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RESEARCH

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Contentious population policy-making and its consequences: a health policy analysis

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Abstract

Background Governments strategically shape their population policies to effectively harness and sustain vital human resources, responding to the evolving dynamics of demographic trends and the intricate interplay of economic, social, and political conditions. Nevertheless, they strive to uphold their populations'health and fundamental rights. Iran's population policies have undergone significant shifts over the past four decades, reflecting changing socio-political dynamics and demographic challenges. This study aims to analyze Iran's population policies, emphasizing their implications for health outcomes and the status of human rights, offering important insights for governance in population policy.

Methods We conducted a qualitative study using Walt Gilson's Policy Analysis Triangle framework. Data were collected through in-depth interviews and national policy documents. Thematic analysis was employed to identify themes across policy context, content, process, and actors.

Results In the realm of population policies that impact the health and rights of individuals, members of parliament and pressure groups wielded the greatest power and influence. The policy-making environment was intricate and turbulent; governance exhibited poor and biased implementation; and, regarding content, an ineffective and inconsistent population policy package existed.

Conclusion Population policies that overlook ethical principles and do not adequately address social needs or adapt to the evolving dynamics of societies pose a risk to individual health and infringe upon fundamental human rights.

Keywords Population Policy, Iran, Policy Analysis, Reproductive Rights

Background

The dynamics of population changes across the globe have evolved and transformed over time, Shaped by a multitude of political, climatic, and social influences

The underlying causes and implications of population growth patterns vary significantly across countries and regions, with some nations grappling with the consequences of rapid expansion, while others face the challenges of declining birth rates and aging populations. Below-replacement fertility, often seen in high-income countries, is attributed to factors such as higher living costs, delayed FP due to education and career priorities, and the prevalence of individualistic lifestyles [1]. This demographic trend poses potential challenges, including an aging population and a shrinking workforce, which can strain social security systems and economic growth [2]. Governments in these countries have implemented solutions such as offering financial incentives for families to have more children, providing comprehensive parental leave policies, and promoting gender equality in

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the workplace to encourage higher birth rates [3]. Conversely, countries with above-replacement fertility rates, typically found in low- and middle-income regions, grapple with issues stemming from high birth rates, including poverty, environmental degradation, and strain on educational and healthcare systems [4]. These conditions often hinder the development process, perpetuating a cycle of poverty and limited access to FP resources [5]. To address these challenges, governments focus on improving access to education and healthcare, particularly reproductive health services, and implementing policies that support economic development and poverty alleviation [6].

With a population of about 86 million, Iran is an upper-middle income country in the Middle East. Iran's population growth rate is estimated to be around 0.7% in 2023, and the TFR is reported to be about 1.68 in 2022 [7, 8].

The population growth trend in Iran has undergone significant transformations over time, influenced by evolving socio-political dynamics, economic factors, and cultural and religious shifts [9]. In the post-revolutionary era following the 1979 Islamic Revolution, Iran's government based on its religious approach actively promoted population growth. FP programs were suspended, and measures such as subsidies for larger families and discouragement of contraceptive use were implemented to boost population size [10]. However, by the late 1980 s, the negative impacts of rapid population growth on economic and social resources prompted a drastic policy shift. Iran implemented a comprehensive FP program, which proved highly effective in reducing fertility rates and supported by Iran's supreme leader. This initiative provided widespread education on contraception, accessible and affordable contraceptive options, and legal reforms such as raising the legal marriage age [11]. Consequently, contraceptive use among married women increased dramatically, from 37 percent in 1976 to 74 percent in 2000, contributing to a significant decline in fertility rates from 5.6 births per woman in 1985 to 2.5 births in 2010 [12].

In recent years, concerns over an aging population and declining birth rates have led governments to once again shift its stance, reversing its earlier policies that aimed to reduce fertility rates [13–15]. The new pro-natalist policies aim to encourage higher fertility rates through a range of measures, including limiting access to modern contraceptives, reducing access to fetal health screening tests during pregnancy and FP resources, promoting earlier marriage by lowering the legal age of marriage, and offering financial incentives and subsidies for larger families. Despite these efforts, a multitude of socioeconomic factors, such as high youth unemployment rates, the impact of economic sanctions on household incomes, and changing societal attitudes toward smaller family sizes and the opportunity costs of childrearing, continue to exert a significant influence on population growth trends [16–18].

Analyzing the population policies (PPs) over the past four decades particularly in the recent ten years, is crucial for understanding the complex relationship between government actions and demographic changes, especially as the country navigates a narrowing demographic window, the challenges of an aging population, and economic pressures. This study aims to elucidate the determinants of fluctuations in Iran's recent population policies over the past four decades, with an emphasis on their socio-cultural, economic, and political dimensions especially the recent developments in the last decade. By examining policy shifts within a global context of analogous conditions, this research seeks to highlight the ethical challenges related to public health, rights, and legal frameworks in both policies, specifically birth control and birth encouragement. The insights gained will inform future policy decisions, aiming to address demographic challenges, promote sustainable development, and adapt to the changing needs of an aging society.

Methods

Study design and participants

We conducted a qualitative study examining population policy in Iran over the past four decades emphasizing the recent decade, utilizing the Walt-Gilson policy analysis triangle framework, which serves as a suitable tool for analyzing health policies. This framework provides a comprehensive approach to analyzing the contexts, the processes, the policy content, and the actors. Recognizing that the current framework is not without its weaknesses, researchers should supplement it with other approaches to provide a more comprehensive presentation [19–21]. The study targeted national-level policy documents and key stakeholders directly involved in policy-making, using a deductive and retrospective approach to analyze past events related to policy changes, decisions, and their implementation. The Walt-Gilson Policy analysis triangle framework consists of four components, 1) Context the socio-economic, cultural, and political background of the policy; 2) Content policy objectives, operational policies, legislation, and regulations; 3) Process the steps of policy initiation, formulation, communication, implementation, and evaluation; and 4) Actors the influential individuals, groups, and organizations engaged in policy-making. Figure 1

We collected data from two primary sources: national policy documents, including parliament's population policy resolutions covering; "The Youthful Population and Protection of the Family Law"2021, "Family and Population Regulation Law"1993, "Family planning

