

A comparative study on the Mortality Indicators of the Ministry of Health, Kingdom of Saudi Arabia

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ABSTRACT

This research paper aims on the Mortality Indicators of Ministry of Health, Kingdom of Saudi Arabia for the years for the years 2006, 2011 and 2016. **Objectives:** To compare the Mortality Indicators of the Kingdom of Saudi Arabia for the years 2006, 2011 and 2016. **Research Methods:** It is a descriptive and comparative research study in which historical data was analysed (Library Research). **Significance of Research:** There is a growing demand of healthcare services in the Kingdom of Saudi Arabia and the Saudi Arabian General Investment Authority has identified healthcare as a priority sectors for investment and nationalization for employment. **Research Design:** The Mortality Indicators of the Ministry of Health, Kingdom of Saudi Arabia for the years 2006, 2011 and 2016 were compared and analysed by using the rates or percentages. **Study Population:** This research is limited to the Mortality Indicators of Ministry of Health, Kingdom of Saudi Arabia for the years 2006, 2011 and 2016. **Data Collections:** The data were collected from the annual reports of Ministry of Health, Kingdom of Saudi Arabia for the years 2006, 2011 and 2016, relevant published journals, articles, research papers, academic literature and web portals. **Conclusion:** Overall, there is decrease in the Crude Death Rate /1000 population by 27.50 %, Infants Mortality Rate / 1000 Saudi live births by 74.09 % (2006-2016), Under 5 years Mortality Rate / 1000 live births by 62.90 %; and there is an increase in the Maternal Mortality rate / 100,000 live births by 721.92 % (2006-2016). Hence, there are enormous opportunities in the Kingdom of Saudi Arabia for the investment of international and national entrepreneurs and employment for Saudi nationals in the lucrative healthcare service industry.

1. Introduction

In Saudi Arabia, the Ministry of Health was founded in the year 1950.¹ In the year 1925, Saudi Arabia's first public health department was established in Makkah.² The department was responsible for building hospitals and healthcare centres and issuing and enforcing regulations to provide the necessary standards for practicing medicine and pharmacology. A public health council was also established to address the growing need for healthcare services and it was the highest-level supervisory board, overseeing all aspects of the country's healthcare services. Then, these healthcare institutions were transformed into a ministerial body in 1950.³ Abdullah bin Faisal Al Saud was the first health minister.⁴ The ministry is based in Riyadh.⁵ Healthcare services in Saudi Arabia are provided by several public and private agencies. However, the ministry is the major planner and provider of these services.⁶ Public expectations and increasing financial pressures are requiring health services to adopt new approaches to the management of their resources.

Saudi Arabia is a high-income country with a per capita GDP of US\$ 22 713.4 in 2010 and an equally high human development index ranking, 56 in 2011.⁷ The extensive health care system divided among three tiers of care and caters for a population of approximately 27 million (2010). The Ministry of Health is the main provider of health care services. Health has featured in the national 5-year development plans since 1970, and is seen as a key part of overall development in the country.

Saudi Arabia is on track to achieve the Millennium Development Goals (MDG) targets. The development plans indicates that there is an extensive progress has been made in economic development. As a result of the strong economy, the country has rapidly expanded health, education and social services infrastructure.

The Ministry of Health is promoting quality assurance and improvement through use of standard operating procedures and accreditation of health care facilities. Efforts are being made to improve patient safety in both public and private health facilities. The cost of health services in the private sector is perceived as high and results in out-of-pocket expenditures, particularly for workers in the public sector, which are not covered by supplementary private health insurance. Until recently, foreign workers were not allowed to use Ministry of Health facilities except for emergencies.

2. Review of Literature

Health indicators are quantifiable characteristics of a population which researchers use as supporting evidence for describing the health of a population. The health indicators, whether the demographic or economic ones, cover many of the points that describe the highest level of development witnessed in the kingdom of Saudi Arabia with regard to the health domain at all levels. The health indicators also shed light on the exact figures and percentages of achievements with regard to hospitals and health facilities. Mortality rates for different age

groups (infants, children, and adults) and overall mortality indicators (life expectancy at birth or survival to a given age) are important indicators of health status in a country. Because data on the incidence and prevalence of diseases are frequently unavailable, mortality rates are often used to identify vulnerable populations. Moreover, they are among the indicators most frequently used to compare socioeconomic development across countries.

