

Iranian Aging Tsunami from the Perspective of Sexual and Reproductive Health: Challenges and Strategies for Childbearing

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ARTICLE INFO	ABSTRACT
<p><i>Article type:</i> Original article</p>	<p>Background & aim: Childbearing is an important component of reproductive and sexual health. The total fertility rate in Iran has reached below the replacement level of 2.1, which has the lowest rate in the Middle East. Based on World Health Organization, Iran will soon face the phenomenon of "aging tsunami". This study aimed to review the challenges and strategies of childbearing from the perspective of sexual and reproductive health in Iran.</p> <p>Methods: A narrative review was conducted based on the Scale for the Assessment of Narrative Review Articles (SANRA), without time limitation until September 2022. Literature search was performed through the English databases of PubMed, Web of Science, Scopus, as well as Persian databases of Magiran and SID. A qualitative synthesis was carried out on the 69 eligible articles out of 166 retrieved documents.</p> <p>Results: The most important challenges of childbearing included socio-economic issues, individual preferences, medicalization of fertility, and effects of the COVID-19 pandemic. Strategies to overcome these challenges comprised identifying appropriate target groups for childbearing, modifying fertility control methods and providing them to high-risk groups, establishing laws that support women and family, allocation of infertility treatment facilities, empowerment and skills training of youth and family, and appropriate cultural interventions in lifestyle.</p> <p>Conclusion: Iran has the best time for childbearing due to being in an open demographic window. This opportunity could be used to identify the target groups eligible for childbearing and to do appropriate interventions. However, it appears that certain childbearing policies need to be reevaluated.</p>
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Introduction

Childbearing is one of the important components of population science and reproductive health and is one of the issues that has attracted much attention in the social field (1).

In recent years, significant changes have occurred in the world's population, one of the most important of which was the fertility rates decline around the world (2). At the same time, it has significantly decreased in Iran in the last three decades (3). Following the extreme implementation of the comprehensive program of population control and family planning

approved by the Islamic Consultative Assembly, the population growth rate has decreased from 3.9% in 1986 to 1.24% in 2016, and the fertility rate from 6.5 children per woman in 1986 has reached 1.8 children per woman in 2016 and 1.6 in 2020. This rate is approximately 2.0 developed countries and 2.5 to 3.3 in developing countries. Globally, the replacement rate is 2.33 per woman (4-5).

Today, fertility and childbearing in Iran are lower than the level of population replacement and the tendency to childbearing has decreased

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in couples so the total fertility rate in 24 provinces out of 30 provinces has been less than 2.1 (6). Delaying childbearing until older ages will lead to various problems, and as a result of this delay, the golden years of female fertility will pass without any pregnancy attempt. This has led physicians to confront many women who are affected by the medical consequences of delayed childbearing, including fetal abnormalities, psychological problems of having one child, or infertility (7). Also, the issues such as the lack of a person to care for parents in old age and leave them in a nursing home (8), reducing the creative and young forces to run the country and reducing domestic per capita production (9), lack of vitality in the family (10), lack of learning life skills by the single child due to lack of interaction with siblings were mentioned as consequences of delayed childbearing (11-12).

One of the contemplative issues of aging research is increasing the growth rate of the elderly population of the country is more than three times the average growth rate of the entire population of the country, and this means that the alarm of aging in Iran is sounding. It can be said that a phenomenon called the "Iranian aging tsunami" will happen soon (13). This phenomenon occurs when on the one hand life expectancy increases and mortality decreases, on the other hand, fertility rate decreases and the balance of age groups in the whole population is disturbed and the population < 15 years decreases and the age group ≥ 60 years increases (14) which leads to a tsunami of old age that is a threat to the economy and welfare of society (15). Expressing the concern of experts and specialists in the field of population, especially the World Health Organization, about the decrease in Iranian childbearing is one of the important issues that lead researchers to evaluate the factors related to the tendency to childbearing (16). This study aimed to review the challenges and strategies of childbearing from the perspective of reproductive and sexual health in Iran.