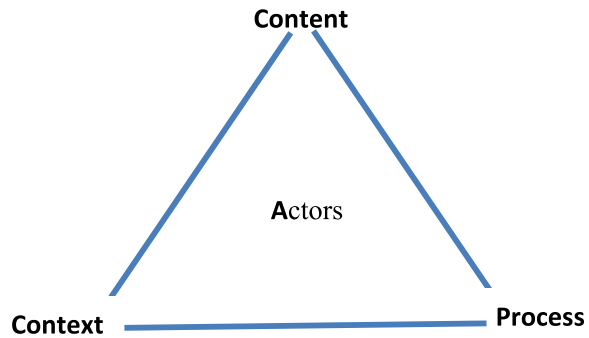

Fig. 1 Walt- Gilson triangle framework for policy analysis

policy in First Program of Economic 1990, Social, and Cultural Development of the Islamic Republic of Iran Law" and the general PPs announced by Iran's Supreme Leader in 2014, and from interviews with national-level decision-makers in population policy, law-making, religious leadership, and jurisprudence. At first we employed purposeful sampling to select initial participants who have involved in population policy-making at national or sub-national level, whether in legislative or executive, or religious position, during the past four decades. Then we used snowball sampling by asking the initial participants to introduce persons who have had active role in population policy-making during that time. Finally, we recruited 15 participants, including senior officials from Parliament, the Ministry of Health, Religious Seminaries (because they were active in population policies), and Universities (In Iran universities have dual role; medical sciences' education and health service delivery).Interviews spanned 17 sessions, with two sessions repeated for enhanced clarity. The sample size was determined through data saturation, until no new themes appeared. This approach combined insights from discussions with key informants and a thorough review of policy documents. Efforts were made to ensure diversity in the experiences of population policy-making by considering variations in work experience, institutional affiliations, and roles within policy-making bodies.

The study objectives and voluntary nature of the research were explained to participants, and informed consent was obtained in writing or verbally before each interview. Confidentiality was assured by assigning pseudonyms to participants (e.g., P1, P2, etc.) and securely storing all audio recordings and transcripts on password-protected computers. Approval for this research was received from the Institutional Review Board of Shiraz University of Medical Sciences (IR.SUMS.REC.1401.368). Throughout the study, the research team followed the Standards for Reporting Qualitative Research (SRQR) guidelines.

Data collection

Data were collected from November 2022 to December 2023 through in-depth semi-structured interviews. These interviews were conducted primarily in participants'offices, with some held via telephone or online platforms for convenience. Each interview lasted approximately 50 min and was audio-recorded with permission. Participants'demographic information was obtained at the start of the interview, including age, education level, years of work experience, and professional position (Table 1).

The interview process began with a broad data-generating question:"What is your analysis of population policy in Iran over the past four decades? "This was followed by a series of open-ended questions designed to delve deeper into the subject, such as: "There have been two opposing policies in this period initially population reduction policies, followed by population growth policies each with its supporters and opponents. What is your opinion about these policies and their determinants?","Which policy do you think was more successful and why?","Where does religion take place in these policies?" , and "To what extent do you think individual or public rights are considered in these policies?".

Throughout the interviews, participants were encouraged to express their opinions freely, and probing questions were asked based on their responses and emerging codes to further explore their perspectives and insights. These questions were used to delve deeper and clarify responses, including inquiries such as: "What do you mean by ethics, rights, or religion?" and "What aspects of these issues do you believe were violated or respected?" The interviews were conducted by a team of experienced researchers familiar with the study's topics and skilled in interviewing techniques. Participants were assured of the confidentiality and anonymization of their data, with the right to access, correct, delete, or oppose their data at any time.

Data analysis

To ensure the reliability and validity of our study, we adhered to Schwandt et al.'s (2007) [22] criteria credibility, confirmability, transferability, and dependability while conducting data analysis concurrently with data collection using Braun & Clarke's six-step thematic analysis framework (2006) [23]. The steps included: (1) becoming familiar with the data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining themes, and (6) writing up. Double coding was applied for meaning units that conveyed multiple topics or had underlying meanings. The researchers familiarized themselves with the data by transcribing the interviews

Table 1 Demographic information of the participants

Variable		N (%)
Age (year) (51.6 ± 12.4)	30–39	2 (13)
	40–49	6 (40)
	50–59	4 (27)
	≥ 60	3 (20)
Education level	Medical Doctor	3 (20)
	Doctor of Philosophy	10 (67)
	Provincial Religious leader	1 (6.7)
	Sub-specialist	1 (6.7)
Work experience	5–14	5 (33)
	15–29	6 (40)
	≥ 30	4 (27)
Professional Position	Ex-Minister	1 (6.7)
	Ex-Deputy for health of the Ministry of Health	1 (6.7)
	Family Health Manager at the Ministry of Health	2 (13)
	Chief Expert at the Ministry of Health	3 (20)
	Member of Parliament	2 (13)
	Research Institute	3 (20)
	Academic staff of Medical Ethics Department	1 (6.7)
	Academic staff of Public Health Law Department	1 (6.7)
	The Emam of the Friday prayer	1 (6.7)

immediately after each session. All authors agreed on the findings and selected the most relevant quotations. These quotations were translated into English and back-translated into Persian for verification. The transcripts were then analyzed using MAXQDA 10 software. Initial codes were generated and searched for themes. These themes were reviewed, refined, and defined to accurately reflect the data. Credibility was enhanced through theoretical sampling, in-depth interviews, and active interaction with the interviewees. Ongoing checks were conducted to confirm the data. Confirmability was ensured by the lead researcher, who congregated concepts from other team members. Transferability was provided through a comprehensive description of the participants and procedures. Additionally, we utilized the standard SRQR checklist to ensure rigor and transparency in our research process [24]. Finally, a detailed report of the analysis was produced, presenting the themes alongside illustrative quotations.

Through content analysis utilizing Walt Gilson's Policy Analysis Triangle framework. To gain a comprehensive understanding of the policies'fluctuations, contradictions, and challenges, we analyzed policy acts alongside interviews with experienced individuals involved in the policy formation process.

The analysis of both interviews and population policy Acts conducted researchers into five categories in the context of policy formation, five categories in their implementation processes, and four categories in the content of policies.

Results

Overview of findings

In summary, from the 14 categories identified in this study, we derived three final themes, including: 1) the intricate and turbulent context of policy-making; 2) ineffective and inconsistent population policy in content; and 3) poor and biased governance in implementation.

The actors with the greatest power in PPs were the members of the parliament, while, religious scholars, specialist physicians, media, and public figures are the greatest influence. On the other hand, Ministry of Cooperation, Labor and Social Welfare, Ministry of Interior Pension funds, Supreme Council for Cultural Revolution had the least authority and impact in shaping PPs.

