

The Effects of Unsafe Abortion on the Health System from a Socio-economic Perspective: A Narrative Review

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ABSTRACT

Background & aim: Many illegal and underground centers lacking minimal medical standards are operating in addition to the women who personally decide to terminate their pregnancy with unsafe means, which can lead to maternal mortality and morbidity. The socio-economic effects of abortion can bring enormous costs to the healthcare system. Therefore, this study was conducted to review the effects of unsafe abortion on the health system from a socio-economic perspective.

Methods: In this narrative review, English databases including Pubmed, Scopus, SID, Web of Sciences, and Google Scholar, as well as Persian databases of Magiran and SID, were examined. To obtain all the desired Persian and English articles, the English keywords, including pregnancy, unintended pregnancy, abortion, illegal abortion, intentional abortion, economic consequences, social consequences, costs, social and economic consequences, reproductive health indicators, and their Persian equivalents, were used in the period between 1990 and 2022. 13 related articles were reviewed.

Results: The findings extracted from the reviewed studies were in three areas unsafe abortion and population; unsafe abortion and health; and unsafe abortion and reproductive health from a socio-economic point of view.

Conclusion: From a socio-economic perspective, unsafe abortion can affect fertility indicators in the health system and cause a decrease in women's quality of life and labor force productivity.

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Introduction

The International Conference on Population and Development in Cairo in 1994 mentioned unhealthy and unsanitary abortion as the main cause of maternal mortality and therefore considered reproductive health a human right (1-3). Abortion is one of the most important causes of maternal death. One of the consequences of unplanned pregnancy is an increase in unsafe abortions, especially in countries where abortion is illegal (4). Abortion

has devastating impacts on the family's health status (5). Abortion is the third leading cause of maternal mortality, which affects the physical, emotional, and social health of women and their families (6).

Unwanted pregnancy is one of the most important public health issues in the world, which will cause a lot of worry and pressure for the mother, wife, and, if the pregnancy continues, probably for the child.

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Therefore, many illegal and underground centers are operating in addition to the personal actions of mothers in performing abortions with unsafe means, which can lead to complications and deaths caused by abortions (7-9). The important point is that due to the reprehensibility of illegal abortion, its guardians have always been absent from Iran's healthcare service programs, while its side effects are undeniable (1-3). The participating countries in this conference announced their goal of universal access to reproductive health information and services by 2015 AD and stated that no woman's life should be put at risk due to pregnancy, childbirth, or matters related to fertility (10-11). However, in Iran, despite being illegal, the statistics and figures of intentional abortion are high, and this action is mainly performed in an unsafe manner, which can become an important factor in endangering women's lives. In other words, mothers lose their lives and health following an unwanted and unplanned pregnancy due to intentional abortion, and in this way, the health of the family and society is also affected (9-12). The International Conference on Population and Development in Cairo in 1994 named unsafe abortion as a women's health problem and one of the main issues of public health and women's rights; therefore, prevention of unsafe abortions and their complications is considered one of the research and executive priorities. This conference declared abortion as a preventive method of family planning and recommended that prevention of unwanted pregnancies should be given as the priority and with the necessary training, the need for induced abortions in these cases should be eliminated. Although there is no accurate report of unsanitary abortions and the death rate caused by them, undocumented evidence and statistics indicate high reports of unsanitary abortions, the subsequent deaths of mothers, and diseases caused by unsafe abortions (13-16).

The change and tendency of young women's attitude towards having a small family, delay in marriage due to problems related to employment and housing, along the transition from traditional society to modern society, are the reasons for the increase in unsafe abortions. Advancement of puberty changes, increase in

the average age of professional independence and marriage, the absence of both parents in the family, and the influence of global media (satellite and internet) can be related to unwanted pregnancy. The issue of sexual instinct and the increase of sexual activity outside of marriage over a relatively long period the subsequent dangers of unwanted pregnancies and documented reports on the increase of risky sexual behaviors among young people and having sexual contact before marriage have created tense and unstable issues (15-17). Abortion is not only a health problem, and by leaving many complications, it also imposes exorbitant costs on society, but it is also considered a social problem in all societies, so, in the end, the health of the family and society will face a problem. Although legal and Shariah restrictions can play a significant role in people's decision-making regarding doing or not doing things, in times of emergency, decisions are usually out of a person's control. So, despite all the obstacles, the person resorts to discarding the fetus by any possible means and form. However abortion brings physical complications and even death, and sometimes the side effects caused by treatment and drug sensitivities put the woman's health at risk, it seems that the complications caused by abortion have a more fundamental effect on women's lives (13-17). In examining the issue of abortion, the economic consequences should also be taken into consideration. Because even if the pregnancy is done legitimately and the woman aborts the fetus, the grief caused by this action will make her depressed, isolated, and tormented by conscience. In addition, a woman who has become pregnant through violent rape faces more difficult conditions (13-15). Therefore, the present study was conducted to review the effects of unsafe abortion on the health system from a socio-economic perspective.