Materials and Methods

This narrative review was carried out based on the Scale for the Assessment of Narrative Review Articles (SANRA) in order to obtain

a comprehensive perspective on the challenges and strategies of childbearing.

SANRA is composed of six different items, including importance of article's topic for readers, the narrative review's aims, a detailed overview of literature search, comprehensive description of resource search, referencing, use of scientific evidence, and appropriate presentation of results (17). The search was performed in the English electronic databases of PubMed, Web of Science, and Scopus, and Persian databases of Magiran and SID using the keywords of childbearing, challenge, strategy, fertility, and Aging. The search strategy was without time limit until September 2022. The inclusion criteria were full articles in English and Farsi languages, articles conducted on human populations, barriers to childbearing, solutions to population growth, population aging, and population policies in the form of case reports and original research studies that have been arbitrated. Letters to the editor and short communications were excluded from the review cycle. The process of selecting articles was based on the Prisma flowchart (18). Figure 1 present the number of records that were identified and included in each of these stages. Ethical issues, such as avoiding plagiarism, ensuring robustness in relevant data acquisition, preparedness, and submission of the data were all taken into consideration by the authors. The code of ethics (IR.SSU.RSI.REC.1401.002) was received from the Research Council of Shahid Sadougi University, Yazd, Iran.

Results

In the first phase of the search, 168 articles were found, 65 of which were duplicated and removed. After titles and abstracts screening, 30 studies, three book chapters, and one commentary were eliminated due to the lack of evidence of childbearing (n=34). During the full-text review phase, no study was omitted. Finally, qualitative synthesis was performed from 69 related articles.

The findings of the research were divided into four categories of challenges including socio-economic issues, individual preferences, the

medicalization of fertility, and effects of the COVID 19 pandemic on fertility (Table 1).

1-Socio-economic issues

The factors affectig the desire of couples to have children are socio-economic issues, including: modernism, economic situation, increasing the rate of aging, changing the gender role of women and girls, women's employment, gender justice and division of labor in the family, expanding the culture of perfectionism in choosing a spouse, and increased rate of divorce.

1.1. Modernism

Industrialization, urbanization and the expansion of administrative institutions are effective factors in the developments of Western countries in recent decades. Urbanization has been accompanied by changes such as the division of labor in all areas of life and social and spatial mobility, which has led to the growth of secularism and rationalism, and on the other

hand has reduced the influence of traditional forces. As a result, the family has changed in line with other institutions (19).

1.2 The economic situation

There are two theoretical approaches to the effect of men's economic characteristics on fertility. The first approach states that increasing the socioeconomic status of men leads to increased fertility. Because they have a better chance of providing cost for their families with more children. The second theoretical approach argues that increasing the socioeconomic status of men leads to reduced fertility and reduced demand for childbearing, or alters childbearing preferences and substitutes quality for quantity (20). There are different and sometimes contradictory results about the effect of the economic situation on the desire for childbearing (21-22).