Context of population policies

The properties of socio-political and economic context that has shaped the PPs from point of the participants view are explained in the following;

Governance inefficacy in establishing a sustainable economic and political context

Analysis of the PPs Act (PPA) of 2021 (The Youthful Population and Protection of the Family Law) and interviews revealed that inefficiencies and poor governance

have been among the most challenging backgrounds for forming unsustainable PPs. Those have changed with the instability of political contexts due to changing governments and political factions because they take the opposite approach to the country's socio-economic development. Non-transparent and unaccountable governance, combined with inadequate stakeholder participation and pressure from extremist groups, has fostered instability and undermined policy effectiveness. This context has impeded the formulation of evidence-based population strategies, as ideological conflicts take precedence over socio-economic considerations, resulting in ineffective public health outcomes. The overarching weakness in governance is evident in the statements of parliamentary representatives from political factions advocating for pronatalist policies following their rise to power, as they discredit the actions of opposing factions. They characterize rival policies as misguided and aligned with international conspiracies.

P1: "In the mid- 1980 s..., countries were pressured to accept the International Planned Parenthood Federation convention by the United Nations and the World Health Organization. They even used the loans of the World Bank and the International Monetary Fund as leverage, withholding loans from countries that did not become members. That period's executive and decision-making bodies moved towards signing the FP convention to secure their positions. These refer to international power structures wanting to influence natality in Iran."

This unstable political context has failed to achieve the optimum level of social welfare that has targeted in PPA to provide an encouraging circumstance for childbearing. However, policies have not been formulated to create a suitable context for a balanced, stable, and continuous growth of the population in areas such as public welfare and the psycho-social security of society. Furthermore, with changes in governments over these decades, the legitimacy of enacted laws and policies has been undermined or faced with the background of each political party. Some political factions believe that the conspiracy theory has influenced population reduction policies, with support from the opposition factions, foreign countries, and international organizations. These refer to suspicions of international power structures wanting to influence natality in Iran. With a change in government, population increase policies are now being regarded.

P3: "We had a period of"continuity and neglect"; That is, the declining trend of the population continued, and in terms of population self-awareness, we were in a state of social neglect and neglect by the officials who neglected the declining trend and free fall of Iran's population."

Non-consideration of citizenship rights and ethics

Analysis of documents and interviews showed that in a social context where the divergence of perspectives between the ruling authority and the people leads to the formation of contradictory attitudes, policymaking is accompanied by challenges and ethical dilemmas, as well as violations of individuals'fundamental rights in society. Disregarding autonomy of people in decision-making is one of the prominent examples of the grounds for the formation of PPs. Neglecting the preservation and promotion of the health of individuals and society, as reducing the suffering of families in childbearing and child-rearing, is a form of disregarding ethical principles in human life. This narrow focus on increasing the number of children ignores the holistic aspect of child and family health.

P4: "When you stop encouraging policies and move towards threatening policies, you say that pregnant mothers will not allow to do fetal screening so that they may find out that their child is disabled and they cannot abort it."

P8: "FP policies involve a conflict between individual rights and the public interest. These programs may infringe on individuals'rights but are necessary for society. This raises the question of whether individual desires should take precedence over the broader social good. Policies aimed at controlling population growth have faced criticism on various grounds, including human rights and economic implications. For example, the new FP policies to restrict access and prohibit recommendations for their use, and punish the use of permanent methods, and the removal of fetal screening tests in new population policies may have long-term implications for public health and economic costs."

Socio-cultural transformation in Iran's Society

Promoting literacy, health, and social opportunities, and changing women's attitudes toward their identity and place in society have been among the recent societal changes. Ignoring these changes and disregarding women's new understanding of their identity within the family and community has created significant challenges for PPs. The participants believed that, failure to recognize cultural changes in the big segment of women society and societal movements during periods of transition has led to policies that lack a diverse perspective of society.

P4: "All women became literate and the literacy rate

of Iranian women rose from below 50% to 90%. A sense of agency and freedom occurs in women, the tribal system collapses, and their level of literacy, health, and prosperity increases."

P2: "The parliament writes the law, its advisory group for writing the law has only a special tendency. Why in the field of women, men are writing laws? It can be gender-biased."

Tunnel vision approach to population policy

From participants' view, PPs are multifaceted in nature and need multidisciplinary approach. They stated that as a part of social policy, PPs' team also should be encompassing of sociologists, economists, psychologists, specialists in medical ethics and public health law in addition to politician and religious leaders. Hence, a single aspect approach from politics and religion's lens will be limited comprehensiveness and feasibility of such policy.

P5: "In the new law, socio-cultural changes affecting women's life-style has not adequately addressed. Instead, the economic factors and the healthcare services are prominently considered. I would say, this law overlooked the new women's roles and position in the society as well as their autonomy."

Our analysis of initial interviews suggested that religious actors were involved in population reduction as well as growth policies. On the one hand, it was a legitimacy lever in the case of population reduction policies, on the other hand in population growth policies it played a driven factor. However, they did not appear to be a driving factor in the outcomes of these policies. To clarify this function, we extended our interview with experienced religious leaders in population policy and asked them about the exact position of religion in encouraging or control of childbearing. Analyzing their interview conducted us to the point that religion has only a recommendatory role depending on families' socio-economic capacity.

P6: "We use different hadiths (religious advice) based on the country's needs, to serve the best interests of the country's administration. When the country's economic security was in danger due to the uncontrollable increase in the population, we recommended population control. Now, that we are facing an old age crisis and a decrease in the fertility rate, we recommend increasing the population."

P2: "Our politics have been influenced by ideology, leading to extreme viewpoints. We often overlook the importance of the positive concepts and symbols associated with our ideology. Our understanding of societal movements is limited because we are focused on seeing everyone through an ideological lens."

Economic context and population growth rate

The participants believed that the economic situation has had a double-edged impact on demographic policy. On the one hand, unfavorable economic conditions have led to inadequate provision of general welfare that, in turn, has resulted in a decline in population growth through reluctance to marry at a young age and postponing of childbearing or decrease in total fertility rate. They gave some examples from the middle socio-economic class for this behavior.

On the other hand, a favorable economic situation will elevate general welfare and change people's perspectives and behaviors towards life in a contemporary context. They exemplify that people from low socio-economic classes have more children while high socio-economic classes have fewer children. Hence, the participants believed that economic status alone does not determine fertility rate. However, in general, they have a consensus that the lack of economic stability and social security and the low level of social capital are more important factors for reducing society's desire to have children.

P2: "Economic status alone does not determine families'decision to have children. There are fewer children in wealthy families but more in poor families."

P5:"The current economic situation is critical. Rising costs of household formation, childbirth, and childcare are burdensome and negatively impact childbearing and fertility patterns."

P4: "A sense of agency and freedom occurs in women, the tribal system collapses, and their level of literacy, health, and prosperity increases and all of this is affecting the population decline. The global trend and the events that have occurred in our country have progressed together like a stream."