Materials and Methods

The present study is a narrative review that was conducted to determine the effect of unsafe abortion on the health system from a socio-economic perspective.

An online search was conducted using English databases such as Web of Sciences, SID, Scopus, PubMed, and the Google Scholar search engine

as well as Persian databases such as Magiran and SID. The criteria for including articles in the study were: articles that were published in Farsi or English; articles whose content was to determine the economic-social effects of abortion from the point of view of reproductive health on the health system; and articles that were peer-reviewed. Articles that were in the form of a letter to the editor or the full text of the article was not available were excluded from the study.

To obtain all the desired English and Persian articles, the English keywords including pregnancy, unintended pregnancy, abortion, illegal abortion, intentional abortion, economic consequences, social consequences, costs, social and economic consequences, reproductive health indicators, and a combination of these keywords and their Persian equivalents were used in the mentioned databases in the period of 1990-2022. Database searches were done by two independent researchers in the fields of Midwifery and Reproductive Health.

To select articles, at first, articles that had one of the keywords mentioned already in their title or text were examined. Based on the inclusion criteria, the abstracts of the articles were reviewed. Then, articles meeting the inclusion criteria were fully reviewed.

Initially, 504 articles were found, and finally, 55 articles were fully reviewed. After checking the entry and exit criteria and qualitative evaluation, 13 related articles were included in the study and reviewed.

The steps for selecting articles are based on the PRISMA 2020 flowchart (18) which is shown in the Figure 1.

The authors followed ethical guidelines such as avoiding plagiarism and ensuring the precision of data extraction, preparation, and submission.

Results

The characteristics of the articles entered based on the author's name, year, place of research, the purpose of research, sample size, and results are mentioned in Table 1. The findings of the reviewed studies have been categorised into three areas: unsafe abortion and population from a socio-economic point of view; unsafe abortion and health from the socio-economic point of view, unsafe abortion, and

reproductive health from the socio-economic point of view.

Unsafe abortion and population from an economic-social point of view

Demographic changes, lifestyle changes, technological development, and increasing the level of human expectations in providing physical, psychological, and social well-being have caused demographic issues to be given more attention than before. The health status of a population is influenced by variables such as the age structure of the population, demographic characteristics, and fertility behaviors. Macroeconomics and Health Commission has stated that the health level of the population will probably have a great impact on various dimensions of the micro-economy, labor market, and savings variables, which will subsequently affect the macroeconomic situation. Since health is the basis of job productivity, learning, and the ability to grow physically, mentally, and intellectually, and it is a necessary thing for the productivity of adulthood, unsafe abortion with its effect on the health of children and adults puts a great economic burden on the shoulders of governments (25-29).

Poverty is one of the factors that lead to illegal abortions and the number of such abortions is increasing. On the one hand, the increase in population in any country causes the economic costs of the government to rise and as a result, restrictions are imposed to support the children born. On the other hand, considering the family's support of children until young age and until they acquire the necessary skills for independent living (especially in countries like Iran), the costs imposed on the family will decrease the quality of life. Today, the issue of abortion is closely related to poverty. In the past, the reason for abortion was mostly unwanted pregnancy or neglect of girls and illicit relationships. Today, most couples resort to abortion because of economic poverty, a lack of financial resources, a large number of children, unemployment, and other economic factors. They are unable to keep their child and believe that doing so could be unjust to the other children in the family. (18-21-28-32).