Figure 1. PRIZMA Flowchart of article selection

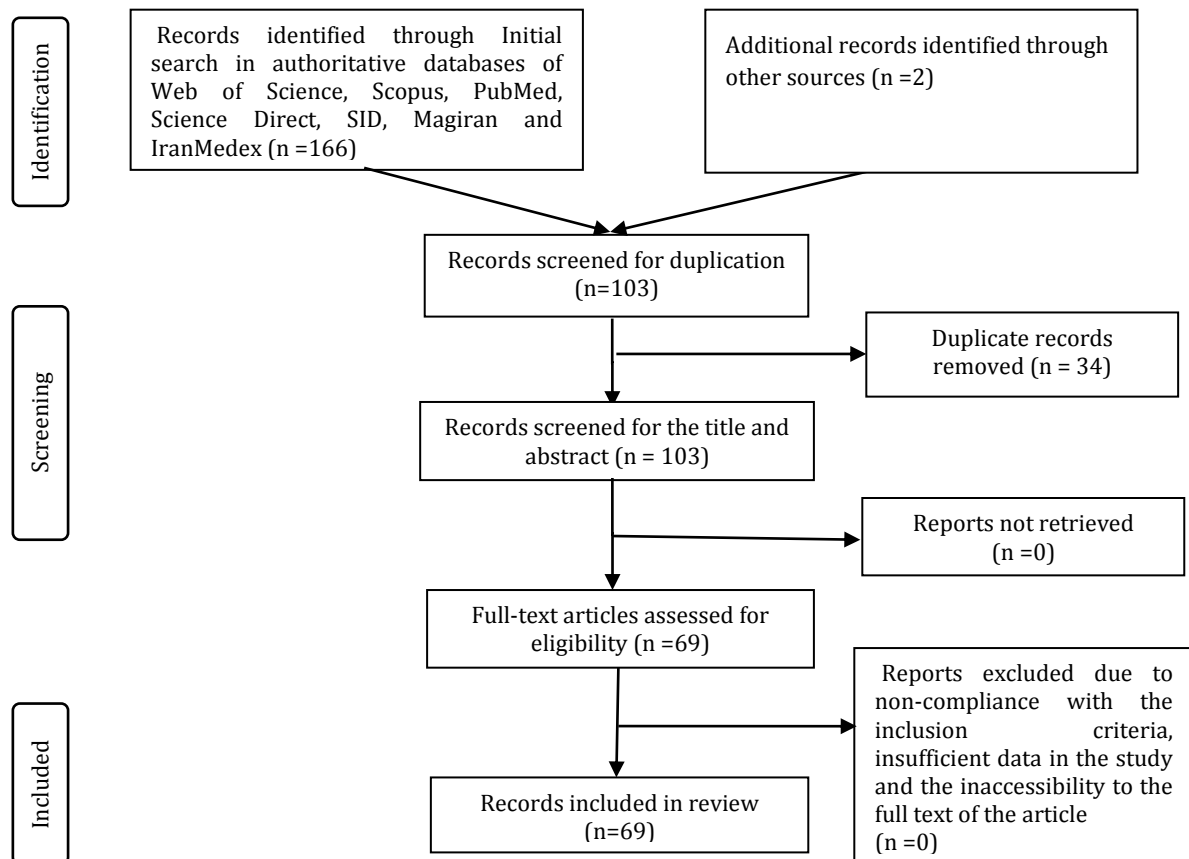


Table 1. The findings of the research include the classification of childbearing challenges and the sub-category of each of them

Sub categories	Category
Modernism	
The economic situation	
Increasing the rate of aging	
Changing the gender role of women and girls	socio-economic issues
Gender justice and division of labor in the family	
Expanding the culture of perfectionism in choosing a spouse	
Increase in divorce	
Religious beliefs	
Desire to white marriage	
Preference of celibacy over marriage	Individual preferences
Agree not to have children	
Parenting problems	
The challenge of using advanced techniques to treat infertility	
Pregnancy screening	Medicalization of fertility
Access to illegal abortion	
Biological mechanisms	
Behavioral mechanisms	
Injury of men's sexual gonads	Effect of the COVID 19 Pandemic
The effect of COVID 19 on marriage and its sustainability	

1.3. Increasing the rate of aging

According to the statistics published by international organizations as well as the census conducted by the Iranian Statistics Center, the age structure of the country's population is moving towards old age, and Iran is one of the developing countries that is struggling with the issue of aging. After the United Arab Emirates and Bahrain, Iran is the third country in the world in terms of the rate of growth of the elderly population (23) Increasing the rate of aging on one hand reduces the active population and increases the overload ratio of society (24) and on the other hand, the cost of health care for the elderly increases sharply since the fifties (25), and young people due to facing with the burden of elderly diseases and providing their parents' living and disease's expenses are prevented from getting married, and as a result of decreased fertility rate and the marriage of young people, the elderly without children also increase (26).