The results of this section are summarized in Table 2.

Process of policy implementation

Looking at transcripts guided the researchers to a poor and biased governance in planning and executing of PPs' process. The concepts that addressed this theme are explained in the following;

Table 2 The context analysis of population policies

Subcategories	*Categories*	*Theme*
-Instability of political context -Legitimacy crisis of Governmental policies -Conspiracy beliefs about birth control policies -Political-regional population volatility crisis -Weak governance in providing social welfare	Governance inefficacy in establishing a sustainable economic and political context	**The intricate and turbulent context of policymaking**
-Overlooking citizenship rights and autonomy by policymakers -Dependence of government's legitimacy on safeguarding human rights -Unavoidable responsibilities of the government to preserve ethics in policymaking	Non-considering citizenship rights and ethics in all policies	
-Lack of attention to Cultural barriers in population policy -Lack of enough attention to women's Societal identity in PPs -Negligence of the cultural transition of the society	Socio-cultural transformation in Iran's Society	
-Reciprocal effect of economic status and population growth rate -Long term economic crisis in Iran -Different childbearing pattern of socio-economic classes	Significant role of economic context in population growth rate	
-Multifaceted nature of population growth -Ideological approach to population size by politicians	Tunnel vision approach to PPs	

Incomprehensive and delayed planning

It seems that religionization and politicization of the population growth issues have hindered the comprehensiveness of PPs. This attitude has limited multidisciplinary approach to PPs. Moreover, such politicization has led to a fluctuation in the prioritization of these policies depending on each political parties who come to power. Generally, conservative parties make population growth policy at the top priority, while liberal parties put social welfare at the top. In addition, participants claimed that shifting from population reduction policies to population growth has been faced with delay and lagging. Untimely interventions and ignoring the evidence that indicated the loss of demographic window has resulted in establishing a down-sizing family as a reproductive behavior and culture. This was due to poor management during periods of rapid population growth and the lack of timely interventions due to inadequate monitoring and evaluation of policies.

> *P1: "Unfortunately, in the past years, PPs were not wise and there was a gap in governance in the field of population, and even despite the opposition of the leader, the executive and decision-making bodies of that period went towards signing the FP convention."*

Also, analysis of the data revealed that recent population policies have focused on providing economic incentives to encourage family fertility. According to some participants, these policies should be more comprehensive, considering various dimensions and outcomes such as health, welfare, and social norms. Neglecting the multidimensionality of social issues is a key factor in the improper implementation of these policies.

> *P2: "They don't try to understand all the reasons for our significant reduction of fertility rate. Instead they over emphasize on just the Family Planning policies. The truth is, both now and then, population changes were consequences of economic, political, social, and even international factors. But they have a one-sided view of the issue of population growth. Men are making laws about women. Just one political faction dominates the country. Not a surprise that they don't see all the aspects of the issue and just want to solve problems with laying down some abstract rules."*

Challenging institutional performance

According to participants, low institutional coordination and performance has led to slow down the progress of population growth policies. Analyzing the transcripts indicated that the institutional performance in population control programs is stronger than population growth programs. The participants believed that legislative branch, executive branch in particular the ministry of Health, and public media have significantly coordinated

in implementation and act. Inadequate stakeholders' engagement, disruptive bureaucracy in providing monetary and non-monetary incentives for families, and weak management and commitment are concepts that are stated by the participants to justify low institutional performance for successful implementation of PPs.

P1: "When governance does not consider all stakeholders and process owners in policy formulation and implementation, executive arms also lack the desire for cooperation. Therefore, stakeholders reacted dissatisfied or passively to incentive policies and did not provide the necessary action."

Top-down and conflicting policy process

Although there is a lack of engagement and, at times, opposition from both the community and healthcare providers, the government persists in implementing top-down population growth policies. Some participants note that healthcare providers, who are directly in contact with individuals'real-life situations and their need for family planning services, are reluctant to promote these policies. This reluctance persists even as the authorities restrict family planning services. Policymakers attempt to mitigate this by offering monetary incentives to encourage healthcare providers to support the top-down population growth policies, which leads to a conflict of interest in their professional practice.

P5: "People don't follow top-down policies due to the authoritarian governments' behavior that is led to the loss of social capital and people's desires. If we want to implement these policies and attain their support, we must first convince them and consider their need and desire."

P2: "The healthcare workers in the health center don't have enough motivations to address women's health concerns and encourage childbearing."

Ethical and human rights challenges in implementation

Programs designed to increase the population without considering the unintended consequences of their implementation on the health of vulnerable groups may lead to multiple problems. These programs also risk restricting access to some FP services for groups with insufficient financial means and tarnishing the principles of equity and ethical considerations in providing health services. At first, we found controversy in the ethics and human rights aspect of PPs. Some participants assumed these policies did not have any challenges in this regard and some of them were against this assumption. There, the investigators extended interviews to new well-experienced participants in this field. Analyzing the PPs Act besides the interviews conducted us to several concerns about ethics and human rights dimensions of PPs whether reducing or increasing policies. Questioning informed decision-making by the couples, free access to FP services, freedom of choice, and unintended consequences of each option were the main concerns in PPs.

P4: "When the fetal screening test is removed, you impose a huge cost on society, even in legal terms. A wrong political decision, wrong dimensions, and details will also create troublesome consequences in the rule of law and legal system. Therefore, it is impossible to look at FP only with the approach and perspective of the horizon of population increase. The policy of limiting FP services to increase the population is not correct in terms of the legal system and public interest."

P7: "we have not limited access to FP tools, but due to population decline, these methods should not be provided free of charge."

Ineffective monitoring and evaluation system

A common concept that arises from the analysis of the interviews, was on time evaluation of population growth rate. They claimed; during the implementation of population control policies, the collection and timely application of scientific evidence for necessary interventions and changes was neglected. Attention to findings indicating a threatening trend of population decline was lacking due to negligence in the systematic and timely collection and analysis of population data. Inefficient data monitoring management and the lack of monitoring and evaluation programs were the main reasons for the continuation of population control policies despite a sharp downward trend in the total fertility rate. The interviewees believed that a proper monitoring and evaluation system during the population reduction policy cycle could have alerted policymakers of the uncontrollable population reduction on time.

P5:" The statistics show that before joining the convention, the process of population reduction had started. The criticism leveled at the Ministry of Health is that it did not timely evaluate and monitor population trend."

The results of this section are detailed in Table 3.

