

A Review of the Impact of Different Social Policy Incentives to Accelerate Population Growth Rate

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Context: Cash payments or other incentive policies to improve population growth rate have been used for many years; but the efficiency of these policies has not yet been fully understood. We provide a brief background to different incentive population policies for accelerating birth rate and its underlying rationale and consequences.

Evidence Acquisition: For our search strategy, we reviewed the J store, Medline, science direct, ISI database, and the WHO Reproductive Health Library. The study comprised all published and unpublished accounts on cash and other incentive programs, with especial reference to key considerations on the use of these policies. The majority of studies have been conducted in developed countries and policies are focused on addressing basic factors such as women's decision making on childbearing, poverty, or western life style.

Results: In general, there are four different types of incentive policy instruments that can potentially influence childbearing: direct cash payments such as baby bonus payments and family allowances, indirect transfers such as tax exemptions, housing policies, health care or child tax credits, creating better working conditions for mothers like improving work-family compatibility such as maternity and paternity leave with or without salary-maintenance, or availability, acceptability, accessibility of high quality and inexpensive nursery in the workplace, and inadvertent policies such as new graduate recruitment system which help young people find regular jobs, and schools could act as go-betweens in the recruitment process since employers prefer hiring recent graduates.

Conclusions: We conclude that policies aimed at reducing the incompatibility between work and the factors associated with mothers' roles such as maternity leaves, childcare, and early education affecting women's childbearing and younger age pregnancies. However, ongoing researches will shed more light on the efficacy of each incentive policies in the context of Iran.

Keywords: Childbearing; Incentive; Social population policies

1. Context

In the past three decades, the Iranian society has experienced significant fertility changes. The National Census data in 1986 reported a 3.2% annual population growth rate and a 40% increase in population since 1976 (1). In 1988, the Iranian government sponsored a major and strike population control program concurrently supported by religious leaders. As a result of this antinatalist policy, the total fertility rate fell from 7 births per woman in 1979 to 1.8 births in 2011 (2). According to the latest National Census (2011), the population growth rate was 1.3%. Never before had parents in Iranian societies their first children as late as in recent years. This was the largest and fastest decline in population growth rate ever.

However, after the control of the population growth, the Iranian society faced a new and serious challenge. The total fertility rate (TFR) defined as number of chil-

dren born to a woman has fallen to 2.1 children per woman which was equal or below replacement level. In a few provinces of Iran such as Gilan the TFR lies even below 1.8 (2).

However, fertility at below replacement levels, receives the bulk of scholarly and population policy attention.

A population policy which is a set of measures taken by a state population policy determines the principles, objectives and policies adopted by the State. This comprises issues influencing the population status, such as variables in population growth and its main elements. These policies often forms a large umbrella covering all programs and activities directly and indirectly impacting population variables, to modify the way by which the population is changing, and to increase natality. It focuses on hypotheses and constants based on society's culture and values (2, 3). Planning, implementation and

Implication for health policy/practice/research/medical education:

Currently in Iran, birth rates are falling and the population is ageing. This study assesses which policies can prevent or mitigate the adverse consequences of this trend. A framework highlights the interrelationships among government policies, macro-level conditions, and household-level demographic behavior.

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review of population policies, is one of the key functions of government. However, it should be noted that without a profound and thorough understanding of population issues, population policy and planning cannot be comprehensive and sustainable. Lack of true understanding of population changes, hampers the planning of desirable growth rate and leads to incomplete and precipitous decision making (3).

Nowadays, considerable academic, political and media attention has been paid to the phenomena of low fertility rate in Iran. Currently, there is also widespread academic agreement on using modern contraception. This is a major contributing factor affecting the existing low levels of fertility, and at present most policy discussions are focused on increasing the number of childbirth (3).

It is suggested that this phenomenon is influenced by western life style and modernization, higher education of women, work opportunities, improvement in gender equality and empowerment of women in the society (3, 4), in addition to ever increasing use of effective and modern contraceptive methods (5). In this respect, delayed pregnancies and tendencies to having fewer children provided new opportunities for women's emancipation, avoiding unwanted pregnancies and diminishing mother's role, conditions affecting the temporal pattern of reproductive behavior (6, 7).