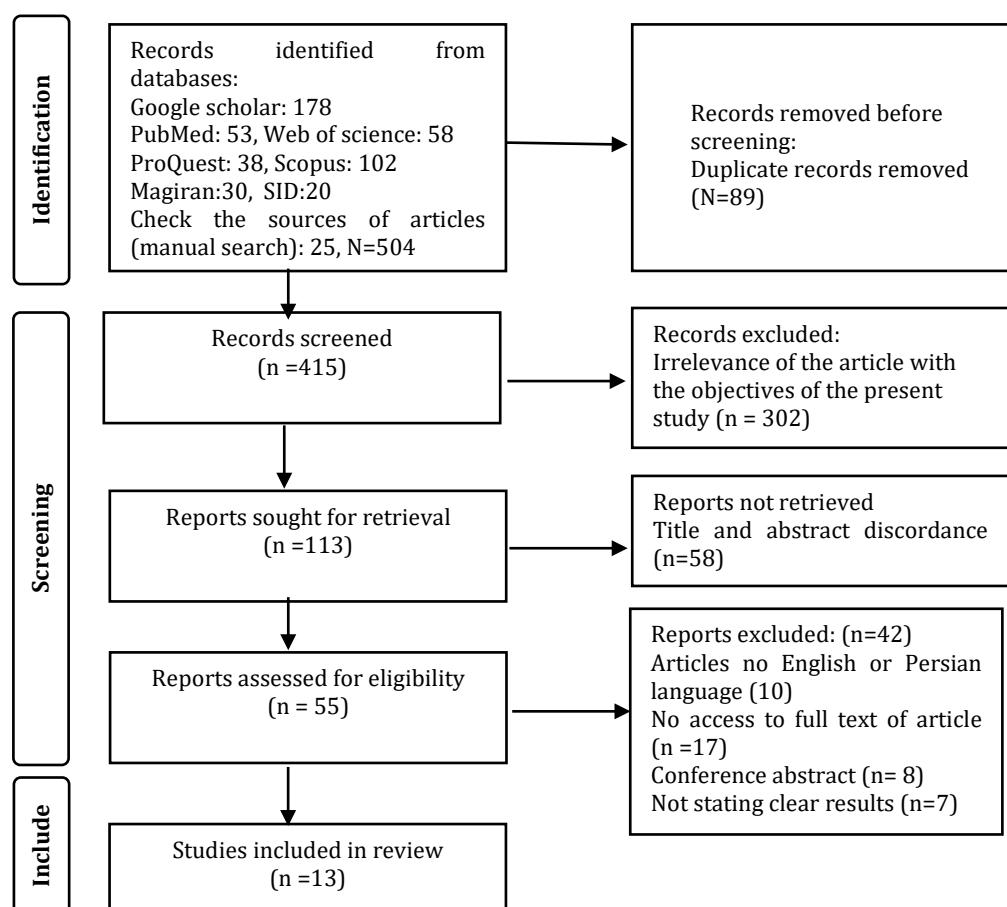


Figure1. Flowchart describing the study selection process based on PRISMA 2020

Table 1. Characteristics of the reviewed articles

Author/year / reference	Type of research	Place of research	The purpose of the research	number of samples	Result
Lattof et al. (2020) (18)	Review	London	Meso economics of Abortion: Reviewing the scope and analysis of the economic effects of abortion on health systems	150 studies	Available information on abortion costs is for high-income countries, and less information is available for low- and middle-income countries. As a result, there is less information about the economic effects of abortion on communities or between abortion economies in the Middle East and North Africa regions.
Soleimani Movahed et al. (2020) (19)	Review	Iran	The economic burden of abortion and its complications of medical care: a systematic review	2082 studies	The economic costs of abortion and aftercare for society are high. Paying attention to the economic costs of abortion or termination of pregnancy by policy makers causes informed decisions to determine priorities in health care and the appropriate allocation of resources.
Atakro (2019) (20)	Qualitative description	Ashanti Ghana	Factors influencing unsafe abortion practices among women of reproductive age in selected regional hospitals in the Ashanti region of Ghana	111 people	Reasons for unsafe abortion include Lack of awareness of safe abortion services, poor socio-economic conditions, cultural and religious beliefs, stigma of unwanted pregnancy, desire to have children only after marriage, trying to avoid disappointment and resentment of parents/guardians, and desire to continue education.
Yogi et al. (2018) (21)	cross-sectional	Nepal	Prevalence and factors associated with abortion and unsafe abortion in Nepal: a cross-sectional study across the country	2395 people	The main factors related to abortion are education, religion, age, awareness of legal abortion, and safe places for abortion. As a result, the probability of unsafe abortion is higher in younger women, who have a lower average financial status and are more illiterate. For this purpose, it is necessary to conduct intervention studies among these groups.