1.4. Changing the gender role of women and girls

Women's employment and social participation are among the issues that are included in this subcategory. There seems to

be an inverse relationship between women's employment and the desire for childbearing. Increased education also increases the demand for entry into the work market and more presence of women outside the home leads to a decrease in the desire for childbearing (27-28). Sadeghi et al. (2018) in a study entitled "The Paradox of Work and Mothering: The Experience of Transition to Motherhood of Employed Women", showed that the studied women, although they value motherhood, because of job conditions and gender inequality in the work environment and family, having less time for children and not implementing family-friendly programs often tend to have one child and are faced with job and mother role conflicts (29).

1.5. Gender justice and division of labor in the family

Gender systems play an important role in shaping the thoughts, behaviors, and attitudes of individuals in relation to each other throughout life, which is why some demographers believe that gender systems are effective in understanding fertility (30). Although women's participation in the work market and employment has increased in many countries, the roles of women and the division of household chores have not changed in many cases (31).

1.6. Expanding the culture of perfectionism in choosing a spouse

One of the factors that can influence people to choose a spouse is perfectionism (32). Perfectionism refers to high standards and in fact has a flawless level (33), which leads to considering unrealistic criteria in choosing a spouse (34). Therefore, spreading the culture of perfectionism of young people in marriage is an issue that can play a role in reducing the rate of marriage and fertility.

1.7. Increase in divorce

Divorce is one of the most important demographic features that the significant increase in divorce rates has caused social thinkers to use the term divorce era or divorce revolution (35, 36). In 2018, 179,000 divorces were registered in Iran (37). But official statistics of divorce cannot be accurate statistics on a couple's failure because these statistics do not include emotional divorces (38) Forced marriage and forced sex within marriage are horrors that affect countless girls around the world and can be accompanied by emotional divorce (39). Forced marriage leads to a lack of family adjustment, domestic violence, and marital separation (40, 41). and finally it can be said that the rate of divorce and emotional divorce affect the issue of reducing childbearing (13). An important issue mentioned in Begi's research (2021) is the attitude of young people towards divorce, who have a positive attitude towards divorce compared to the previous generation, which will lead to an increase in divorce rates (42).

2- Individual preferences

According to the studies, individual preferences or in other words individualism can be effective on the desire to have children (43). These preferences include: religious beliefs, desire to white marriage, preference of celibacy over marriage, agree to have no children, and parenting problems.

2.1. Religious beliefs

Evaluation of fertility changes in Iran indicates that religiosity is one of the effective factors in increasing fertility (44, 45). According to the results of a study, people who are religious have more tendency for childbearing and are less affected by contextual factors and interference

such as education, employment, etc. Kaveh Firooz et al. (2021), who assessed the relationship between religiosity and the desire and intention for childbearing, have mentioned religiosity as an effective socio-cultural structure in the formation of reproductive behavior (46).

2.2. Desire to white marriage

White marriage, which some people call Cohabitation, is growing and becoming institutionalized in the society (47). Formal marriage, because it is associated with responsibility and requires a serious commitment of the couple to each other, is sometimes not welcomed by today's youth, and turn to white marriage because it is not necessarily registered somewhere and does not require commitment and responsibility (48). Mokhlesi et al. (2018), who in their research have enumerated the consequences of white marriage in Iran, on the one hand point to the increase in abortion due to illegitimacy of the child and on the other hand consider the loss of marriage opportunity as a consequence of it and both behaviors are effective on fertility and population rates (47).

2.3. Preference of celibacy over marriage

The emergence of the phenomenon of definite celibacy at the community level as well as the change in attitudes toward marriage among young people is one of the recent developments. Also, for some people, staying in their father's house and not having the responsibility of living is more enjoyable than getting married and taking on family responsibilities. Increasing the age of marriage and the occurrence of definite celibacy has disrupted the strength of the family institution (49).