Content of population policies

Content analysis of PPs Acts and interviews highlighted "Ineffective and inconsistent population policy package" as a theme. Based on the analysis of the data, four main

Table 3 The process analysis of population policies

Subcategories	*Categories*	*Theme*
-Failure to on-time agenda setting of the population growth policies -Delay in timely shifting from birth control to population growth policies' implementation -The politicization of population policy implementation -Relative comprehensiveness of the birth control policy programs	Incomprehensive and delayed implementation	**Poor and biased governance in implementation**
-Disruptive bureaucratic processes in incentive policy implementation -Insufficient operational guidelines for population growth policies -Inadequate stakeholder engagement and coordination -Weak financial and infrastructure for performing incentive policies -Institutional fragmentation as a barrier to implementing population growth policy -The slow performance of the Ministry of Health in implementing population growth policies	Challenging institutional performance	
-Weak governance in attracting community participation in the population policy cycle -Sociocultural duality of society-sovereignty in the implementation of PPs -Healthcare providers' insistence on the implementation of population growth policies -Financial-technical conflicts in implementation	Top-down and conflicting policy process	
-Negligence of essential ethical aspects in population policy implementation -Disregard of individual and public rights in policy execution -Ignoring unintended health outcomes of population policy implementation on community	The ethical and human rights challenge of implementation	
-Absence of a monitoring and evaluation system in program implementation -Weakness in data management -Negligence of evidence for decreasing rate of total fertility	Ineffective monitoring and evaluation system	

concepts that elucidate this theme are included. Each main concept will be explained in the following;

Neglecting socio-cultural transition

The PPs were created without taking into account the changes in cultural and social contexts related to women's role in society, their current lifestyle requirements, and their definitions of feminine identity. Educated women have new roles and are willing to contribute in socio-economic positions, but these roles were overlooked. According to the interviewees, Iranian society is not a homogeneous society in terms of socio-cultural, and religious beliefs, the majority of Iranian women have adopted this new approach and role, although it can conflict with their traditional role in a large family with several children. Therefore, ignoring this issue in the population growth policy fails to meet expectations and does not secure their cooperation.

P3: "In some societies, as social culture evolves, attitudes are changing. Factors such as the declining birth rates, shifting human desires, the modernization process, and the increasing acceptance of women in higher education and employment, as well as the declining rates of marriage, are aspects that have not been adequately addressed in PPs."

Disregarding health consequences

According to the Population Growth Act access to expensive services such as infertility treatments is highlighted. However, these laws have also limited people's access to education and counseling for an informed decision, or screening tests that can prevent of childbearing with disability. Also, it has limited access to contraceptives, especially for high-risk groups such as those exposed to sexually transmitted diseases, severely ill women, or families with genetic diseases can not only affect the public

health of society but, also be disputed in terms of human rights.

In these policies, there is a belief that high-risk pregnancies can occur along with frequent medical interventions and medicalization hence, fetal healthcare education and counseling are also overlooked. These policies emphasize on increasing natural births to maintain future fertility in women and reducing unnecessary cesarean sections, while it does not improve the quality of normal vaginal delivery care. It eliminates and ignores the support groups from mothers in decision-making and implementation. Moreover, population increase policies do not pay attention to providing the infrastructure and equipment needed to implement natural delivery in health and medical centers, which shows paradoxes and ambiguity in the goals of population increase policies.

P11: "The decision-maker must be responsible for their decision. In fact, in population policy we have both acute (short term) and long-term results; For example, based on the evidence, in my opinion, next year we will have a high volume of abortions due to unwanted pregnancies compared to the past. In this area, the accountability of policy-makers is of considerable importance."

Human rights and ethical challenges

The legitimacy of governments towards society and the general public is accountability and responsibility for policymaking. The lack of attention to individual and public rights and the disregard for ethical considerations in these policies are notable. From an ethical and moral-human rights perspective, both policy packages; population control and population growth, have some defects. However, based on overall participants'views the population growth policies have faced more challenges from individual and public rights and ethics points. Interviewees who were experts in medical ethics emphasized that individual rights include the provision for all people to have equal access to reproductive health services to protect their health. They claimed that proper reproductive health education should be an inseparable part of PPs to let the people a conscious choice. Therefore, the more right-oriented and ethics-centered policy, the more attachment people to that policy's successful implementation. However, the lack of a clear policy for collecting data on results, evaluation, and final assessment in the policymaking cycle has led to the excessive continuation of these policies.

P9: "Both existing views regarding increasing or reducing the number of children disregard the right to discretion and personal decision, attempting to impose policies through coercive action. It appears that population control policies were developed with a strong focus on ethical considerations and minimizing harm. There are ethical concerns about the lack of training and guidance for screening tests, and reduced access to certain health services within population-increasing policies."

P8: "The policies adopted by our government concerning the increase in population have been widely criticized in terms of moral-human rights, political, economic, and social aspects. Also, can you say these policies are designed correctly? For example, when fetal screening tests are removed, you are effectively imposing a huge cost on society."

Incomprehensive pro-natalist policy package

Natalist policies have faced criticism for their single-faceted approach, poor participation, and lack of evidence. Interviews showed disagreement on key determinants for encouraging childbearing, between economic versus socio-cultural factors. Despite this, policy has focused on costly economic incentives, which have largely failed due to insufficient investment. Most participants acknowledged the limited success of current policies.

P11: "The discussion about this law included considerations of both cultural and economic incentives. It was agreed that while the economic factor is important, it is not the only determinant. For example, when the economic situation is good, people tend to have fewer children, but they have them at an earlier age. This is why the new law places more emphasis on economic issues."

In comparison with population growth policies, in some participants' view, scientific evidence and ethical principles that respect human rights were more considered in population control policies.

P8: "Population reduction policies prevented many harms, either in the aftermath of family overpopulation that could be harmful to the mother, or the solutions that provided for moral-human rights abortions that could prevent harm."

The results of this section are summarized in Table 4.