Author/year / reference	Type of research	Place of research	The purpose of the research	number of samples	Result
Naqvi et al (2018) (22)	Case report	Pakistan	The horror of unsafe abortion: a case report of a life-threatening complication in a 29-year-old woman	29-year-old woman	
Kashanian et al. (2013) (23)	Prospective study	Shahid Akbarabadi Hospital	Determining the effects of 1 spontaneous abortion on the outcome of the next pregnancy	300 pregnant mothers	A history of 1 spontaneous abortion does not create a significant risk for the next pregnancy and does not require special evaluation and follow-up, but the probability of miscarriage and fetal death increases slightly, which shows the necessity of careful care during pregnancy.
Levandowski et al. (2012) (24)	Qualitative study	Malawi	Examining the social consequences of unintended pregnancy and unsafe abortion in Malawi: the role of stigma	485 people	Interviewees identified the impact of unwanted pregnancy and unsafe abortion to be the greatest on young women. Premarital and extramarital pregnancies were highly stigmatized; stigma directly related to abortion was also found. Community-level discussions need to focus on the reduction of stigma.
Gupta et al (2011) (25)	Case report	India	An uncommon complication of unsafe abortion	A 30-year-old woman, 7th pregnancy and 6 deliveries	Factors that prevent safe abortion include a lack of privacy and confidentiality, poor access, and discouraging attitudes among health care providers. Therefore, legalizing abortion is not enough to reduce the number of unsafe abortions. As a result, people should be informed about safe and effective methods of contraception and abortion services.

Author/year / reference	Type of research	Place of research	The purpose of the research	number of samples	Result
Singh (2010) (26)	Review	Global consequences of unsafe abortion			<p>Unsafe abortion has a number of other significant consequences that are much less widely recognized. These include the economic consequences, the immediate costs of providing medical care for abortion-related complications, the costs of medical care for longer-term health consequences, lost productivity to the country, the impact on families and the community, and the social consequences that affect women and families.</p>
Vlassoff et al. (2009) (27)	Review	Africa and Latin America	Estimating health care system costs of unsafe abortion in Africa and Latin America	20 experimental studies	<p>In developing countries, unsafe abortion imposes a large financial burden on public health care systems. Abortion complications are one of the most important causes of maternal complications.</p>
Levin et al. (2009) (28)	cross-sectional	Mexico	Evaluation of abortion outcomes and costs for the health care system in Mexico City	Hospitalized patients	<p>Reducing complications by improving access to safe services in outpatient settings would further reduce the costs of abortion care, with significant benefits both to Mexico's health care system and women seeking abortion. Additional research is needed to explore whether cost savings have been realized post-legalisation.</p>
Vlassoff et al (2008) (29)	Review	Japan	Economic impact of morbidity and mortality associated with unsafe abortion: evidence and challenges for estimation	-	<p>Millions of other women with serious complications receive no treatment from the health system. If they were able to do so, an additional \$375 million or so would be expended, but this estimate rests on scant empirical data. The cost of long-term morbidities, mainly infertility and chronic reproductive tract infections, may cost many billions of dollars annually, while the losses to the economies of developing countries from lower productivity</p>

Author/year / reference	Type of research	Place of research	The purpose of the research	number of samples	Result
Oye-Adeniran et al. (2002) (30)	Case Report	Lagos, Nigeria	Complications of Unsafe Abortion: A Case Study and the Need for Abortion Law Reform in Nigeria	A 20-year-old single girl	<p>caused by UARMM may be more than \$400 million.</p> <p>-Unsafe abortion is fraught with many complications, including pelvic sepsis, septicemia, hemorrhage, renal failure, uterine perforation and other genital tract injuries, and gastrointestinal tract injuries. Where expert, emergency treatment for these is not available, women die. Unsafe abortion procedures, untrained abortion service providers, restrictive laws, and high morbidity and mortality from abortion tend to occur together. We advocate for a review of the existing restrictive laws in Nigeria to reduce the high morbidity and mortality from unsafe abortion.</p>
Benson et al (1996) (31)	Review	Common wealth member states	Complications of unsafe abortion in sub-Saharan Africa: a review		<p>Although few articles have examined the costs of treating abortion complications, the authors concluded that abortion consumes a disproportionate amount of hospital resources.</p>