Crude death rate (per 1,000 people): Indicates the number of deaths occurring during the year, per 1,000 population estimated at midyear. Subtracting the crude death rate from the crude birth rate provides the rate of natural increase, which is equal to the rate of population change in the absence of migration. The crude mortality rate is a good indicator of the general health status of a geographic area or population. The crude death rate is not appropriate for comparison of different populations or areas with large differences in age-distributions. Higher crude death rates can be found in some developed countries, despite high life expectancy, because typically these countries have a much higher proportion of older people, due to lower recent birth rates and lower age-specific mortality rates.⁸

Mortality rate, infant (per 1,000 live births): Infant mortality rate is the number of infants dying before reaching one year of age, per 1,000 live births in a given year.⁹ Mortality rates for different age groups (infants, children, and adults) and overall mortality indicators (life expectancy at birth or survival to a given age) are important indicators of health status in a country. Because data on the incidence and prevalence of diseases are frequently unavailable, mortality rates are often used to identify vulnerable populations. And they are among the indicators most frequently used to compare socioeconomic development across countries.¹⁰

Under-five mortality rates are higher for boys than for girls in countries in which parental gender preferences are insignificant. Under-five mortality captures the effect of gender discrimination better than infant mortality does, as malnutrition and medical interventions have more significant impacts to this age group. Where female under-five mortality is higher, girls are likely to have less access to resources than boys.

Standard statistical definitions of the terms "live birth" and "death" are set forth in the United Nations Principles and Recommendations for a Vital Statistics System (para. 46): LIVE BIRTH is the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, which after such separation breathes or shows any other evidence of life such as beating of the heart, pulsation of the umbilical cord, definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered live-born regardless of gestational age. DEATH is the permanent disappearance of all evidence of life at any time after live birth has taken place (post-natal cessation of vital functions without capability of resuscitation).

Mortality rate, under-5 (per 1,000 live births): Under-five mortality rate is the probability per 1,000 that a newborn baby will die before reaching age five, if subject to age-specific mortality rates of the specified year.¹¹

Under-five mortality rates are higher for boys than for girls in countries in which parental gender preferences are insignificant. Under-five mortality captures the effect of gender discrimination better than infant mortality does, as malnutrition and medical interventions have more significant impacts to this age group. Where female under-five mortality is higher, girls are likely to have less access to resources than boys.¹²

The reduction of child mortality is one of the most strongly and universally supported development goals. In high-mortality settings, a large proportion of all deaths occur before age 5. Despite considerable progress in reducing child mortality, there remains a large gap between developed and developing countries in the risks of dying before age 5: for instance, during 2000-2005, under-five mortality stood at 9 per 1000 in the more developed regions but at 153 per thousand in the least developed countries (United Nations, 2007). The gap between more developed and the less developed regions is larger in proportional terms for death rates in early childhood than for those in adult ages. Under-five mortality levels are influenced by poverty, education, particularly of mothers; by the availability, accessibility and quality of health services; by environmental risks including access to safe water and sanitation; and by nutrition. This indicator is closely related to life expectancy at birth. It is more generally connected to many other social and economic indicators.

The maternal mortality ratio is the most widely used measure of maternal deaths. It measures obstetric risk (i.e., the risk of dying once a woman is pregnant). It therefore omits the risk of being pregnant (i.e., fertility, in a population, which is measured by the maternal mortality rate or the lifetime risk) (Graham and Airey, 1987).¹³

Maternal mortality is widely acknowledged as a general indicator of the overall health of a population, of the status of women in society, and of the functioning of the health system. High maternal mortality ratios are thus markers of wider problems of health status, gender inequalities, and health services in a country. The maternal mortality ratio is therefore useful for advocacy purposes, but lacks information on the causes of high maternal mortality or the interventions required to reduce maternal deaths.

Maternal deaths are difficult to investigate because of their comparative rarity on a population basis, as well other context-specific factors, such as reluctance to report abortion-related deaths, problems of memory recall, or lack of medical attribution. Thus, no single source or data collection method is adequate for investigating all aspects of maternal mortality in all settings (WHO, 2006).

In the recent research on the Health Resources Indicators of the Ministry of Health, Kingdom of Saudi Arabia (Shaikh, 2018) it was revealed that there is an increase in the Physicians by 38.73%, Dentists by 88.84%, Pharmacists by 118.84%, Nurses by 61.02%, Allied Health personnel by 77.89%, Private hospital beds rate by 3.77% rates per 10,000 populations as compared with the year 2006. However, there is a decrease in the Hospital beds by 3.04%, Health Centers by 13.58%, Governmental hospital beds 25.84% rates per 10,000 populations as compared with the year 2006.¹⁴

