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MORTALITIES PROFILE AMONG DUBAI POPULATION 2017, UTILIZING BREAKDOWN FRACTIONS FOR INTERVENTION AND FORECASTING OF FUTURE EPIDEMIOLOGIC TRANSITION - DUBAI, UAE 2019

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ABSTRACT

Background: Mortalities and morbidities are recognized as a major statistics for health and disease measurements at any given population setting. Health care system performance is often linked to morbidity and mortality measurement as a direct quantitative outcome, Objectives: To study the mortality distribution among Dubai population. To study future interventions and forecasting of population mortalities in Dubai. Methodology: A retrospective record review of the Dubai Annual Statistical Report for the year 2017 has been carried out. All secondary data collected from 2008-2017 related to outpatient and inpatient visits at Dubai Health Authority, Dubai Health Care City, Ministry of Health and private sector facilities in Dubai were included. Results: The current study revealed that almost one third of mortalities among Dubai Population or 30.4% were due to cardiovascular relevant causes. While 11.3% of mortalities was due to respiratory related diseases such as Pneumonia, COPD and others 6.9% were injuries related mortalities, 19.8% were neoplastic related diseases, 6.4% were accounted to perinatal period diseases and 1.2% were due to septicemia.. Conclusions: Mortality interventions and forecasting in the Population of Dubai can be made through Projections that represents a set of three visions for the future population health, based on certain explicit assumptions. Although, the wide uncertainty ranges around future projections, they enable health care system decision and policy makers to appreciate better the implications for health and health policy of currently observed trends, and the likely impact of future trends, such as the ageing population.

Contribution/Originality: This study contributes to the existing literature by studying the mortality distribution among Dubai population.

1. INTRODUCTION

Mortalities and morbidities are usually interpreted as a significant statistics for health and disease measurement at any given population setting, mortalities are not only about the population expansion and structure, but also has a significant effect on continuation of the process of population dynamic and transition. Age transition, age structure, demographic window, population aging and other factors all linked to mortalities [1]. Moreover, mortalities are recognized to be extremely important in identifying proper health and medical interventions to create quantitative or qualitative change. The population explosion has drawn the attention of

planners and experts, while the implementation of birth control and renewing generation policies had an unprecedented effect on the changing age structure of the population [2, 3]. Good Health care system is always linked to performance morbidities and mortality measurements are the direct quantitative outcomes.

Mortality is not just about statistical and demographic tool for population expansion and transition, but it also plays a significant role in population dynamics, population growth and socio-economic context of the country's development. Understanding mortality distributions has a remarkable impact on future prevention, control and future forecasting.

It is well understood that adopting an International Classification model of Diseases can contribute effectively into usage to predict the trend for causes of death [4-6]. *Out* Of the total number of disease groups in such classification, some diseases cannot be considered as the underlying cause of death e.g. diseases of the eye and adnexa, diseases of the ear and mastoid process and factors as per standard procedures of data management influencing health status and contact with health services. Such diseases are always not considered according to the International Classification of Diseases. The underlying causes usually defined as "(a) the disease or injury which initiated the train of morbid events leading directly to death, or (b) circumstances of the accident or violence which produced the fatal injury" [5] and these diseases are not included in this definition. Also disease groups such as diseases of the skin and subcutaneous tissue, diseases of the musculoskeletal system and connective tissue; pregnancy, childbirth and the puerperium; and conditions originating in the perinatal period with negligible or zero value in age and sex groups were excluded from the study because their trend was not predictable by this model. Ultimately, a forecast for 13 major groups for cause of death was conducted [7].

2. OBJECTIVES

To study the mortality distribution among the population in Dubai. To study future intervention and forecasting of population mortalities in Dubai.

3. METHODOLOGY

A retrospective record review of the Dubai Annual Statistical Report for the year 2017 has been carried out. All secondary data collected from 2008- 2017 related to outpatient and inpatient visits at Dubai Health Authority, Dubai Health Care City, Ministry of Health and private sector facilities in Dubai were included. All data was collected based on a systematic data collection procedures and methodology. The data covered all age groups of the population, genders, nationalities, ethnicities, and races. All data has been carefully revised and cleaned. Data coding, data entry, data analysis and interpretation were carried out.

4. RESULTS

The current study revealed that almost one third of mortalities among Dubai Population or 30.4% were due to cardiovascular relevant causes. While 11.3% of mortalities was due to respiratory related diseases such as Pneumonia, COPD and others 6.9% were injuries related mortalities, 19.8% were neoplastic related diseases, 6.4% were accounted to perinatal period diseases and 1.2% were due to septicemia as reflected in Figure 1. Figure 2 showed the total mortality rate among the general population per 100,000. It was 373 in Dubai compared to 837 in USA, 803 in Germany, 782 in UK and 658 in Australia. Male mortality rate per 100,000 among Dubai Population was 350 compared to 1003 in USA, 947 in Germany, 901 in UK and 863 in Sweden Figure 3. On the other hand, female mortality rate per 100,000 of population in Dubai was 411 compared to 704 in USA 682 in UK and 667 in Germany Figure 4.