Also, low fertility rate is associated with a wide ranging adverse social, health and demographic outcomes. In the simplest terms, sustained low fertility would impact the population density and future labor force, a situation which may be difficult to reverse or control (8).

From a strictly biological perspective, however, the low fertility rate carries the risk for unwilling childlessness and reducing the span of further pregnancies (9). Additionally, the adverse obstetrics' complications and sterility, chronic diseases and poor neonatal outcomes are potential reasons for increasing maternal age (10). Also, Assisted Reproductive Technologies (ART) cannot fully compensate for age-dependent loss of fecundity (11, 12). However, the persistent low fertility in Iran has triggered public and political interest in policies that could maintain or increase fertility levels. The incentive interventions and narrowing the differences between incomes groups are major steps to be taken by policymakers, who have become increasingly bold in their reforms, to improve population growth in developing countries. One promising approach is to provide financial incentives to individuals who exhibit certain behaviors that improve TFR (13). This is the key feature of various programs that have become popular in recent years. Despite pronatalist policies proclaimed by the government, the different kinds of such policies and their probable consequences have not yet been fully recognized. Some social policies implemented by other countries target the timing of the first birth. We there-

fore hypothesized that different kinds of population policy incentives could promote population growth by affecting the timing of the first birth.

2. Evidence Acquisition

Using the electronic databases of J store, Medline, science direct, and the WHO Reproductive Health Library, a comprehensive literature search for incentive of population growth was conducted from January 1980 to January 2012. We used the keywords of "incentive", "population", "childbearing", "policy", and "women" and other related terms for our research. The inclusion criteria comprised the review of published studies specifically concerned with population policy incentives and childbirth. The abstracts without available English full text were excluded from the study.

The first search included studies that reported different kinds of country's population policy incentives for childbearing. We considered studies concerning women with a wide ranging age. Titles and abstracts of retrieved articles were independently evaluated by researchers who were not blind to the authors or journals. Full text evaluation was carried out for the abstracts that did not provide enough information. Researchers independently evaluated the full text articles to determine study eligibility. The study quality was assessed independently by researchers, and if disagreed, discussion was held to reach consensus.

Having accessed 23 items, data were extracted from 14 full text articles which fulfilled our criteria and used as a suitable standard for inclusion.

The majority of studies have been conducted in developed countries and policies are focused on addressing structural factors such as women's decision making on childbearing, poverty, or western life style.

3. Results

In general, there are four different types of incentive policy instruments that can potentially influence childbearing. Also, policies may not only impact fertility and induce change, but are often a reaction to changes in fertility and are an integral feature of these changes. In other words, an increase in fertility levels might not only be a unidirectional consequence of policies, but it could also work in the reverse direction.

3.1. Direct Cash Payments

One of the prominent policies which are broadly used in different countries including Iran is direct cash payments such as baby bonus payments and family allowances (14, 15). For example in Singapore, the government pay \$1500 + 25% of mother's earned income per child to the women (16). In another pronatalistic monetary policy in Quebec, the government pays families up to \$8000 to have a child (17).

3.2. Indirect Transfers

This kind of incentive includes policies such as tax exemptions, housing policies, health care or child tax credits. These policies were more welcomed by women. Employment-related child care benefits and tax-based benefits for families introduced by Aassve et al., in Hungary are examples of this policy (14).

3.3 Creating the Better Situation for Working Mother or Improving Work-family Compatibility

The World Health Organization calls on health professionals to support women in combining maternity and work. However, in order to combine pregnancy and motherhood with work, employed women need a supportive care environment (18). In this respect, improving work-family compatibility, including maternity and paternity leave with or without salary-maintenance, or available, acceptable, and accessible high quality and inexpensive nursery in the workplace, could provide situation for a working mother to have children. These amicable-workplaces could be a potential impetus for having babies and improve work-family compatibility (19-22).

3.4. Inadvertent Policies

In addition to previous policies adapted explicitly to influence childbearing levels or designed for mothers to gain easier paid employment, there are a wide variety of policies and institutional arrangements in the educational system, labor market and housing market that may indirectly impact the timing of parenthood (3). New graduate recruitment system is an example of these policies. This system is a principal mechanism whereby young people find regular jobs that are full-time, offer fringe benefits and fall under the lifetime employment model. Schools act as go-betweens in the recruitment process since employers prefer hiring recent graduates (23).