Actor Analysis in Population Policies

Governments, interest groups, and other actors were evaluated for their executive power and political influence in policymaking. To address the actors' role, the interviewees mentioned different groups related to the government, such as various subcategories of the government ranging from the Ministry of Health to other related ministries, health professionals in universities,

Table 4 The content analysis of population policies

Subcategories	*Categories*	*Theme*
-Overlooking women's needs in population growth Policymaking -Incompatibility of PPs with the current socio-cultural identity of women -Incompatibility of PPs with the socio-cultural realities of Iranian society	Neglecting socio-cultural transition in PPs and Acts	**Ineffective and inconsistent population policy package**
-The unpredictable impact of laws restricting screening and abortion on the community's health -Non-evidence-oriented PPs -The probable threatening health outcomes due to limited access to family planning methods	Disregarding health consequences in PPs	
-Carelessness of individual and public rights in PPs -Ethical challenges in formulating PPs -The sophisticated nature of human rights and ethical factors in population policy development -Overlooking people's autonomy in PPs -More attention on ethical considerations in birth control policies	The human rights and ethical challenges of PPs	
-Economic-oriented population incentive policy package -Weak inter-disciplinary approach in shaping population policy package -Excessive focus on economic incentives -Ineffective incentive policies -Single-sector and single-approach policies -Paradox of Medicalization vs. anti-medicalization in PPs	Incomprehensive pronatalist policy package	

health service providers, scholars, religious authorities, semi-governmental institutions, celebrities, and media activists. They mentioned the authority, influence, and moral-human rights power of different actors in policy-making. As legislators, parliamentarians possessed significant power to create policies. However, their ability to persuade society and specific government agencies to accept and execute these policies was only moderately influential. Some political groups have a significant influence on policy shaping, but their power is limited due to a lack of executive control. Policy-making in the context of population control was mainly influenced by religious scholars, specialist physicians, and some media outlets that lacked moral-human rights power. The Ministry of Health's various subgroups, including educational centers and service providers, had more power as policy implementers than in policy-making. According to the interviewees, government sub-categories and organizations responsible for providing public welfare and improving society's quality of life could have played a crucial role in PPs but had the least impact on policy-making. Some interviewees highlighted the significant influence of international organizations on population reduction policies. They noted that government officials often implement these organizations'recommendations, adopting policies to control population growth and following international treaties—such as promoting reproductive rights and family planning as conditions for World Bank loans. Conversely, other interviewees saw these recommendations merely as support for health and the protection of ethical human rights. The perspectives of stakeholders directly involved in community health—such as midwives, reproductive health specialists, obstetrics, and demographers—were frequently overlooked, thereby diminishing their anticipated influence on policy development. Consequently, these groups wielded minimal power in population policymaking. The analysis of actors'power and influence is presented in Table 5.

Discussion

This study analyzed the impact of Iran's population policies (PPs) over the past four decades on the health and rights of individuals, focusing on the factors that influenced their effectiveness in addressing declining fertility rates.

Using Walt and Gilson's Policy Analysis framework, our research produced three major findings: (1) complicated policy-making contexts significantly impacted

Table 5 The analysis of actors of population policies based on their power and influence

Influence Power	*Very Low*	*Low*	*Moderate*	*High*
Very Low	-Ministry of Cooperation, Labor & Social Welfare -Ministry of Interior -Pension funds -Supreme Council for Cultural Revolution	-Midwives & midwifery students -Reproductive health experts -Department of pediatrics Health, Ministry of Health -Population experts -Social groups such as student associations & guilds, NGOs	-Offices related to the United Nations such as World bank, UNFPA & the World Health Organization -Feminist activists -Activists & analysts in the field of women -Academics & researchers -Statistical Center of Iran	-Governance media -Sunni clerics -Policy lobbyists & think tanks of policymakers - Public figures
Low	-Operational & management bases for rejuvenating the population in institutions and offices	-Ministry of Health research deputy -Vice Presidential Women's Affairs -Heads of city health centers	-Activists of Islamic medicine -Health service centers -Quasi-governmental institutions such as Barkat Ventures	-Shia clerics and taqlid authorities -Quasi-governmental institutions -Specialist physicians
Moderate	-Budget & Planning Organization	-Expediency Council	-Department of Family and Population Health and Family Planning of the Ministry of Health -Executive directors of health networks	-Pressure groups
High	-	-	-Members of Parliament	-

policy development, (2) implementation processes were subject to biases affecting outcomes, and (3) policy content inadequately integrated professional, ethical, and socio-cultural considerations.

Contextual determinants shaping population policies

Our analysis reveals that a complex and turbulent policy-making context has shaped the PPs. This chaotic environment is marked by governance inefficiencies, socio-cultural change, neglect of citizenship rights and ethical considerations, an unstable economy, and a narrow focus on PPs. Deep-rooted ideological and political divides have led to unsustainable and inconsistent approaches, similar to patterns in other countries with complex political landscapes [25]. The politicization and ideological influence on population policy are apparent across the political spectrum. Right-wing parties often oppose immigration in democratic nations, while conversely, left-leaning factions may support it (like in Italy) [26]. Pro-natalist policies, including opposition to family planning, are frequently observed in some religious contexts in African countries, as well as in nationalist and communist regimes. These policies are often ostensibly aimed at augmenting influence, power, or wealth, while frequently disregarding the ecological consequences of demographic shifts [27]. Political instability has manifested in the oscillating approaches to population policy, categorized into three distinct phases: Islamic Idealism (1979–1988), Pragmatism (1989–2005), and Realism (2006-present) [28–31]; The Islamic Idealism phase saw right-wing factions promoting large families as an Islamic virtue, leading to the dismantling of pre-revolution FP programs [32]. During the Pragmatism phase, left-leaning policymakers advocated aligning population growth with socioeconomic development, and reinstating FP programs [33]. The current reality is that the fertility rate in the country has declined, leading to an increasing proportion of elderly individuals and a decreasing proportion of young people and the productive workforce. So the current Realism phase has seen a return to pronatalist policies and restrictions on FP services [16]. This political instability echoes similar shifts in countries like Russia and Hungary [34, 35]. Religious laws, according to some participants, advise families to increase the number of their children.

Sociocultural norms are one of the most important determinants for a successful population policy, whether in favor of increase or decrease. Hence, fertility pattern has changed connected with dimensions, it has changed during the time align with sociocultural, political and economic modifications [36, 37]. Our participants counted sociocultural transition as the most important barrier to run recent pronatalist policies. Consistent with other evidence, our findings revealed prioritizing health and safeguarding individual rights, urbanization and emerging sociocultural dynamics in family income, couples' literacy level, and social identity of women determine their childbearing decision.

Despite emphasizing social welfare in "General PPs" announced by the supreme leader, the government has

failed to provide adequate social welfare [38]. This failure has significantly impacted the effectiveness of PPs, as the public's receptiveness to pronatalist measures has been limited by economic hardships exacerbated by sanctions and weak financial management [16, 39]. Although the participants' controversial approach about the extent of economic factors' effect on childbearing pattern, overall analysis of the data showed that economic status is a determinant for this pattern. In line with our qualitative data, Reshadat et al., in a quantitative study showed that while middle and upper class neighborhoods have total fertility rate (TFR) below the replacement level, TFR in working-class is above it [40].