Unsafe abortion and health from an economic-social point of view

The concept of health and its dimensions are closely related to the progress and development of societies, including social and economic development. If health is provided in all its aspects, the people of the society will work and be active with motivation, they will have more vitality to do things. These things cause the direct and indirect costs to decrease and ultimately create economic and social growth in the communities. Therefore, all societies, from developed to developing and undeveloped, use all their efforts to increase health indicators. Among the most important factors that can be mentioned as effective factors in the economic growth of a society are the labor force, and physical and human capital (15-19 and 28-30). According to articles, the development of human resources includes five factors: a) Health facilities and services that increase life expectancy, ability, vitality, and endurance; b) All expenses related to technical and professional education; c) education and upbringing from primary school to high school and education at universities; d) professional education and literacy programs by economic enterprises; e) Individual migration in order to obtain better employment opportunities to increase monetary incomes. Therefore, investing in human capital means spending on social projects such as improving the level of health, education, and social services (30-33). Therefore, people's health is also considered an important factor in the accumulation of human capital. In this regard, unwanted pregnancy and unsafe abortion are contrasted with health dimensions. Unsafe abortion can affect the health aspects of the individual and the family from a socio-economic point of view, and in other words, it can reduce the quality of life and the productivity of the workforce. Because unsafe abortion creates many challenges in the market. Among these challenges, we can mention the increase in days of absence from work, decrease in productivity during working hours and increase in insurance costs in order to treat problems caused by unsafe abortion (18-23, 29). Increasing the quality of human resources is one of the most important factors in improving labor productivity. The continuous

increase in production and its sustainability depends on the productivity of the labor force, and one of the ways to achieve this goal is to raise the quality of the labor force. In fact, the qualitative characteristics of a human being are considered a kind of capital because they can cause more productivity and production and create more income and prosperity. Improving the quality of the workforce can be achieved by raising the level of health and hygiene of the workforce. Proper health improves people's health and increases the potential and actual power of the workforce. A healthier workforce will also contribute more to increasing production and economic growth. The importance of health as a basic right to life. Health is a type of ability that gives value to human life, in other words, life is wealth (33-41). Today, women are working as half of the active workforce of societies, and any kind of problem in their health can affect the economy and development of societies. Unsafe abortion can be one of these problems, for which women should be given special attention in terms of this category.

Unsafe abortion and reproductive health from a socio-economic point of view

Infant mortality rate is one of the indicators of reproductive health that is affected by abortion. Numerous studies on babies born after unsuccessful abortions have shown that the rate of death, malnutrition, misbehavior, and mental illnesses, including schizophrenia, are more common in the later stages of their lives. Also, these babies have unfavorable educational progress in the later stages of life. Also, the probability of low birth weight in these babies is higher than in the normal population (42-46).

The mortality index of children under five years old is another indicator of reproductive health that is affected. The maternal mortality index is also affected due to criminal or illegal abortions. In the studies, more than a third of women have taken risky actions such as striking, lifting heavy objects, using non-medical vaginal objects, injecting drugs, and taking herbal and chemical drugs when faced with an unwanted pregnancy. Another index that is affected is the life expectancy index, which is fundamentally affected by infant mortality and infant mortality. The life expectancy index is the

best indicator of economic-social growth (45-50). The analysis of reproductive health indicators and the effects of unwanted pregnancy and unsafe abortions on them shows that health expenses and the burden of responsibility increase and women's participation in economic activities decreases. The overall state of the economy, including its current and future growth rates, can change the health status of society by affecting the actual and expected values of variables that are considered health determinants (50-54).

Discussion

This study was conducted to review the effects of unsafe abortion on the health system from a socio-economic perspective.

One of the resulting classes was unsafe abortion and health from an economic-social point of view. In summarizing the socio-economic analysis, it can be logically concluded that unsafe abortion is one of the key challenges facing the public health sector and imposes significant economic-social costs on society. Unsafe abortion reduces the quality of life and productivity of the labor force by affecting different aspects of health from the socio-economic point of view. Unsafe abortion has a wide range of economic, social, health, public health, and fertility complications. Good health makes people healthy and increases the potential and actual power of the workforce, and the workforce will have a very effective contribution to increasing production and economic growth. At the individual level, health and hygiene can directly increase total output (through an increase in physical strength and mental strength). Also, the annual production (through the reduction of absences due to illness) and the production during the working life (through the reduction of the disease rate with the increase in life expectancy and as a result a higher working life) will increase. At the macro level, this increase in individual production can cause an increase in labor productivity or justify living standards through an increase in the number of active workers in proportion to the working-age population (28-32). In other words, according to the review of the mentioned studies and materials, the health of individuals is considered an important factor in the accumulation of human capital, reducing

the welfare of couples and reducing socio-economic development. Unsafe abortion is one of the challenges of the public health sector and imposes a lot of economic and social costs on society.

