AGE-ADJUSTED DEATH RATES FOR LEADING CAUSES OF DEATHS IN MALAYSIA, 2019

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Introduction

- According to the Department of Statistics Malaysia, the number of deaths in 2019 increased by a total of 1,715 deaths compared to the previous year[1].
- Understanding mortality can help to improve health services, to access the effectiveness of health system, guide resource allocation and avoid preventable deaths.
- This study was conducted to determine the leading causes of deaths in Malaysia in 2019 and their age-adjusted death rates.

Methods

- This is a cross-sectional study using mortality and population data from Department of Statistics Malaysia.
- Deaths in Malaysia were classified into non-medically certified and medically certified deaths.
- All death were categorized and redistributed into specific causes of deaths based on International Classification of Diseases 10th Revision (ICD-10) codes as part of the Malaysian Burden of Disease and Injury Study.
- The World Standard Population 2000 from the World Health Organization (WHO) was used as a reference population to calculate age-adjusted death rate, using the direct method of age-standardization[2-4].

$$\text{Age-specific death rate} = \left[\frac{\text{Number of deaths in age group}}{\text{Number of population in age group}} \right] \times 100{,}000$$

$$\text{Age-adjusted death rate} = \text{Age-specific death rate} \times \text{weight in standard population}$$

Results

- In 2019, the total number of deaths in Malaysia was 173,746; with 57.4% deaths were among males.
- The top five leading specific causes of deaths were Ischaemic heart disease (20.6%), Stroke (13.9%), Lower respiratory infections (11.3%) followed by Diabetes mellitus (5.0%) and Road injuries (4.1%) [Figure 1].
- The age-adjusted death rate was 629.6 per 100,000 population.
- The age-adjusted death rate for Ischaemic heart disease was the highest with 129.7 per 100,000 population [Figure 2].
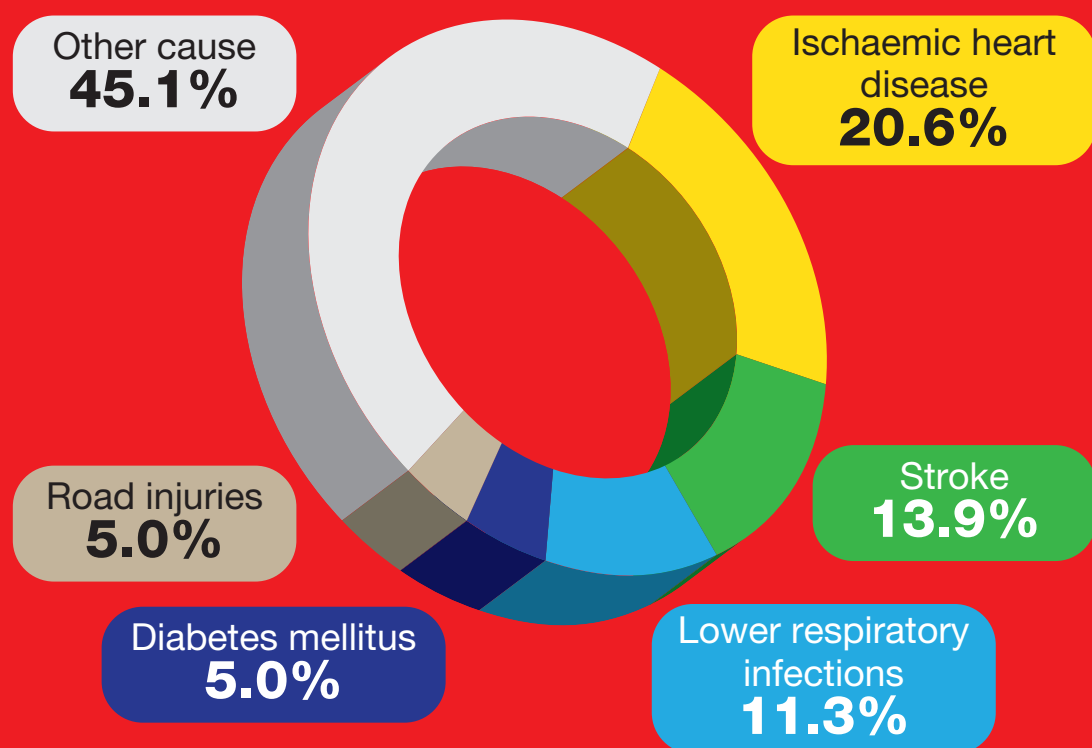