Focusing on short-term solutions over comprehensive, long-term planning has further exacerbated governance inefficacy, resulting in spatial planning challenges [41]. These policies often prioritize ideological goals over practical demographic needs, disregarding the diverse cultural and social realities. This approach has led to significant ethical dilemmas, particularly concerning reproductive autonomy individual rights [16].

Process challenges in policy implementation

Our study identifies significant challenges in implementing PPs, including delayed policy shifts, weak institutional coordination, a top-down approach, and inadequate monitoring and evaluation systems. The delay in shifting from anti-natalist to pro-natalist policies entrenched small-family norms, which are now difficult to reverse, a challenge observed in East Asian countries [42, 43]. The implementation process is characterized by fragmented execution and inadequate stakeholder engagement where different government bodies often operate in silos. In line with other evidence, the centralized, top-down decision-making process, with limited input from local authorities and affected communities, has resulted in policies that may not fully address the various needs of a diverse sociocultural and political context [40, 44]. This approach, coupled with inadequate stakeholder engagement and lack of bottom-up feedback mechanisms, has hindered the ability to adapt policies to local realities and needs and its failure [45]. These findings echo research by Rammohan [14] on policy implementation challenges in South Asian countries and underscore the need for a harmonized policy implementation. Following the official announcement of the "General PPs" in 2014, until approval of "The Youthful Population and Protection of the Family" law by the parliament in 2021, the implementation of pronatalist policies has always faced ups and downs. This law not only included strategies for positive incentives and family support but also considered restrictive policies that limit reproductive rights. Noticeably, according to this law access to FP and reproductive health services is limited, and fetal screening and abortion are restricted [16]. As our findings revealed, lack of an appropriate monitoring and evaluation system has led to delay in on time policy change from antinatalist to pronatalist [4]. Consistent with other studies, it seems that to improve pronatalist policies, the whole process of implementation of these policies based on civil right and ethics, and stakeholders' cooperation should be revised [16, 44, 46].

Content analysis of PPs

Our analysis reveals significant gaps in content, particularly in addressing socio-cultural realities, health consequences, ethical considerations, and the need for a comprehensive, multi-sectoral approach. A key finding is the policies'incompatibility with a changing socio-cultural landscape incompatibility the evolving socio-cultural landscape, especially regarding women's changing roles. Increasingly educated women seeking employment opportunities are not accounted for in the current policy framework, which focuses on outdated gender norms [47]. This trend, observed globally, has been particularly pronounced and women's educational attainment has risen dramatically in recent decades [48, 49].

Despite the community's diverse sociocultural landscape, public policies often adopted a homogenized, one-size-fits-all approach, failing to address regional disparities and the evolving societal roles of women. This ideological bias in policymaking, as noted by Izadi et al. [14] and Asadi Sarvestani et al. [16] has resulted in strategies poorly aligned with demographic realities and diverse societal needs, highlighting the necessity for a more comprehensive and culturally sensitive approach to population management.

The content analysis also highlights a concerning disregard for potential health consequences. Policies restricting access to FP services and prenatal screening not only challenge reproductive rights but also risk creating health inequities and unintended consequences [50, 51]. These non-evidence-oriented policies may lead to unpredictable impacts on community health, particularly in the context of restricted abortion access and limited FP options [49, 52].

Human rights and ethical challenges emerge as another critical issue in the policy content. There's a noticeable carelessness towards individual and public rights, with policies often overlooking people's autonomy in reproductive decisions [16]. This approach fails to recognize the sophisticated nature of human rights and ethical factors in population policy development, potentially exacerbating socio-economic disparities.

Our analysis reveals a predominant focus on economic incentives in PPs, characterized by measures such as

financial bonuses for childbirth and extended parental leave. This approach represents a single-sector strategy that fails to account for the complex nature of fertility decision-making. By emphasizing economic factors, policymakers overlook crucial sociocultural and personal determinants of reproductive choices, such as changing gender roles, career aspirations, and evolving social norms. Furthermore, our findings suggest that these economic incentives may have limited efficacy, particularly among higher-income groups whose fertility decisions are often influenced by factors beyond financial considerations. This narrow economic focus reflects a limited understanding of the diverse factors influencing population dynamics and indicates a need for a more comprehensive policy approach that integrates insights from sociology, psychology, and public health.

Additionally, there is an inconsistency in the medicalization approach. Earlier policies were criticized for overmedicalizing population control, while recent policies neglect maternal and child health concerns, reflecting a lack of balanced, comprehensive approach to population health [53, 54].

Finally, the pronatalist policy package appears incomprehensive, particularly in its economic aspects. In the context of high inflation rates and challenging economic situation, the proposed incentives are often inadequate, especially for middle socio-economic class families [55, 56]. This highlights the need for more nuanced economic analysis in shaping PPs.

Actor analysis and power dynamics

Our analysis reveals a complex hierarchy of actors involved in Iran's PPs. The Supreme Leader and religious authorities play significant roles, aligning policy agendas often with pronatalist goals [16]. The study by Jafari et al. emphasizes that religious authorities, such as the Supreme Leader, other clerics, and the Islamic parliament, are more influential in shaping population policies than specialized academic groups or related ministries [45]. In democratic societies, expert groups and academic specialists play a crucial and decisive role in policymaking. However, the extent of their influence and the sustainability of their role in policymaking depend on the characteristics of the political environment of their societies, the formation of these groups and institutions, their organization, and who constitutes or leads them. These expert groups are often composed of academics, government employees, and bureaucrats. Politicians typically benefit greatly from consulting with academics due to their high level of knowledge and independence [57].

Notably, despite its high formal power, the Ministry of Health has a surprisingly low influence on policy formulation, highlighting a disconnect between technical expertise and policy decisions. It is important to note that knowledgeable actors increase trust [58]. Conversely, while lacking formal power, pressure groups and religious scholars exert significant influence, particularly in shaping public opinion on family values and fertility. The dynamics of the power of the actors varies and changes depending on the context [59], therefore, in the field of Iranian politics, the influence and power of some groups and political currents surpass that of specialist and expert groups.

Global health actors have had funding organizations in the past years, most often these investors have been the United States of America, the United Kingdom, and the Gates Foundation [60]. Considering Iran's lack of communication with these financiers, it was not far from the expectation that they would play a small role in Iran's population policies.

Professional stakeholders and health experts offer valuable empirical insights; however, their influence may be constrained by the political considerations of certain stakeholders within governmental and parliamentary bodies. This dynamic highlights the potential for policy decisions to be shaped by factors beyond purely evidence-based or expert-driven perspectives [61].

Social media in political agenda setting have increased the capacity of various kinds of actors to shape the agenda [62]. Media and social networks, despite very low formal power, have emerged as highly influential in shaping public discourse on population issues in Iran.