4. Conclusions

This review study focused on social policy incentives that potentially increase total fertility rate. The first policy was direct cash payment. Different theories posit that widely available, high-quality, and affordable child care should encourage childbirth. However, the effect of this policy on total fertility rate is controversial. In Singapore financial incentives appeared to have some effect in the early days of its introduction. However, fertility begun to slide and returned to the pre-policy level except in selected instances (24). In contrast, Milligan found that the introduction of a child subsidy had a significant and positive effect on childbearing (17). This discrepancy may be due to the financial status of families and the period of studies. Mills et al., suggested that the only class not

influenced by the child subsidy was, as they anticipated, the high-income group (25). However, evidence is mixed on the effect of direct cash payments on overall levels of childbearing, but it seems that this policy was not sustainable. However, these incentive policies would easily fail, if they could not compensate the cost of living.

In the second policy indirect transfers were introduced. The results of which were also controversial. Aassve et al., in Hungary found that dramatic policy changes in 1995 that switched family allowance from a universal to means-tested system had an impact on the transition to the first birth (14). However, women with higher education and income were not satisfied with these policies, and consequently postponed their first birth. Another body of literature has evaluated some of these programs, but has shown that these factors tended to have modest or no effects (26, 27). In the third policy we introduced improving work-family compatibility. In agreement of our findings, Castles (2003) suggested that providing child care facilities for children under the age of three was an important factor for women to join labor force and thus served to facilitate the combination of parenthood with employment (28).

Di Preteet et al., argued that women's childbearing was positively affected by reduced childcare costs and leading to increasing child-care (29). In another research, Del Boca (2002) studied the effect of child care and part-time employment on participation and fertility decisions in Italy. The empirical results showed that the availability of child cares and part time job increased both the chance of working and having a child. They suggested that policies providing more flexible working hours along with greater child care availability would aid in reducing the financial burden of rearing children (24). In a study in the 1980s and 1990s in Germany, Hank and Kreyenfeld investigated the role of child care in the transition to motherhood in Germany. They demonstrated that access to public day care arrangements significantly increased the transition to first birth and also concluded that availability and not affordability of child care was central to transition to first birth (30). Rindfuss et al. (2007) argued that the increased availability of child day care in Norway clearly, strongly and consistently led to a younger age at first birth (21). Zabel (2009) examined the impact of maternity leave legislation on first birth timing in UK. He showed higher transition rates to first births for those who had acquired reliable employment tenure and qualified for maternity leave. In summary, the evidence is tending to suggest that policies which reduce the incompatibility between work and mother roles lead to younger age at first birth (31). Finally, introducing inadvertent policies indirectly affect women's decision making on childbearing. Labor laws about women play decisive and important roles in these policies. Women who drop out of the labor force have a very difficult time finding a reg-

ular job if they wish to resume working. This leads to a strong disincentive to childbearing for women desiring careers. An additional drawback is the reluctance of employers to follow lifetime employment model.

This study describes different kinds of social policy incentives for increasing population growth rate and evaluated the potential of various deterrents to childbearing. In general, we suggest that more open and accessible policies of allowing individuals to balance the complex interplay between studentship, working, and managing to have an independent household are likely to encourage earlier rearing of children and childbearing. There are mixed empirical results regarding the effectiveness of cash and indirect benefits. The evidence suggests that policies aimed at reducing the incompatibility between work and mother's roles including maternity leaves, childcare, early education are more effective and lead to younger age at first birth. We also conclude that it is not only the availability of financial incentives that shape the timing of childbearing, but also the broader culture and attitudes such as the level of family ties and friendship in a society can promote earlier childbearing. Policies cannot be considered in isolation, but are part of a wider message to individuals about their willingness to sustain parenthood in the longer term.

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Authors' Contribution

Samira Behboudi Gandevani and Saideh Ziaee contribute in study design, execution, analysis, manuscript drafting and critical discussion. Farideh Khalajabadi Farahani contributes in study design, manuscript drafting and critical discussion. All authors gave the final approval for publishing.

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