

Mortality Pattern in Iraq Before Covid-19 Pandemic

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1. Abstract

By the end of the 31st of December, 2020, Covid-19 affected 595,291 individuals in Iraq and resulted in the death of 12,813 of them, a number that is equivalent to about 9% of the annual deaths in Iraq reported during the years 2018 and 2019. Covid-19 resulted in a death rate of 33/ 100000 population in Iraq during the year 2020. It is clear that Covid-19 pandemic is changing the mortality pattern in Iraq and in many areas in the world, and therefore, it is necessary to document the mortality pattern before the pandemic to develop a comprehensive understanding of the impact of the pandemic. The aim of this paper is to describe the mortality pattern in Iraq before Covid-19 pandemic.

Conclusion: Covid-19 pandemic has changed the pattern of mortality in Iraq.

2. Keywords: Mortality Pattern; Iraq; Covid-19.

3. Introduction

By the end of the 31st of December, 2020, Covid-19 affected 595,291 individuals in Iraq and resulted in the death of 12,813 of them, a number that is equivalent to about 9% of the annual deaths in Iraq reported during the years 2018 and 2019 [1]. Covid-19 resulted in a death rate of 33/ 100000 population in Iraq during the year 2020. It is clear that Covid-19 pandemic is changing the mortality pattern in Iraq and in many areas in the world, and therefore, it is

necessary to document the mortality pattern before the pandemic to develop a comprehensive understanding of the impact of the pandemic. The aim of this paper is to describe the mortality pattern in Iraq before Covid-19 pandemic.

4. Materials and methods

The available published and unpublished data relevant to the mortality pattern in Iraq are reviewed.

5. Results

The total number of deaths in Iraq during the year 2019 was 140621; it was 140321 during the year 2018. It was estimated that 0.07% of the total births during the years 2018 and 2019 were stillbirths [2]. Figure 1A shows the numbers of births in Iraq during the years 2008-2019. Figure 1B shows the rate of stillbirths per 1000 total births in Iraq during the years 2007-2019.

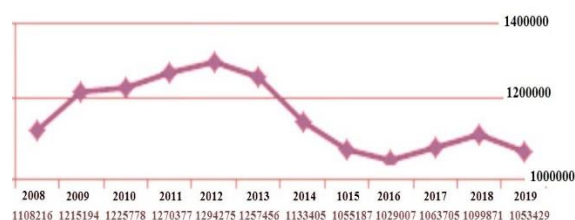


Figure 1A: The numbers of births in Iraq during the years 2008-2019.

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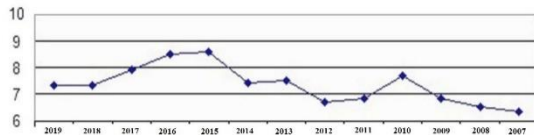


Figure 1B: The rate of stillbirths per 1000 total births in Iraq during the years 2007-2019.

The mortality rate estimated in the middle of the year 2019 was 4.6/1000 population, while it was estimated at 3.7 /1000 population for the year 2018. During the year 2019, 51.8% occurred during hospitalization, while 48.2% of the deaths occurred outside the hospitals. Figure 2 shows the estimated mortality rates in Iraq during the period from 2007 to 2019.

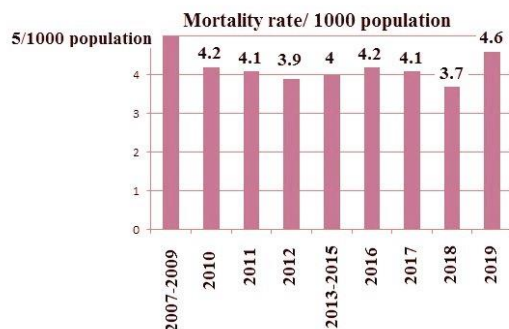


Figure 2: The estimated mortality rates in Iraq during the period from 2007 to 2019.

24.5 % of the deaths in Iraq during the year 2019 occurred in individuals under the age of 20 years (Figure 3A), 15.7 % of the deaths occurred between the ages of 20 to 49 years, 17.4% occurred between the ages of 70 to 79 years, and 15.8% of the deaths occurred in individuals over 80 years (Figure 3B).

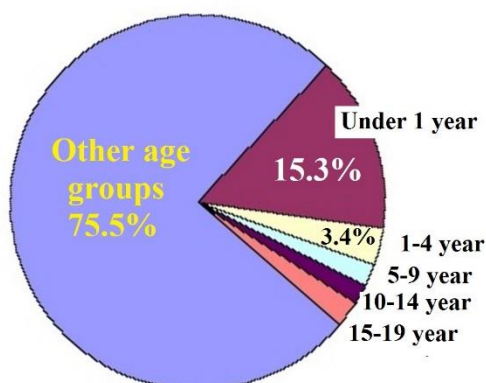


Figure 3A: Death percentage according to age groups during the

year 2019.

The perinatal mortality death rate was estimated (Without including the Kurdish region in the North of Iraq) during the year 2019 at 18.6/ 1000 total births, while the rate was estimated at 17.5% for the year 2018. The rate of neonatal death during the year 2019 was 13.9/ 1000 live births which is very similar to the estimated rate of 13.8/ 1000 live births for the year 2018. The rate of infant death during the year 2018 was 18.6/ 1000 live births, while the rate of childhood death under the age of five years during the year 2018 was 22.8/ 1000 live births. Figure 4 shows the rate of infant death per 1000 live births during period from 2007 to 2018. Maternal mortality was estimated at 31 deaths per 1000 live births during the year 2017.

