

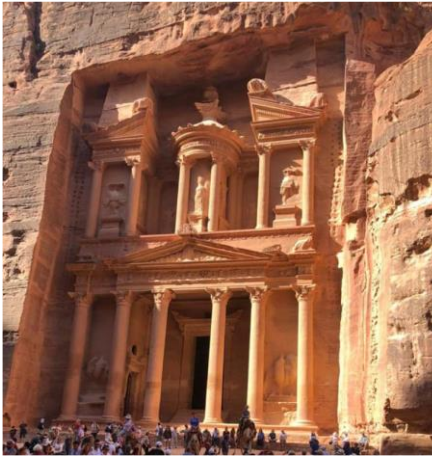
JORDAN: HEALTH SYSTEM AND COVID19

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INTRODUCTION

- Jordan is an Arabic country strategically located at the crossroads of Asia, Africa and Europe in the middle east. It was part through its history of many civilizations and empires like the Nabataean, the Greek, the Roman, and the Islamic who built many famous cities in Jordan like Petra, Jerash, Philadelphia (Amman) and many castles and palaces.
- Jordan economy is relatively small and depends mainly on agriculture, phosphates, potash; tourism; and foreign aids. The country is a major tourist destination because it has many tourism attractions like Petra which is one of the 7 wonders in the world, the Greek-Roman ancient cities, the Dead Sea which is the lowest point on the earth, Jordan river where Jesus was baptized and many others.



Petra



Roman theatre in Amman

JORDAN POPULATION

- Jordan's population is about 10 million live in an area of 88,780 Km. Around 30% of them are non-citizens; most of those are refugees from Syria (1.3 million), Palestine and Iraq. Around 85 % of the population is urban. The capital city of Jordan is Amman, which is one of the world's oldest continuously inhabited cities. Arabs make up about 98% of the population. The remaining 2% consist largely of

peoples from the Caucasus including Circassians, Armenians, and Chechens. Around 95% of the population are Muslims.

- Jordan society is considered young as one third of the population are less than 15 years of age and the median age is 23.5 years and around 4 % of the population are above 65 years. Figure 1 shows Jordan population pyramid as in 2015.

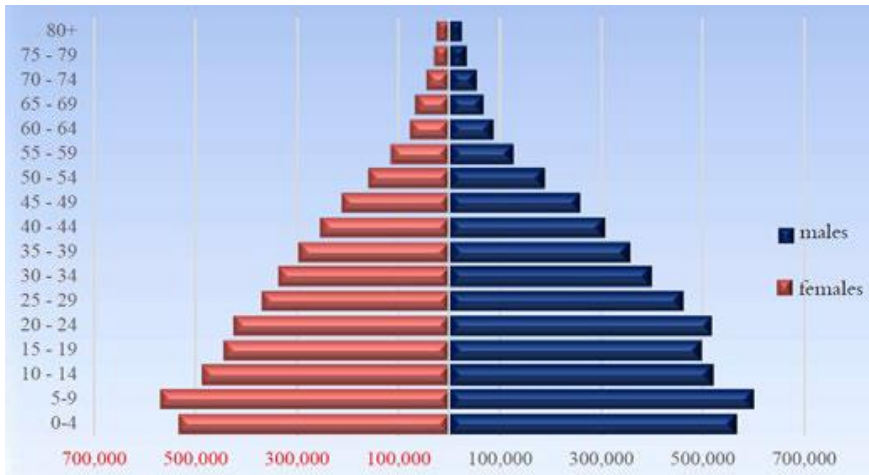


Figure 1: Jordan population pyramid.

Source: Jordan Population and Housing Census Report

http://dosweb.dos.gov.jo/ar/products/census_mainresults2015/

HEALTH CARE SYSTEM IN JORDAN

Jordan occupies an advanced position in the Arab region in the field of health, due to the excellence of medical education, the availability of appropriate infrastructure, the presence of qualified medical staff and advanced equipment, which put Jordan as number one in the Arab in medical tourism. The first heart transplantation for example in the Arab World was done in Jordan in 1985.

Health sectors in Jordan includes public and private sectors (Figure 2).

