, suggesting that certain deeper socio-cultural dimensions may not have been fully captured by the quantitative instrument. Finally, as one of the first mixed-methods studies on this topic in Iran, caution should be exercised in generalizing the findings to other cultural contexts.

Implications for practice

Overall, the findings of this study have several practical implications for nursing education, clinical practice, and population policy implementation. First, limited awareness among some students regarding the provisions of the Family and Youth Population Support Law highlights the need to integrate population policies, reproductive health legislation, and fertility-related counseling competencies into undergraduate and postgraduate nursing curricula. In addition, educational workshops and continuing education programs may enhance students' policy literacy and preparedness to support population-related initiatives.

Second, the qualitative findings revealed concerns regarding infertility, high-risk pregnancy, and misconceptions about fertility. Accordingly, nurses should be equipped to provide evidence-based fertility education, preconception counseling, and reproductive health promotion to improve fertility awareness and reduce unnecessary fears related to childbearing.

Third, themes such as instability in marital relationships, limited resilience, and concerns about children's future suggest the need for family-centered counseling interventions. Nurses in community and primary healthcare settings can play a role in strengthening communication skills, resilience, stress management, and informed decision-making among young adults and couples.

Finally, concerns related to financial insecurity, delayed marriage, women's social participation, and work–family balance indicate the importance of supportive institutional policies. Universities and

healthcare organizations should strengthen support systems for students and working mothers through flexible educational arrangements, maternity-related accommodations, and accessible counseling services. Such measures may help reduce perceived barriers to childbearing while respecting individuals' educational, professional, and personal goals.

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Conflicts of interest
The authors report no conflict of interest.

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Authors' Contributions
Conception and design: M.V, Z.N, M.B; Administrative support: None; Provision of study materials or patients: None; Collection and assembly of data: M.V, Z.N; Data analysis and interpretation: M.B, M.N, Manuscript writing: All authors; Final approval of manuscript: All authors.

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