2.4. Agree not to have children

In Mirabi's study (2019), it is stated that one of the barriers to childbearing is that sometimes some couples agree with each other not to have children for reasons. One of these factors is the fear of destroying their relationship with spouse (50).

2.5. Parenting problems

On the one hand, responsibility for the child, insomnia, lack of grandmother and support for

child care, problems of childbearing during education, especially women (50) and on the other hand, attitude toward the negative consequences of parenting and believe that child is a barrier for achieving the desired status reduces the tendency for childbearing (3) Jahangiri et al. (2014) in their research consider one of the main categories in the reluctance for childbearing as the heavy responsibility resulting from it and believe that from the parents' point of view, when they decide to have children, it means being ready to take on the heavy responsibility of educating a person, especially the couples who have had a difficult parenting experience may be reluctant to accept the situation again for the next child (51). It is noteworthy that the lack of social support has a special place in the discussion of parenting problems (52-55).

3-Medicalization of fertility

Medicalization of fertility means medical interventions in the process of pregnancy. Although it is beneficial in many cases, it is sometimes extreme and excessive and causes problems in the natural process of fertility. Also, studies with contradictory results about the results of different medical methods may make people hesitant about the decision to become pregnant (56, 57). The medicalization of fertility can be effective in the intention to have a child, which includes: the challenge of using advanced techniques to treat infertility, pregnancy screening, and access to illegal abortion.

3.1. The challenge of using advanced techniques to treat infertility

Advances in technology and diagnostic technologies are one of the most complex issues in the treatment and diagnosis of women's reproductive health (58). There is concern about ethical, religious, and legal issues regarding the use of assisted reproductive techniques in infertility treatment (59). A study by Domar (2012), which examines the barriers to infertility treatment, states that infertility causes a range of emotions such as depressed mood, anxiety, anger, cognitive impairment and feelings of unattractiveness, and can darken the couples' relationships. On the other hand, some women may delay starting treatment due to their desire to have a normal pregnancy. On the

other hand, infertility-related stress and IVF treatment can be time consuming, difficult, costly and tedious for infertile women; these are the challenges that may discourage infertile couples from continuing the treatment process and thus having children (60).

3.2. Pregnancy screening

Prenatal screening is also one of the factors that affect the fertility rate and parents are trained about knowledge to choose fetal malformation screening in the first pregnancy examination at 6 to 10 weeks of pregnancy. to perform abortion treatment based on the single article approved in 2005 with the mother's informed consent (61-62). Of course, in March 2020, a resolution was passed in the Islamic Consultative Assembly entitled Youth of the Population and Support for the Family. Note 1 of Article 53 of this plan states that no refer of a pregnant mother for fetal health screening by a physician is not a crime and will not result in a trial. Note 2 of this plan also states that any advice to pregnant mothers or encouragement and referral by doctors and medical staff for fetal screening is not allowed (63). However, the screening debate is one of the most challenging issues in reproductive behavior. In 2021, Yonesi et al. showed in their study that 90.2% of positive screenings in the first and second trimesters after amniocentesis had normal karyotypes, and only one out of every 13.9 cases of patients who underwent amniocentesis had abnormal karyotypes. They had, so there are many false positive results (64).

3.3. Access to illegal abortion

Illegal abortion is defined as abortion outside legal systems and often by people who lack the necessary skills (65). The number of illegal abortions is estimated as 350,000 per year (66).

4. Effect of the COVID- 19 Pandemic

The covid pandemic can affect fertility through a variety of mechanisms: biological mechanisms, behavioral mechanisms, injury of men's sexual gonads and on marriage and its sustainability.

4.1. Biological mechanisms

Pregnant women are more prone to Covid-19 due to physiological changes during pregnancy

(67), especially if they also have a chronic disease in the during Covid exacerbation of the disease during pregnancy (68).