A comparative study on the Economic Indicators of Ministry of Health, Kingdom of Saudi Arabia (Shaikh, 2018) revealed that there is an increase in the GDP per capita (in US Dollars) by 37.32% and MOH Budget (Percentage of Governmental Budget) by 16.83 % in the year 2016 as compared to the year 2006.¹⁵

A comparative study on the Demographic Indicators of the Kingdom of Saudi Arabia, Ministry of Health (Shaikh, 2018) revealed that there is an increase in the total estimated population by 34.05%, total Saudi population by 16.26%, total non-Saudi population by 81.90%, annual population growth rate by 9.48%, population of 15-64 years by 1.65%, population from 65 & above by 48.93%, total life expectancy at birth by 2.33%, life expectancy at birth-male by 1.94%, life expectancy at birth-female by 2.70% in the year 2016 as compared to the year 2006. However, there is decrease in the population under 5 years by 8.62%, total fertility rate by 25.47%, crude birth rate per 1000 population by 30.80% and population under 15 years by 7.75% in the year 2016 as compared to the year 2006.¹⁶

These indicators for the country as well as states will help in identifying areas that need policy and programmed interventions, setting near and far-term goals, and deciding priorities, besides understanding them in an integrated structure.

3. Data Analysis

The data was collected from the Ministry of Health, Statistical Year Books, Kingdom of Saudi Arabia for the years 2006, 2011 and 2016 and tabulated in order to compare by using the statistics. The Statistical Yearbook is like a mirror, reflecting the statistical activities and the various achievements of the health sectors in the Kingdom of Saudi Arabia throughout the year that made the Ministry of Health put the book accessible to readers.

Table Number 1- Mortality Indicators

Sr. No.	Mortality Indicators	2006 ¹⁷	2011 ¹⁸	2016 ¹⁹
1	Crude Death Rate / 1000 population	4	3.9	2.9
2	Infants Mortality Rate / 1000 Saudi live births	18.6	16.5	4.82
3	Under 5 years Mortality Rate / 1000 live births	21.7	19.1	8.05
4	Maternal Mortality rate / 100,000 live births	1.46	1.4	12

Table number 1 depicts the Mortality Indicators of Saudi Arabia, Ministry of Health.

Table Number 2- Mortality Indicators and comparison between the years

Sr. No.	Comparisons between the years	2006-2011	2011-2016	2006-2016
	Mortality Indicators			
1	Crude Death Rate /1000 population	-2.50%	-25.64%	-27.50%
2	Infants Mortality Rate / 1000 Saudi live births	-11.29%	-70.79%	-74.09%

3	Under 5 years Mortality Rate / 1000 live births	-11.98%	-57.85%	-62.90%
4	Maternal Mortality rate / 100,000 live births	-4.11%	757.14%	721.92%

Table number 2 depicts that there is decrease in the Crude Death Rate /1000 population by 2.50% (2006-2011), 25.64% (2011-2016) and 27.50 % (2006-2016); Infants Mortality Rate / 1000 Saudi live births by 11.29% (2006-2011), 70.79% (2011-2016), and 74.09 % (2006-2016); Under 5 years Mortality Rate / 1000 live births by 11.98% (2006-2011), 57.89% (2011-2016), and 62.90 % (2006-2016); Maternal Mortality rate / 10,000 live births by 4.11 % (2006-2011). However, there is an increase in the Maternal Mortality rate / 100,000 live births by 757.14 %, (2011-2016) and 721.92 % (2006-2016). Hence, there are opportunities in the Kingdom of Saudi Arabia for investment employment for the Saudi nationals.

4. Conclusion

Overall, there is decrease in the Crude Death Rate /1000 population by 27.50 %, Infants Mortality Rate / 1000 Saudi live births by 74.09 %, Under 5 years Mortality Rate / 1000 live births by 62.90 %; and there is an increase in the Maternal Mortality rate / 100,000 live births by 721.92 %. Hence, there are enormous opportunities in the Kingdom of Saudi Arabia for the investment of international and national entrepreneurs and employment for Saudi nationals in the lucrative healthcare service industry.

Limitations of the Study

This study is limited to the Mortality Indicators of the Kingdom of Saudi Arabia, Ministry of Health for the years 2006, 2011 and 2016.

Directions for Future Research

In future, such research studies should be conducted to compare the national healthcare indicators in order to oversee the improvement on an annual basis and to formulate or amend the national policies or strategies for improving the national healthcare services.

Sources of Funding for the Study

This research was self-financed by the author himself.

Implications of the Findings

The Ministry of Health, Kingdom of Saudi Arabia should develop the policies and strategies based on these findings in order to improve the healthcare services in the Kingdom.

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