Public Sector

This sector includes mainly the following health authorities:

- 1 - Ministry of Health (MOH) which operates 1182 health care centers and 32 hospitals with 5208 beds accounting for 35 percent of all hospital beds in the country
- 2 - Royal Medical Services (RMS): have 11 hospitals with 3091 beds, providing 21 percent of all beds in Jordan
- 3 - Medical services in the universities
 - University of Jordan Hospital: 612 beds
 - King Abdullah Bin Al-Hussein Hospital of the University of Science and Technology: 544 beds

Private Sector

This sector includes the following health services:

- 1 - Private hospitals: 36 hospitals with 5334 beds accounting 36.3 percent of the total beds in Jordan
- 2 - Private Doctors Clinics and centers
- 3 - Diagnostic and therapeutic centers and

Councils and institutions which are:

- 1 - The Higher Health Council
It aims at developing health integrated policies with the participation of all health sectors operating in the Kingdom to ensure the provision of comprehensive and sustainable high-quality health services for the entire.
- 2 - Jordan Medical Council:
The Council aims at improving medical services in the Kingdom by raising the scientific and practical level of doctors working in various medical branches by setting training specifications, continuous training courses and organizing board exam in specialties and subspecialties.
- 3 - The Jordanian Nursing Council:
It aims at enhancing nursing services in the Kingdom which would amount to protecting members of the society and promote their health, through regulating the profession and developing it scientifically and practically.
- 4 - The Food and Drug Administration:
It aims to ensure the safety and quality of food, safety and efficacy of the drug and related materials through policies and legislation based on global standards.

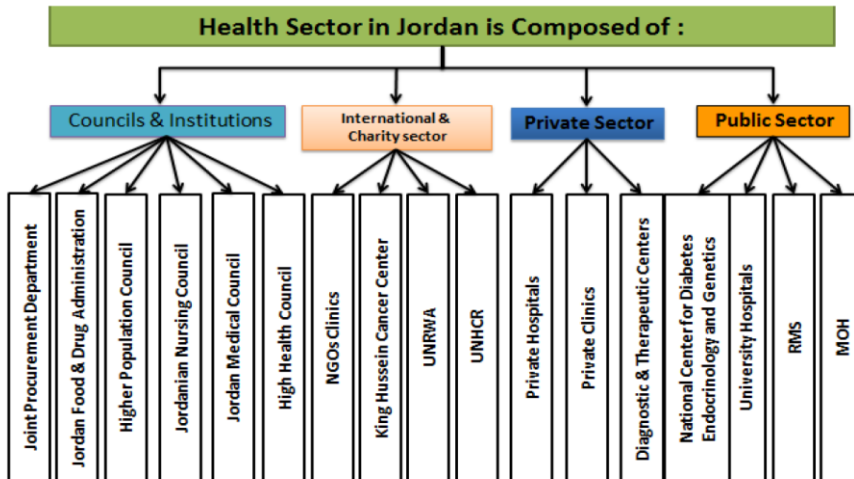


Figure 2: health sectors in Jordan

from: The National Strategy for Health Sector in Jordan 2016- 2020, High Health Council

HEALTH INDICATORS

- Life expectancy in Jordan is around 74 years. The leading causes of death are cardiovascular diseases, cancers and strokes and congenital anomalies in infants. Table 1 includes the main health indicators in Jordan.

*Population growth rate:	2.3
*Birth rate:	22.3 births/1,000 population
*Death rate:	6 deaths/1,000 population
*Maternal mortality rate:	29.8 deaths/100,000 live births
***Infant mortality rate:	13/1000
*Life expectancy at birth:	total population: 73.5 years
*Total fertility rate:	2.7 children born/woman
*Current Health Expenditure:	8.1% of the GDP
*Physicians density:	2.7 physicians/1,000 population
*Hospital bed density:	1.4 beds/1,000 population
***Under 5 mortality rate	16/1000 live births
***Neonatal mortality rate	9/1000 live births
**Perinatal mortality rate	13 deaths / 1000 pregnancies
**institutional delivery by skilled birth attendants	99.7%

Table 1

* Jordan Ministry of Health Annual statistical Report 2019

** Department of Statistics (DOS) and ICF. 2019. Jordan Population and Family and Health Survey 2017-18. Amman, Jordan, and Rockville, Maryland, USA: DOS and ICF.

