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Short Communication

Economic sanctions threaten population health: the case of Iran

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ABSTRACT

Objective: The aim of the study is to review evidence of the negative consequences of international economic sanctions on population health in Iran and pathways via which the sanctions affect health.
Study design: This is a narrative review.
Methods: Data from the World Bank and the Central Bank of Iran were gathered to clarify economic consequences of sanctions. Moreover, the literature was reviewed for published data on health consequences of economic sanctions in Iran and economic crisis in other parts of the world. Finally, some mechanisms via which economic sanctions could affect health were reviewed.
Results: Iran experienced 11.8% reduction in gross domestic production growth in 2012 compared with 2011, besides 40% inflation and 200% depreciation of Iranian currency. Ultimately, it resulted in increased living costs and unemployment. One year after termination of sanctions, Iran's gross domestic production growth increased by 14.1% in 2016. Data revealed that mental health has been affected during sanctions. Moreover, access to essential and lifesaving medication has been compromised, similar to other countries during economic recession.
Conclusion: Economic sanctions have had negative consequences on population health in Iran by impairing social determinants of health and access to medication and care. These sanctions widen economic inequality and health gap.

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Introduction

Economic sanctions are political decisions to subject a country to economic pressure for political aims. These sanctions impose a cost on a country's economy; thus reducing the growth of gross domestic production (GDP). Indeed, this reduction indicates the intensity of the sanctions.[1] The intensity of economic sanctions against Iran is exceptional in magnitude and significance in the history of international sanctions. Some of the international sanctions related to Iran's nuclear program have been imposed and lifted together in a relatively short period of time, 3 years. The US sanctions have been reimposed again since November 5, 2018. Although GDP growth and public health are driven by many factors, including global factors, government policies, and demographic changes, we believe that the sanctions significantly affect health at individual and population levels by impairing social determinants of health (SDH) and access to medication and care in Iran.

The economic sanctions were instituted against Iran after the 1979 revolution. These sanctions were strengthened during the 2012–2015 period because of Iran's nuclear program. In fact, the reduction in Iran's GDP demonstrated that these sanctions were some of the most intense ones ever taken against a nation. It restricted Iran's export of oil and petrochemical products, which account for around 13% of Iran's GDP and around 80% of its total exports, as well as foreign investment in Iran's oil and energy industries, among others. Moreover, an increasing number of restrictions such as blocking the transfer of funds to and from Iran via the international banking system (SWIFT) have made international trade with Iran risky if not impossible. In 2015, an international deal lifted the sanctions for 3 years, until May 2018, when the Trump administration abandoned the deal and reinstated economic sanctions.

Starting in 2012, the sanctions caused 11.8% reduction in GDP growth compared with 2011, 3.1% in 2011 and 7.7% in 2012 (Fig. 1), about 40% inflation, and more than 200% depreciation of Iranian currency. Ultimately, it resulted in increased living costs and unemployment. Interestingly, one year after the end of sanctions, Iran's GDP growth increased by 14.1% in 2016, from −1.6% in 2015 to 12.5% in 2016 (Fig. 1). Clearly, these changes are important at both individual and population levels.

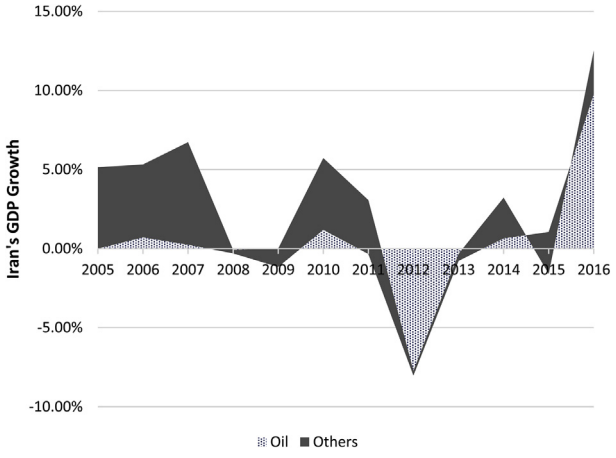

Fig. 1 – Composition of Iran's GDP growth: data from the Central Bank of Iran.

Moreover, international findings show that public health expenditure and healthcare services fall during economic recessions,[2] possibly because of the fall in GDP. It is important to know that more than 40% of Iran's 82 million population are living below the poverty line, according to the Statistical Center of Iran, whose health and well-being is extremely vulnerable to economical stress. Moreover, Iranian healthcare needs are mainly provided by the government. When a significant portion of the Iranian government income is from oil revenue, an economic sanction targeting oil export impairs health services, significantly.

Evidence of the adverse health consequences of economic sanctions

There is evidence to indicate that the economic sanctions have had adverse effects on population health in Iran. According to the World Health Organization (WHO), death rates due to self-harm rose from 5.9 to 6.1 per 100,000 persons during the 2011–2014 period. Interestingly, this rate fell back to 5.9 in 2016, one year after the sanctions were lifted. Moreover, deaths due to interpersonal violence rose from an average of 2.0 to 2.7 per 100,000 persons during the period of the sanctions.[3] These trends could show deterioration in mental health among Iranians during the period of intense economic sanctions and an improvement afterward.

The adverse mental health effects of economic crises have been reported previously in systematic reviews. Evidence from the 2007 global recession showed a growth in patient admissions in the healthcare sector, especially for mental health issues, such as depression, substance-related disorders, and suicide.[4] These mental health consequences were attributed mainly to unemployment and housing issues. Moreover, studies showed that the economic crisis affected population health by increasing the risk of cardiovascular and respiratory diseases. Some key areas have been acknowledged by the WHO to protect mental health during economic crises which can be considered in Iran during sanctions: first, active labor market programs; second, family support programs; third, provision of quality and equitable access to primary care and medications for vulnerable populations; and fourth, debt relief programs.