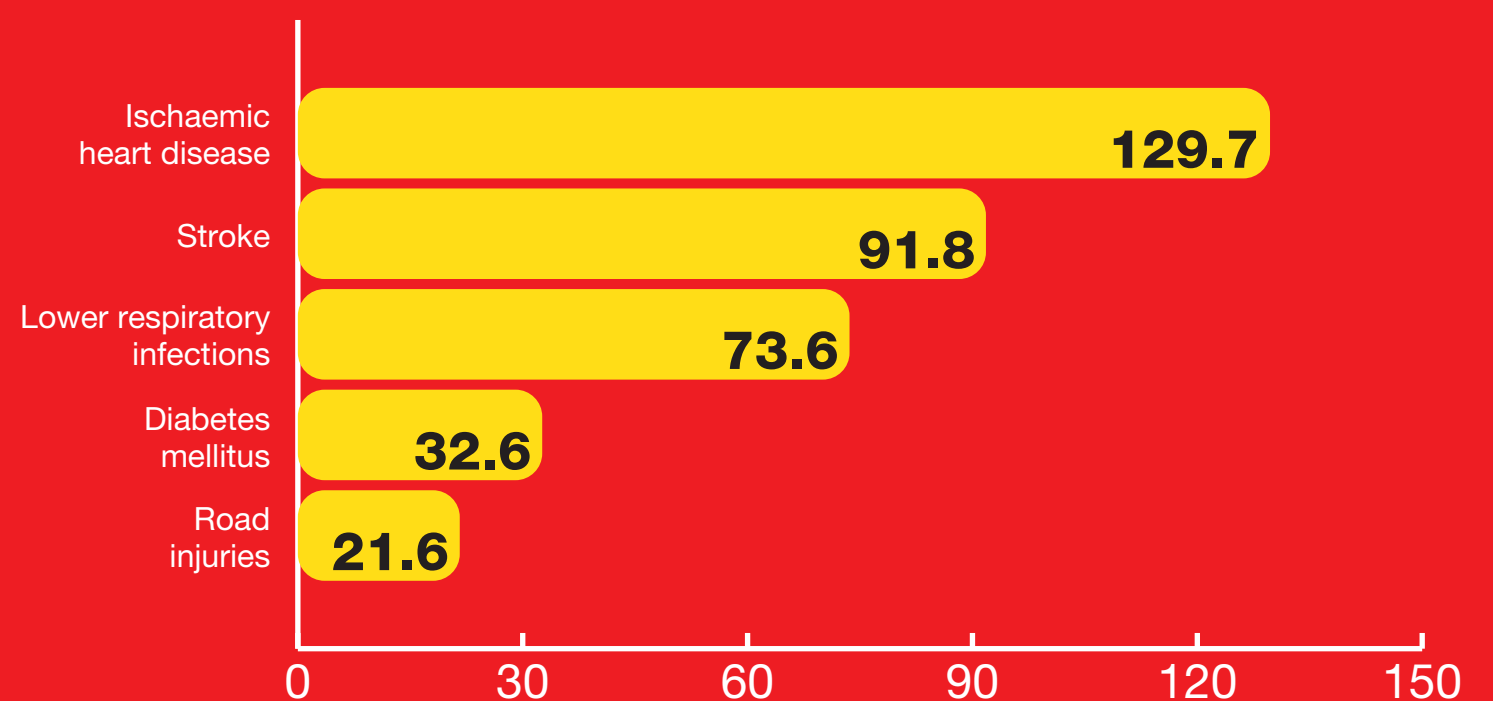Figure 1: Top 5 leading causes of deaths in Malaysia, 2019.

- Other cause 45.1%
- Ischaemic heart disease 20.6%
- Stroke 13.9%
- Lower respiratory infections 11.3%
- Diabetes mellitus 5.0%
- Road injuries 5.0%

Figure 2: Age-adjusted death rate for leading causes of deaths in Malaysia, 2019

- Ischaemic heart disease 129.7
- Stroke 91.8
- Lower respiratory infections 73.6
- Diabetes mellitus 32.6
- Road injuries 21.6

Discussion

- The age-adjusted death rate in Malaysia was lower compared to the global death rate (735.0) and Indonesia (951.2) but higher compared to Singapore (324.0) and Thailand (531.6), per 100,000 population[5].
- Non-communicable diseases (NCD) were the leading specific causes of deaths in Malaysia, in line with the age-standardized NCD mortality rate in Malaysia of 501.1 per 100,000 population as reported by WHO. By 2030, Ischaemic heart disease continues to be the top leading causes of death globally across all income group[6].
- Mortality due to NCDs is expected to rise in the coming decades due to worsening of metabolic risk factors (high body mass index, diabetes mellitus, hypertension and high cholesterol) and risk factors (tobacco and alcohol use, poor diet, lack of exercise)[7].
- Age-adjusted mortality rates provide more accurate information on mortality trends by eliminating the effect of age distribution especially in ageing populations.

Conclusion

- Understanding the true mortality burden provide sound evidence for improving healthcare solutions and developing programmes for early screening, awareness and treatment.

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