*** UNICEF, <https://data.unicef.org/country/jor/>

NATIONAL IMMUNIZATION PROGRAM

National Immunization Program was established in June 1979 and started with five vaccines; Diphtheria, Pertussis, Tetanus, Polio and TB) before introducing one dose of measles at age of 9 months and tetanus to women at child bearing age in 1982. These were followed by Hepatitis “B” and second dose Measles at 18 months– 1995, replacing Measles with MMR vaccine as a second dose in 2000, Hib 2001, replacing 1st and second OPV with IPV (inactivated polio) in 2005 and 2006 respectively, adding another dose of MMR at age of 12 months in 2008, Rota virus in 2015 and finally pneumococcus and hepatitis A will be given soon this year. Table 2 shows vaccination schedule in Jordan.

Table 2: National Immunization Program

Age	Vaccine
1st month	BCG
2 months	DaPT1+ IPV1+Hib+1HepB1+ PCV1
3 months	DaPT2+ IPV2+Hib2+HepB2+OPV+ PCV2
4 months	DaPT3+ IPV3+Hib3+HepB3+OPV
9 months	Measles + OPV
12 months	MMR1+ PCV3+ Hep A1

18 months	DPT booster 1 +OPV booster 1 +MMR2+ HepA2
1st grade	OPV +Td + checked for MMR (2 doses)
10th grade	Td + checked for MMR (2 doses)

VACCINATION COVERAGE

Jordan may be one of highest coverage countries in the world and the coverage is higher than USA and many of the EU countries, it is usually above 90% in nearly all the vaccines given.

Unfortunately, the coverage rate dropped to 50-60% in March, April and May this year due to country lockdown after the pandemic of COVID 19 (Figure 3).

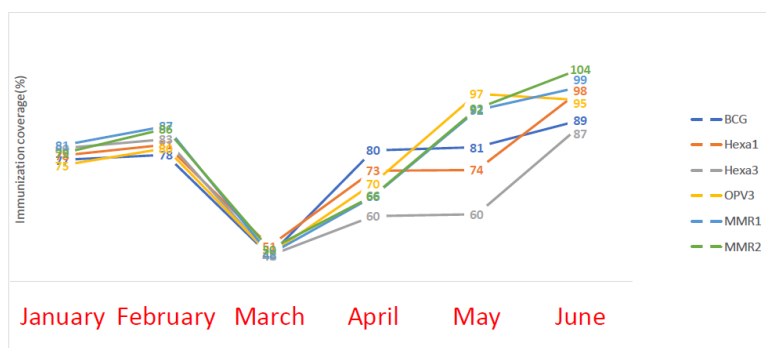


Figure 3: Monthly national immunization coverage/2020
(from MOH immunization department)

Vaccination through the EPI program is offered to all children residing in Jordan free of charge regardless of their nationality.

NEONATAL SCREENING PROGRAM

A national neonatal screening program started in 2006 and includes 3 diseases:

1. Phenyl Ketonuria
2. G6PD deficiency
3. Congenital hypothyroidism

In 2019 about 193 infants were screened out of 207 thousand infant born in that year.

Ministry of health is now working on increasing these diseases to include sickle cell disease and some metabolic disorders.

HEALTH INSURANCE

The statistics done in 2015 by the High Health Council and the Department of Statistics showed that Percentage of health insurance coverage was 68% among Jordanian citizens which does not include the beneficiaries of exemptions provided by

the Royal Court which covers about 4.7%. Of those who are covered Ministry of Health covers 55.2%, the Military Health Insurance covers 39.5%, while health insurance in university hospitals covers 2.2% and private health insurance covers 10.4%. However, 10.9% of those have more than one insurance.

COVID19 IN JORDAN

The first case of COVID-19 in Jordan was diagnosed in March 12, 2020. Three hospitals were designated to receive the cases; one in the north and two in Amman, the capital city of Jordan. Prince Hamzah hospital a 450-bed hospital was evacuated completely and isolated only for corona positive cases.

Every positive case is hospitalized even if he has no symptoms.

Two weeks after the first case, on March 17, 2020, Jordan was the first country in the world who made a complete lockdown according to the Government Response Stringency Index which is based on nine response indicators including: school closures, workplace closures, and travel bans. Jordan governmental response included universities and schools closure at all levels, closing working places and governmental offices with minimal exceptions to sustain essential life needs, cancelling all public activities like wedding parties and condolence gathering, prohibiting all types of gatherings, closing all public transportation, and airports and apply tight restriction on internal movements, obligating social distancing and mask wearing. And to apply that firmly, the government activate the National Defense Law which is only applied in case of emergency that would threaten the national security or public safety in all parts of the kingdom or in a region due to war, disturbances, armed internal strife, public disasters or the spread of a pest or epidemic.

