What can summary health indicators tell about health transition in Algeria?

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Abstract

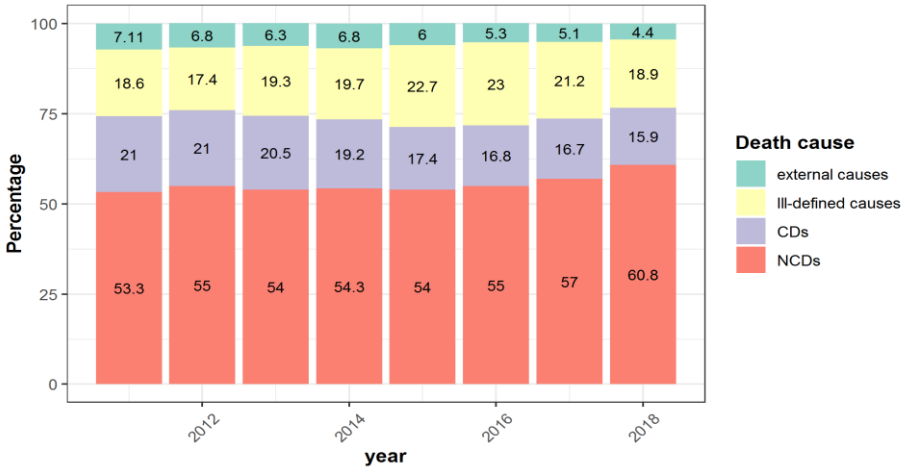
Since its independence, Algeria has experienced significant improvements in terms of population health. In the last couple of decades, Algeria witnessed a health transition. Despite this fact, this process was not deeply covered in the country. Health transition is known to be strongly tied to demographic, epidemiological transition, nutrition and social transition. However, this study is designed to focus only on the demographic and epidemiological dimensions. We intend to select some summary indicators that serve as evidence about the health transition and will be used later to describe this process. Predicting whether the current stage of the health transition will persist or change in the future is the next goal. Besides, it is worth inspecting the sex differential health profile within the Algerian population. Finally, the finding will allow for identifying the similarities and differences between Algeria and the rest of the north African countries.

Description of the topic and the theoretical focus

Since its independence, Algeria has experienced significant improvements in terms of population health. The Algerian government implemented different plans to promote the citizens' health, including prevention, disease control, sensibilisation campaigns, health care empowerment, water and sanitation programs, and vaccination agendas. Moreover, Algeria has conducted some national and regional surveys to upgrade its health information system, including , STEPwise survey, PAPFAM project, TAHINA project, and the Multiple Indicator Cluster Surveys (MICSs). Such initiatives provide the authorities and researchers with the necessary data to assess the current health situation and enhance the efficiency of public health programs.

In the last few decades, Algeria has undergone a health transition. This transition is translated by an improvement in life expectancy and a shift from infectious diseases to non-communicable diseases (NCDs) as the dominant causes-of-death. Additionally to its heavy impact on health conditions and daily life, economically, NCDs affect individual productivity, increase health expenditures as well as the demand for health care services given its long duration. NCDs are considered as a major cause of death and a leading contributor to disability. In 2022, the WHO stated that almost 74% of deaths were caused by chronic diseases, with 77% of these deaths have occurred in low and middle-income countries. Furthermore, this share is expected to reach 81% in 2040. The leading groups of chronic diseases leading to premature deaths are cardiovascular diseases, cancers, chronic respiratory diseases, and diabetes. In Algeria, NCDs are the leading causes of death, followed by communicable diseases (CDs) (Figure 1). Starting in 2014, CDs lost in terms of dominance and left the lead to "Ill-defined causes" while external causes ranked last. In 2011, 53.3% of deaths were due to NCDs, this proportion increased to 60.8% in 2018, an increase of 7.5%. On the other hand, the share explained by CDs during this period fell by 5.1%.

Figure 1: Evolution of death causes from 2011 to 2018



*Data is retrieved from the reports of death causes published by the Institute of Public Health (INSP), CDs: Communicable diseases, NCDs: Non-communicable diseases.

Health transition is highly correlated to demographic transition, epidemiological transition, nutrition, and social transition. These transitions are usually analyzed by using mortality and fertility rates, changes in population structure, disease patterns, and causes of death. Health transition is treated here through its demographic and epidemiological dimensions. Therefore, four main indicators were selected to describe and predict the health transition process, namely, mortality rates, disease-prevalence, Life expectancy (LE) and Healthy Life Expectancy (HLE).

This study aims firstly at studying the past and the expected evolution of the previously mentioned summary health indicators in Algeria. Also, we seek to identify whether the disease and mortality patterns are converging or diverging. Furthermore, the study examines the existence or the absence of gender disparities. Second, to appraise the capacity of these specific indicators to describe and predict the health transition. The final objective is to compare the current stage of health transition in Algeria to the rest of the Northern African countries.

Data and research methods

This research explores several data sources. The Global Burden of Disease, an online open source database, provides the historical and predicted values of HLE. Considering the past temporal evolution of LE, the annual national publications of the office of national statistics were used, while for the projected LE, we use the projections of Flici (2021). The paper compares different forecasting models. The causes of death were extracted from the reports published by the National Institute of Public Health. The prevalence of CDs and NCDs by age and sex is estimated using specific health surveys, mostly the MICSs.

To analyze the health transition through the selected indicators, a statistical approach is adopted. We start by tracking the temporal evolution of life expectancy and HLE for the whole population, and by gender. For further details, the average yearly rate of change is calculated. Considering mortality and disease patterns, we examine the trends of mortality rates, the prevalence of NCDs and the prevalence of CDs by age and sex. Gender disparities are examined using the sex mortality ratio and the sex morbidity ratio. In the final part, we compare Algeria with the rest of the northern African countries.

Expected findings

The research addresses answers to plenty of unsolved questions. The first is about the relevance and the capacity of the chosen indicators to describe and predict health

transition. Moreover, the forecasted life expectancy, together with the expected HLE will enable building some hypotheses about the stage reached in health transition process by the Algerian population. Is the current stage going to persist or move to another phase?. Considering sex differentials health profile, the results will give an idea about the gap between males and females within the Algerian population. In the final section we aim identifying if the country share the same health transition process compared to its neighboring countries and those with similar social, political, and religious traits?. The delivered findings allow expanding our knowledge about the current and the expected health transition in Algeria, thus, accurate assessing to its burden and better managing of its implications.