4.2. Behavioral mechanisms

Behavioral mechanisms are based on the decision of couples who want to delay pregnancy or use alternative methods of pregnancy (69-70). Many evidence showed that there is no Covid 19 virus in semen (71-73). Most studies also indicated that the corona virus is not transmitted through vaginal discharge (74-76), but some studies have raised the possibility of transmission through sexual secretions (77-79), so couples should set limitations in sexual behavior.

4.3 Injury of men's sexual gonads

Wang et al. (2020) in their study showed that the male reproductive system is vulnerable to infection. Significant changes in sex hormones have been observed in patients with COVID-19, indicating dysfunction of the gonads (80). Gacci et al. (2021) in their study suggested the possibility of oligo-crypto-azoospermia in men and emphasized that oligo-crypto-azoospermia was significantly associated with the intensity of Covid-19 (81).

4.4 The effect of Covid 19 on marriage and its sustainability

On the one hand, according to research, Covid has been effective in the rate of marriage, and several studies have reported a decrease in the marriage rate during the Covid pandemic in the United States (82-83). On the other hand, research suggests that Covid 19 has caused a great deal of confusion by increasing work and financial stress, changing gender roles in sustaining marriage; and quarantine of one affected couple can exacerbate marital conflict (84). An increase in divorce rates can also be seen in some studies around the world (85, 86).

Population strategies and policies

Strategies to overcome these challenges included implementing appropriate demographic policies to achieve the goal of an open demographic window comprised of 1) Identifying appropriate target groups for marriage and childbearing, 2) adjusting fertility control methods and providing it to high-risk groups 3) Establishing laws that support women

and family 4) Allocation of infertility treatment facilities 5) Empowering and skill training of youth and family, and 6) Appropriate cultural interventions in lifestyle.

Demographic policy is one of the types of policy in the world that population is the subject of it and examines it from different aspects and evaluates its relationship with other macro aspects of society. The Supreme Leader of the Islamic Revolution announced the general population policies, which is determined based on paragraph one of Article 110 of the Constitution after consulting the Expediency Council, The general content of population growth policies includes the following:

1- Identifying appropriate target groups for marriage and childbearing

One of the most important general policies of the population is promotion and marriage. The study by Tajbakhsh et al. shows the relationship between economic factors and increasing marriage age; therefore, the better the economic conditions of young people, the more they want to live together. The government is trying to solve this obstacle by considering marriage facilities and loans (87-88).

2- Adjusting fertility control methods and providing it to high-risk groups

Also, by applying policies to provide fertility control methods, only high-risk groups try to increase the couple's decision for childbearing. However, this restriction of access had more impact on women in low socio-economic classes with a large number of children (125) and had the least effect on increasing fertility because only 7% reduction in fertility in the country was related to the use of government contraceptive methods (87, 89).

3- Establishing laws that support women and family

Breastfeeding leave has increased for mothers with single child as one hour and for mothers with twin and higher by two hours.

Nine months postpartum leave for women and 3 days leave for all men working in government and public non-governmental sectors has been assigned, and the provision of childcare services for working women is on the agenda (87, 90).

4- Allocation of infertility treatment facilities

Infertility treatments caused a lot of money for couples, and some studies even point to the commercialization of some infertility treatments, such as surrogate mothers, among some opportunists. On the other hand, these high cost is an obstacle to the childbearing of the lower economic class of society, which is why leading to these couples in population policies (87, 91).

5- Empowering and skill training to youth and family

Empowering the working age population through general, technical-professional and specialized education in line with the needs of society and their talents and interests and job creation can increase the desire of young people to start a family (87).

6-Appropriate cultural interventions in lifestyle

West through the feminist movement and the sexual revolution caused conflict with the family and the role of mother, denial of maternal instinct, family devoid of masculinity as well as structural changes in the family. Strategies include protecting families from new cultural attacks through raising awareness; systematization in the field of women and motherhood, by preserving the values of the family and using the capacities and facilities of modern life in formulating the family model and indicators of its growth and excellence (92). The role of media is effective in correct culture building. The media can be used as a powerful tool to influence couples' relationships and children's rearing and even family structure, and therefore one of the sensible ways to strengthen the family is to use the media (93).