Non-governmental organizations, advocating for reproductive rights and FP, provide an important counterbalance to the dominant pronatalist narrative, though their impact is often limited by political and ideological pressures. Many low and middle income countries with unstable political structures have experienced instances of conservative parties coming to power. During that time, there has been a significant disregard for reproductive rights, lack of attention to women's empowerment, and the proliferation of natalist policies. These situations have been exacerbated by pressure groups and the restriction of financial resources, as well as the enactment of laws aimed at controlling women's bodies concerning reproduction and limiting the activities of scientific associations and human rights advocates [41, 63] as happened in Iran according to our results. Due to polarization, even in high income countries, conservative groups and parties with limited knowledge and understanding, quickly take positions either in favor of or against reproductive health and rights [64].

This intricate web of actors, characterized by centralized decision-making and often conflicting objectives, reflects the challenges in coordinating coherent population policies in our study.

It highlights the need for a multi-lateral discourse between all stakeholders to reach a common language and a continuous communication in line with upper-level national population documents.

Lesson for policymakers and Suggestions for future research

Policy-making influenced by specific ideological groups, without the participation of all stakeholders, and in contravention of social needs, human rights, and ethical considerations, is unlikely to achieve its intended goals.

Future research could benefit from a detailed analysis of the actors involved and their interactions with one another.

Strengths and limitations

The strength of this study lies in its comprehensive approach, combining document analysis with interviews of diverse stakeholders involved in policy formation. By using Walt and Gilson's Policy Analysis Triangle we gained a rich understanding of Iran's PPs over four decades. However, several limitations should be acknowledged. The retrospective nature of the study may have introduced recall bias, particularly regarding earlier policies. While we aimed for diverse perspectives, the study may not have captured all relevant viewpoints. Additionally, our focus on national-level policies may have overlooked important regional variations. Finally, reliance on available documents and willing interviewees could have introduced selection bias.

Despite these limitations, this study provides valuable insights into the complexities of Iran's population policies, offering a foundation for future research in this field.

Conclusion

The present study's findings explored three key findings: (1) complicated policy-making contexts, (2) poor and biased governance in implementation process, and (3) challengeable social, ethical, and civil rights in content that describes the failure of PPs in Iran.

Actors have had less active collaboration and coordination especially in pronatalist policies. Sharp decline of TFR after implementing antinatalist policies has led to hasty and tunnel vision pronatalist policies. To guarantee the success of this policy, revision of population policy Acts based on upper-level documents and civilians' right and ethics, elevating social welfare, reconstructing social capital, considering sociocultural diversity in Iranian societies would be of the most important strategies. Also, implementing these policies need all stakeholders' cooperation and engagement to use their all capacities. The last but not least, further studies are necessary to clarify reproductive pattern and its determinants of different Iranian societies to prepare a diverse program for each.

Abbreviations

FP Family Planning
PPs Population Policies
PPA Population Policies Act
TFR Total Fertility Rate

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Authors' contributions

HJ and BMB were the main investigator, designed the study and wrote the first draft and edited the final version of the manuscript. PG and SNP recorded the data and analyzed the results. YM edited the final version. All authors contributed to writing the manuscript and read and approved it.

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Data availability

No datasets were generated or analysed during the current study.

Declarations

Ethics approval and consent to participate

This study is based on a thesis for the MPH course in health policy and has received ethical approval from the Ethics Committee of Shiraz University of Medical Sciences (IR.SUMS.REC.1401.368). The informed consent form for participants.is as follows.

Research project title	Analysis of Iran's population policies in four decades
Research project number	IR.SUMS.REC.1401.368
Name of the presenter or presenters	Hassan Joulaei, Bahar Morshid Behbahani, Parnian Gadimi, Sadra Nadimi
Relevant faculty or department	Health Policy Research Center, Shiraz University of Medical Sciences
Research objectives	The purpose of this research is to examine and analyze population-related policies in Iran over the past four decades. This study aims to determine the content of these population policies, the contexts in which they have been developed, how these policies have been prioritized, implemented, and evaluated, as well as identifying the individuals, groups, and stakeholders involved in their formulation.

Research project title	Analysis of Iran's population policies in four decades
How participants collaborated in this study	Participants in this study will be interviewed by researchers using pre-determined questions related to population policies. With the participants' consent, their voices will be recorded during the interview. Participants may choose to withdraw from the interview at any time they wish. They will be assured of the confidentiality and anonymity of their data, as well as their rights to access, correct, delete, or object to their data
Possible benefits	By participating in this study, you will assist researchers in providing actionable policy recommendations to policymakers for future population policy development
Possible risks	This study poses no risks to the participants involved
Cost	There will be no cost to participants for conducting this research
Confidentiality and Access to Information	Personal information, interviews, and recorded audio of participants will remain confidential with the researchers. Participants will have access to their data at any time and may request modifications. They may also withdraw from the interview at any time they choose However, the Institutional Review Board (IRB) overseeing the study to ensure the protection of participants'rights may access this information. Additionally, transcripts of the interviews may be utilized in future research
Answering questions	submit any comments or questions to the main project manager, Dr. Hassa Julaei at + 989177121762
Right to refuse or withdraw	My participation in this study is entirely voluntary, and I am free to decline to participate or withdraw from the study at any time without affecting how the researcher or interviewer interacts with me
Notification, suggestions and problem tracking	Thank you for your cooperation in this research project. Please contact us with any comments, suggestions, or problems you may have during the research process by calling the Ethics Committee of Shiraz University of Medical Sciences at 32122438, or by email researchethic@sums.ac.ir or by fax at 32122686.. It is obvious that the follow-up of the issues raised is carried out in complete confidentiality by the Research Ethics Committee of Shiraz University of Medical Sciences

Research project title	Analysis of Iran's population policies in four decades
I, …….. ……., with full knowledge of the above, consent to participate in this research as a subject All information collected from me, as well as my name, will remain confidential, and the research results will be published in general terms in the form of information about the study group, and individual results will be presented without mentioning my name and personal details, if necessary This agreement will not prevent me from taking legal action against Shiraz University of Medical Sciences, Health Policy Research Center, if an illegal or inhumane act is committed Signature and fingerprint……., name and surname The names of the interviewers are: Bahar Morshed Behbahani, Hassan Julaie, Parnian Ghadimi, Sadra Nadimi Name, surname and signature of the project manager: Hassan Julaei Landline number: + 9887132112246 Mobile number: + 989177121762 Date:	

Consent for publication

Not applicable because this manuscript does not contain any individual person's data in any form.

Competing interests

The authors declare no competing interests.

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