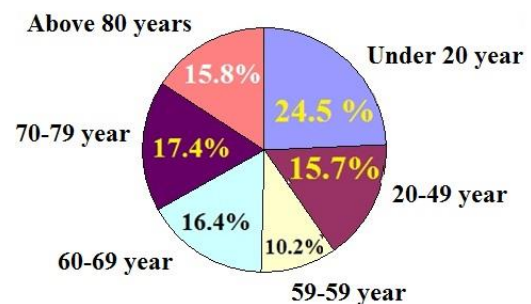


Figure 3B: 17.4% occurred between the ages of 70 to 79 years.

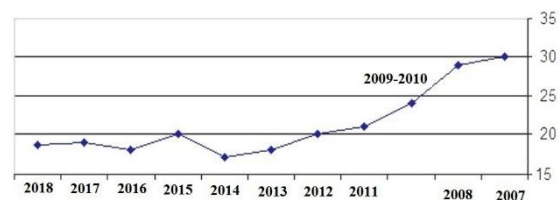


Figure 4: The rate of infant death per 1000 live births during period from 2007 to 2018.

During the year 2019, the death rate from road traffic accidents (The Kurdish provinces in the North of Iraq was not included) was estimated at 12.8/ 100000 population. Figure 5 shows the death rate from road traffic accidents in Iraq during the period from 2007 to 2019.

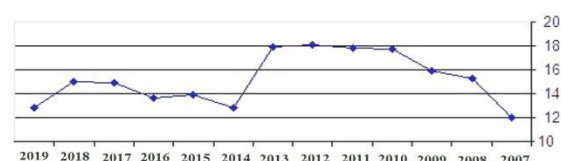


Figure 5: The death rate from road traffic accidents in Iraq during the period from 2007 to 2019.

10,293 patients died from cancer during the year 2018, and the mortality rate was estimated at 26.99/100,000 population. Cancer of the lung and bronchus was associated with the highest mortality rate at 15.82%, 4.27/100,000 population.

6. Discussion

The mortality rate per 100000 population associated with Covid-19 during the year 2020 was higher than the mortality rate associated with road traffic accidents during the year 2019 and cancer during the years 2018.

Cancer was the second most common cause of death in Iraq during the years 2018 and 2019 [3], but it is expected that Covid-19 was the second most common cause of death in Iraq during the year 2020. Table 1 shows the main causes of mortality in Iraq during the years 2018 and 2019.

Covid-19 has also changed the mortality pattern in other counties including the United States. During the year 2020, Covid-19 resulted in more than 347,000 deaths, and became the third leading cause of death in the United States in 2020, behind heart disease and cancer [4, 5]. Figure 7 shows the number of deaths in the United States from the top three leading causes of death in 2018, and from Covid-19 during the year 2020.

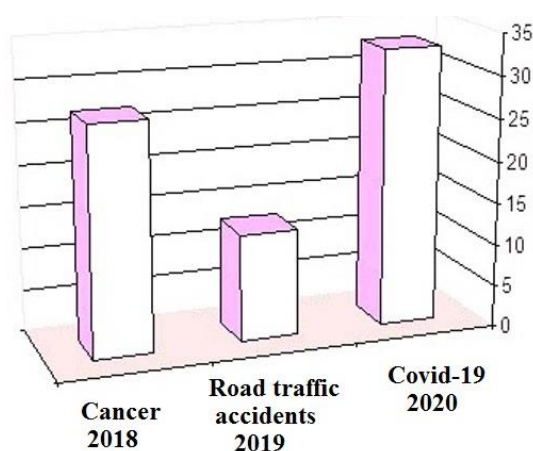


Figure 6: The mortality rate per 100000 population associated with Covid-19 during the year 2020, road traffic accidents during the year 2019, and cancer during the years 2018.

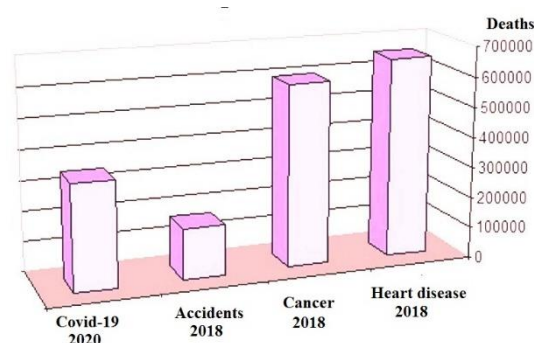


Figure 7: The number of deaths in the United States from the top three leading causes of death in 2018, and from covid-19 during the year 2020.

7. Conclusion

Covid-19 pandemic has changed the pattern of mortality in Iraq.

Table 1: The main causes of mortality (2018, 2019).

No.	Disorder	2018	2019
1	Ischemic heart disease	12.06%	12.03%
2	Cancer	9.43%	9.33%
3	Cerebro-vascular disorders	10.36%	8.40%
4	Hypertensive disease	6.70%	6.80%
5	Non-ischemic heart disease	7.37%	5.90%
6	Renal failure	5.85%	5.30%
7	Road Traffic accidents	4.57%	4.90%
8	Diabetes mellitus	4.19%	4.80%
9	Neonatal cardiopulmonary disorders	3.89%	4.10%
10	Sepsis and infective disorders	N/A	2.60%

Acknowledgement

Some of the figures and table-1 were included in previous publications, but the author has their copyright.

Conflict of interest: None.

8. References

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5. [https://www.cdc.gov/nchs/fastats/deaths.htm](#)

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