Discussion

The present study was conducted with the aim of investigating the challenges and strategies of childbearing from the perspective of reproductive and sexual health in Iran. The present study shows four categories of challenges that are related to the reduction of population growth rate. 1- The socio-economic challenges which shows industrialization, urbanization, and socio -economic status are effective in deciding to have children. The individual preferences which shows the lack of desire for a legal marriage, the agreement of the

couple to have no children, and 2- parenting problems that the couple prefers to have no children. 3- Medicalization of fertility which means access to unauthorized abortions, discussion of infertility and pregnancy screenings are effective in the desire to have children. 4- Effect of Covid 19 Pandemic that people can have negative effects on fertility due to anxiety and mental distress caused by the fear of contracting their own or their spouse's disease, and on the other hand, with a negative effect on the sexual gonads, worry about sexual transmission, disruption of couples' emotional relationships, and a decrease in the desire to marry.

Over the past three decades in Iran, the average age of marriage and the birth of first child has increased, and the fertility rate has dramatically declined far below the replacement level (94). In terms of socio-economic issues, the study by Behboudi et al. showed that although women in Iran had favorable attitudes toward childbearing, a wide range of socio-cultural and economic factors encourage these women to postpone their first pregnancy (95). Also based on a cross sectional study conducted by Modiri and colleagues (2022), men with higher levels of education, income, socioeconomic status, and occupational status had fewer intention to have children. The socioeconomic characteristics of men have a negative relationship with fertility intention and behavior; this finding is consistent with the pattern of male fertility in developing countries. They stated that considering the positive relationship between men's socio-economic status and fertility in developed countries and the negative relationship in the present study, the implementation of policy packages with different cultural, economic and social dimensions in different groups with different views and socio-economic is necessary that will be effective in increasing childbearing (20).

As stated in the issue of having children, religious beliefs were one of the reasons that encouraged the participants to have children; There is a similarity between the findings of this research and the researches of Jansen and Haser (1981)(96), Rad and Thababi (2014)(97) and Kalantari et al. (2015)(98). On the other hand, in the present study, education is considered one

of the barriers to having children, which is in line with the research of Petroski and Tang (2016)(99), Salazar and Riquena (2014)(100); GowtHer (2016) examines the barriers to childbearing in East Asia and points to poor government financial support and work-family balance for women (99). The population and related policies is the concern of many countries in the world today (101). Stack and colleagues (2017) stated that the reasons for the decline in the birth rate in America were busy work, lack of access to childcare, financial concerns, fear of burdening colleagues and concern for pregnancy complications (102).

About medicalization pregnancy should pay attention that reporting some diseases or syndromes that have been suggested in different studies to the extent of having an association with the results of screening tests (with lower sensitivity and specificity) while they have not yet been approved in international and national guidelines. Experiencing a lot of stress can cause stress, confusion and impose unnecessary costs on parents (63). which may reduce parents' motivation to have children again in the future (103). At the time of entering the fetal screening program for Down's syndrome in the National Health Program of England, according to calculations, it was found that a balance should be established between the prevalence of chromosomal abnormalities related to the mother's age and the amount of allocated resources. Therefore, policymakers decided to cover the pregnancies of women over 35 years old and do not need to cover everyone (104). Regarding the effects of COVID-19 on fertility behavior, it should be noted that, the psychological burden of quarantine has a negative effect on fertility desires and outcomes. Relationships between couples are damaged due to anxiety and psychological trauma and domestic violence, and as a result lead to reduced fertility (105-107).