Economic sanctions jeopardize SDH

There is strong evidence of the importance of SDH in defining population and individual health.[5] SDH include, amongst other factors, income, social status, employment, social environments, and personal coping skills. In fact, SDH affect people's health and well-being in various ways, such as by providing or inhibiting access to resources for individuals or populations. Many of the determinants are compiled into the healthcare access and quality index.[6] Therefore, anything that compromises SDH could potentially endanger population health.

The World Bank data show how Iran's economic growth was affected during the sanctions. In fact, GDP per capita fell from US$ 7833 in 2012 to US$ 4862 in 2015, 3 years after intensification of the sanctions. However, 1 year after lifting sanctions in 2016, the GDP recovered to US$ 5415.[7] Furthermore, the sanctions caused an increase in unemployment from 10.4% in 2013 to 13.1% in 2017, 2 years after the sanctions were lifted, according to the World Bank. This negative consequence extended beyond the period of sanctions, indicating that complete recovery is a long process. Considering the fact that unemployment is related to worse health outcomes,[8] the negative health consequence of higher unemployment caused by economic sanctions is expected to be long-lasting at the population level. However, it may take some time before the full negative effects of higher unemployment are shown at the population level. Moreover, the Gini coefficient of household expenditure, which measures economic inequality, has increased from 37% to 41%, since 2012, according to the Central Bank of Iran. And, there is strong evidence that economic inequality widens the health gap and compromises population health.

The economic sanctions imposed on Iran's developing economy had serious effects on SDH, such as income, employment, and personal coping skills. Although a strong social safety net in some European countries protected society from the negative health effects of the 2007 recession, such a safety net does not exist in Iran. Moreover, the enduring political conflict between Iran and several countries, including the US, could intensify the health consequences of economic pressure. The WHO Commission on SDH concluded that an unequal global and national distribution of power, income, goods, and services causes marked health inequities. Therefore, these sanctions has increased the health gap both among Iranians and most probably between Iranians and other nations.

The most vulnerable are the most affected

The adverse health impacts of economic instability are more prevalent among vulnerable populations. For instance, studies have shown that women's mental health is more susceptible to economic crises than that of men, and minorities are more susceptible than the general population.[9] Moreover, a recent publication showed medication shortages during the sanctions affected patients with chronic diseases, including multiple sclerosis, cancer, hemophilia, and asthma, in Iran.[10] Chronically ill patients are extremely vulnerable to economic crises. They may not work and most probably depend on their family and/or government to fulfill their basic needs and/or care. In Iran, patients pay a portion of any treatment costs out of their own pocket: about 10% for inpatient and 30% for outpatient care. For the abovementioned chronic diseases, out-of-pocket payments could be extremely high over time. In unfavorable economic situations, alongside the government's inability to offer sufficient social and medical support, average household income also decreases. Thus, millions of Iranians with low income or below the poverty line are extremely vulnerable to the adverse effects of economic sanctions.

Data from the last US recession support that many chronically ill patients, particularly if they are unemployed or disabled, reported greater medication cost problems.[11] Moreover, data from Portugal show that about one-third of a group of elderly patients stopped using treatment or health services during the recession. Lower perceived health status and the presence of three or more comorbidities were associated with lower adherence to treatment.[12] These indicate the health risks of an economic crisis for vulnerable populations.

Sanctions impair access to care

Another pathway through which economic sanctions impair population health is by impairing access to health care and medication. During the sanctions, international institutions, including pharmaceutical companies and banks, were cautious on trading with Iran. One study identified a shortage of 73 drugs, of which 44% were classified as essential medicines[13]. Another report showed that the availability of 13 of 26 studied lifesaving medications fell significantly in Iran between 2012 and 2015. These include interferon α-2b, the cornerstone of multiple sclerosis treatment. Moreover, consumption of cytarabine, a common anticancer chemotherapeutic agent, fell from 1.40 mg per 1000 people per day in 2010 to 0.96 in 2013.[10] Other studies confirm that the sanctions disrupted cancer care by restricting access to expensive medication, and treatment, such as radiotherapy.[14,15]

In addition, patients with hemophilia and other coagulation disorders need lifelong timely administration of factor 8, a blood-clotting factor, to prevent disability and death. The mean per capita use of factor 8 in Iran before the sanctions was 1.6 international units (IU). It fell to 0.5 IU during the 2013–2015 period, but increased to 2.7 IU in 2017, 2 years after the economic sanctions were lifted.[16] Moreover, the most effective group of medication in asthma attack is selective β2-adrenoreceptor agonists. Use of these medications fell during the sanctions.[10] Another study by Ghiasi et al.[17] showed a 20–40% reduction in asthma-related drug availability in the Iranian market in the 2010–2013 period. A significant proportion of asthma patients are children, whose mortality and morbidity is higher than those of the general population. Similarly, reports from Greece have described limited access to multiple sclerosis and rheumatoid arthritis treatment during recession.[18] Moreover, during the 2000–2010 recession, chronically ill patients in Honduras used fewer health services and medications because of cost concerns.[19]

Conclusions

In conclusion, economic sanctions have adversely affected population health in Iran, by impairing SDH, health care delivery, and access to care. In fact, despite the exemption of health necessities and humanitarian goods from these sanctions, health as a fundamental human right, among others, has been compromised and most probably will be compromised by the new wave of sanctions. Moreover, the adverse health impacts will be greater among vulnerable populations, including those on low-income, the chronically ill, children, women, and the elderly.

Author statements

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Ethical approval

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Competing interests

None declared.

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