Another category of results was unsafe abortion and reproductive health from a socio-economic point of view. Unsafe abortion can cause social, economic, health, sanitary, and fertility complications. In this regard, the results of Atakro et al.'s (2019) study, which was conducted to determine the effective factors in unsafe abortion practices among women of reproductive age in selected hospitals in Ghana, showed that several factors are responsible for safe abortion practices in Ghana. Among the mentioned factors were: lack of knowledge about safe abortion services, bad socio-economic conditions, cultural and religious beliefs, stigma of unplanned pregnancy, desire to have children after marriage, trying to avoid disappointment and resentment of parents/guardians, and desire to continue education (21). The results of Yogi et al.'s (2018) study, which was conducted to determine the prevalence and factors related to abortion and unsafe abortion in Nepal, showed that the prevalence of abortion in Nepal is high. Education, religion, age, knowledge about legal abortion, and safe places for abortion were the most important determining factors related to abortion. Young, poor, and uneducated women were more likely to have an unsafe abortion (22).

Singh et al. (2012) stated in their study that unsafe abortion has important consequences in terms of morbidity and mortality so 13% of maternal deaths in developing countries occur due to this reason. Also, 5 million women are treated for abortion complications every year. Even if all women who do not have abortion complications receive the necessary medical care, abortion has economic consequences in terms of direct costs to health systems and indirect costs to women, their families, and communities. Abortion affects the budget of women and families because they have to pay the cost of unsafe abortion, some or all of the costs of treating complications, and the costs of being unable to perform normal economic and domestic activities for some time. On the other

hand, abortion has social consequences, including the risk of being convicted of a crime or imprisonment, the impact on the well-being of children and other family members due to the death of a mother, and the stigmatization of women and their families (51). The results of the study by Vlassoff et al. (2009) showed that the costs of treating medical complications caused by unsafe abortion place a significant financial burden on public health systems in developing countries, and post-abortion complications are an important cause of maternal disability (26). Also, the results of the study by Soleimani Movahed et al. (2020), which was conducted to determine the economic burden of abortion and take care of its complications, showed that abortion and post-abortion care impose a significant economic burden on society (19).

The third category derived from the results was unsafe abortion and population from an economic-social point of view. Many epidemiological studies have shown that developing countries are facing adverse health consequences and a higher burden of diseases. Meanwhile, unwanted pregnancy followed by unsafe abortion subsequently causes a decrease in the health and well-being of couples and a decrease in social and economic development. Social capital, including the labor force obtained from unsafe abortion, is exposed to several risk factors, which include: lower education level, lower income, and turning to false and lower-level jobs (46-47). According to the results of studies, unsafe abortion can impose heavy costs on society and families (48-54). According to the religious, cultural, and social context of Iran, legal abortion is not allowed except in a few cases, some unwanted pregnancies are accompanied by unsanitary and hidden abortions. These clandestine and unhygienic abortions sometimes cause irreparable harm, such as such as the death and disability of the mother, or a disabled and unhealthy baby if the abortion is unsuccessful. On the other hand, these problems cause problems in the quality of human resources and impose a lot of costs on the health sector.

The economic effects of abortion are less studied at the socio-economic level. In addition, most of the studies conducted on the socio-

economic burden of unsafe abortion are related to countries other than Iran. so this makes it difficult to generalize the results. However since this study has comprehensively investigated the economic and social aspects of unsafe abortion, it can be considered a basis for future studies. As a result, it seems necessary to carry out extensive studies in order to estimate the socio-economic costs of unsafe abortion on the health system.

Conclusion

Unsafe abortion from the socio-economic point of view can affect fertility indicators in the health system and cause a decrease in the quality of life and productivity of the labor force. The costs incurred in the health-treatment system as well as the family are exorbitant and should be reduced by planning in this field and programs to increase the awareness of couples and service providers.

For this purpose, according to the results of the present study, it is suggested that relevant planning and policies should be aimed at reducing the number of unsafe abortions and thus saving the government's expenses in the area of problems after unsafe abortions.

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Conflicts of interest

The authors declared no conflicts of interest.

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