Strategies to overcome these challenges can include, identifying suitable target groups for marriage and childbearing, modify fertility control methods and providing it to high-risk groups, establishing laws to protect women and families, and allocating treatment facilities, empowerment and skills training of youth and family, appropriate cultural interventions in

lifestyle (13, 87, 90, 91, 108-110). In the study by Zare et al. (2018), the government's incentive policies such as insurance coverage and maternity leave and financial incentives increase the desire to have children (111). But the research results in Urmia contradict the current findings and show that 85% of men and 90% of women do not want to increase childbearing following the government's encouraging policies (112). The reason for this discrepancy may be that the researched community of couples were about to get married and did not have a complete understanding of the conditions after marriage.

In Iran, only part of the costs of medical services related to childbirth are free and in There is still controversy regarding maternity leave. In line with the new family-friendly rules, the maternity leave rule has been increased from 6 months to 9 months. But due to the financial burden of this law, except in some organizations, it has been implemented. It seems that during the economic crisis, families has suffered financial problems, the government's economic assistance plays a very important role in the increase in the birth rate Therefore, and they are needed economic and social incentives. Mirzaei's study (2022) shows that demographic policies in the field of reproductive health and childbearing after the revolution are not enough for the country's decision-making system to achieve a proportional and balanced population. Therefore, it requires special operational policies (113).

According to the researches of Mirzaei et al. (2022), there are challenges in the population policies of the government, such as lack of sufficient knowledge about reproductive health and childbearing, lack of expert work and vision in reproductive policymaking, routine in reproductive health policymaking, prioritizing urgent measures over strategic measures, and lack of sufficient evidence, while reproductive health and childbearing as the core of population policies after the revolution, are still needed to be analyzed, discovered and evaluated continuously and comprehensively with a conservative view (113).

There are criticisms about population policies from the point of view of reproductive health. There may be consequences regarding

restricting contraceptive methods. Khalajabadi Farahani (2019) showed in their research that the pattern of contraceptive methods has changed from safe methods to unsafe methods in Iran. The adverse health consequences of family planning restrictions following new policies will be more on the vulnerable sections of the society, especially those prone to high-risk pregnancies (114), which require the attention of health policymakers and appropriate interventions. Whereas that reproductive and sexual rights refer to the fact that all individuals and couples have the right to freely and consciously decide on the number and time of having children without any violence, coercion or discrimination (2, 58, 115), And this means the necessity of availability of contraceptives in the society.

Also, restricting fetal health screening and abortion treatment will not result in anything other than loss and destruction, because the severe restriction of screening and prescription of abortion treatment that is the subject Articles 53 and 56 of this plan can seriously damage the mental and physical health of the family. In his research, Akrami (2021) considered the topic of fetal health screening as part of health and public health rights, women's rights, and children's rights, and defended the amendment of the population plan and family support under the topic of facilitating screening and maintaining the abortion law (63).

One of the strengths of this study is that both the challenges and theories related to having children are mentioned in the study, and less attention is paid to the issue of old age than similar studies on reproductive health. The weakness of this study can be seen as the lack of quality control of the articles included in the research. The study suggests short-term and cost effectiveness and cost benefit interventions such as educational strategies from primary school level to overcome aging of population. This study findings could be applied by all stakeholders who involve in fertility and reproductive health matters for better understanding of current fertility situation and selecting on time appropriate solutions. In addition, these findings would be used in further interventional studies related to aging.

It is suggested that qualitative studies be conducted in the future in order to discover the opinions of experts and policy makers about the current childbearing policies.

Conclusion

As a general conclusion, it can be acknowledged that now, by being in an open population window, it is the best time for childbearing in eligible women to fulfill they sexual and reproductive health rights via appropriate policies and interventions. Therefore, necessary infrastructures such as educational interventions, changing attitudes and negative beliefs should be applied to increase childbearing, support women and attract men's participation so that parents can make informed decisions about their fertility. The enforcement of population policies may also increase the desire to have children, but some elements of these population policies are in conflict with the standards of international human rights treaties, including the prohibition of regressive measures and restrictions on sexual and reproductive health services. These policies may endanger individual and public health.

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Conflicts of interest

Authors declared no conflicts of interest.

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