Some Demographic Aspects of the COVID-19 Pandemic in Iran

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Introduction

COVID-19 can trigger off social and economic problems and deteriorate the health of populations. Many of the disparities existed between countries or communities regarding the impacts of virus can be explained by demographic factors. For instance, different age-structure can be account for different fatality rates. Furthermore, COVID-19 can affect many demographic factors, such as fertility, mortality, and migration. By taking these assumptions into account, this study aims to determine how much of existed disparities about CFR in Iran in comparison with other counties related to Iran's different age-structure and scrutinize COVID-19's demographic-related impacts on Iran's population.

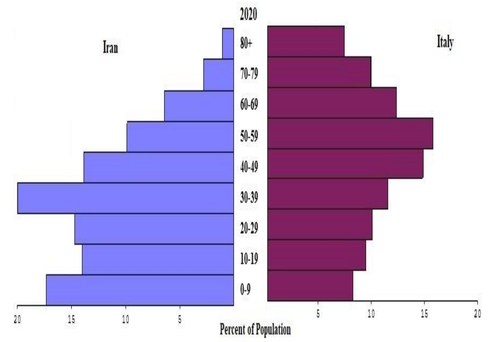
Key Findings

Results show that the age-structure of Iran can explain a considerable proportion of variation in the CFR. Under our presumptions and corresponding CFR for Iran and Italy, Our Finding shows that if Italy had a population structure of Iran, its death rates would be five times lower. Thus, Differences in the age distribution account for the total difference in CFRs between Iran and Italy.. That means five times fewer deaths For Iran. Additionally, results indicate that there is a high correlation between high mortality in the present time and fertility decline in nine months later.

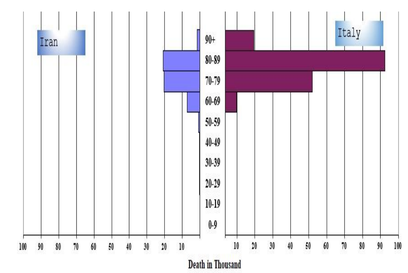
Methods

There are not any reported data regarding the age-specific fatality rate in Iran; therefore, it is impossible to monitor the potential effects of age structure differences in COVID-19 case fatality rates by using decomposition methods. For using this method, we need age-specific fatality rate and age distribution of both countries. To tackle the problem, we assume that Iran's age-specific case facility rates are like Italy but with its own age-structure. Although there are some differences, it is not a big problem in the matter of understanding and discerning the impacts of age-structure on CFR. We use the same strategy to ascertain the effects of COVID-19 on mortality. To comprehend the impact of COVID-19 on fertility, we review past studies in which possible repercussions of disasters for fertility had been analyzed.

Analyses



Population pyramid for Iran, and Italy,2020 (United Nations 2020)



Total Death pyramid based on the assumption for Iran, and Italy

Results

Our study tries to find an explanation for the variation between Case fatality rates due to COVID-19 between Iran and other countries. We use data from Italy that is among the highest regarding the fatality rate to standardize Iran's fatality rate base on it. Although we did not have date distinguished by age, we used Iran's population structure and case fatality rate of Italy to show how much differences between the two countries explain by age structure. Our Finding shows that if Italy had a population structure of Iran, its death rates would be five times lower. Thus, Differences in the age distribution account for the total difference in CFRs between Iran and Italy. Besides, based on previous studies, Iran's fertilities, which hovers around replacement level, may be affected by the COVID-19 outbreak. Although it is such a decline is short-lived, it will produce a tempo effect upon period fertility rates.

As a consequence of a rapid decrease in fertility, mortality, and an increase in life expectancy, population growth will tilt to old age groups in Iran, thereby pushing the country toward aging. According to statistics from the Population Reference Bureau, older adults (65+) in 2018 made up 6 percent of the Iran population, but in 2050 it will consist near 23 percent of Iran's population (same as Italy in the present time). The coronavirus pandemic can teach us about aging societies. Such demographic changes in age structure and experience of coronavirus pandemic's urgency in aging societies must galvanize governments into action. Therefore, policymakers ought to take population trends into account and implement long-term plans for the elderly population.

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