Until August 22, there were 1688 cases two third of them are males with 11 deaths (Figure 4). Most of the cases occurred in the middle age and like other part of the world Jordan children are less affected than adults. While one third of Jordan population are less than 15 years old, only 5% of the cases occurred in this age group and on the contrary while only around 8 % of Jordan population are older than 55 years around 15% of the patients are in this age group (Figure 5).

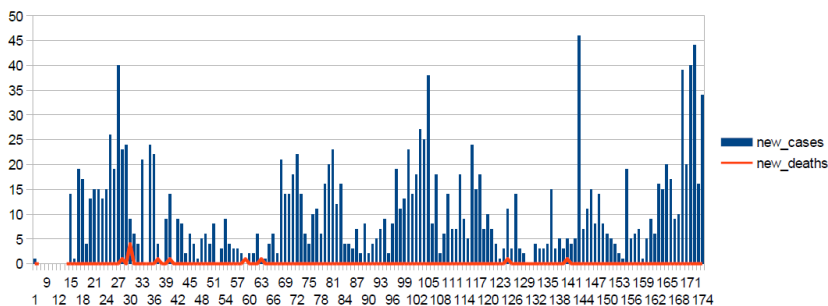


Figure 4: daily cases and deaths 2/3/2020 to 22/8/2020

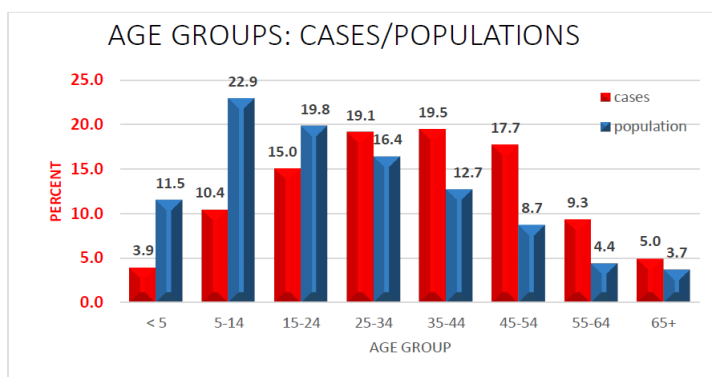


Figure 5: population vs cases in the same age group

Most of the cases were diagnosed after testing the contacts of a confirmed case, so the majority of them have no or mild to moderate symptoms particularly children.

In reviewing the first 60 infected children below 18 years, the most common manifestations were general malaise in 46% fever in 34% followed by nasal congestion in 39% of these children (Figure 6).

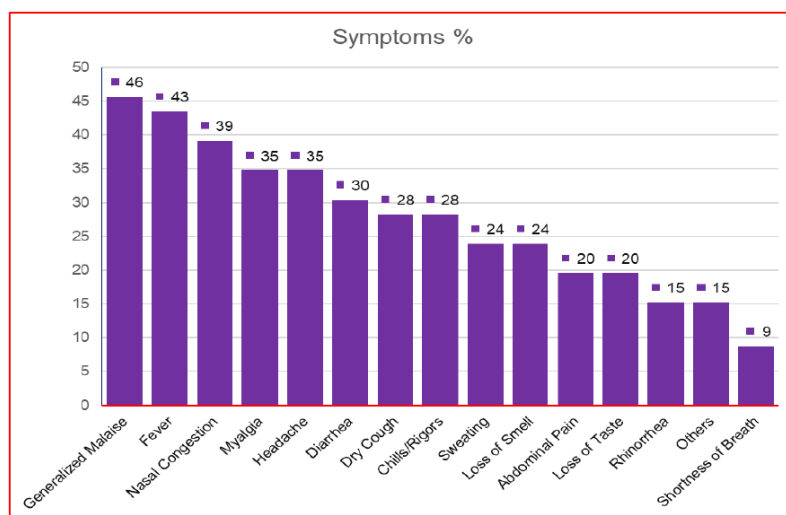


Figure 6: symptoms and signs in COVID 19 in children