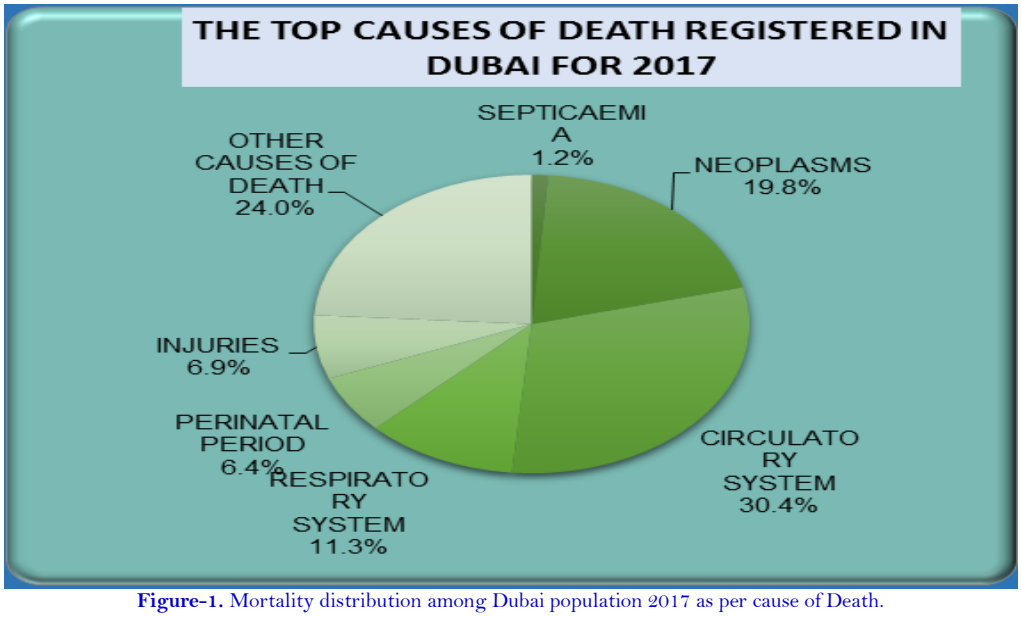

Figure-1. Mortality distribution among Dubai population 2017 as per cause of Death.

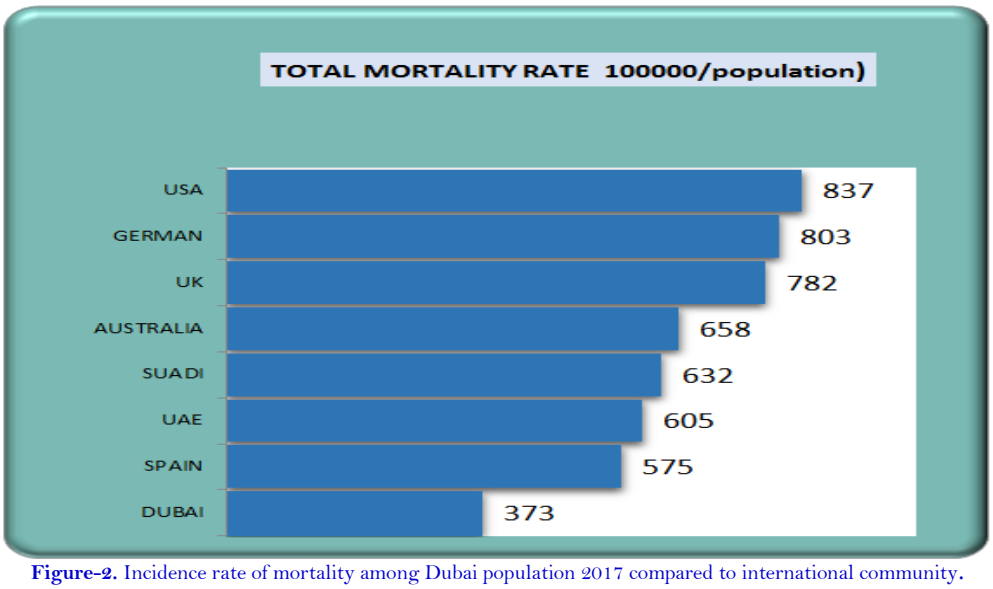

Figure-2. Incidence rate of mortality among Dubai population 2017 compared to international community.

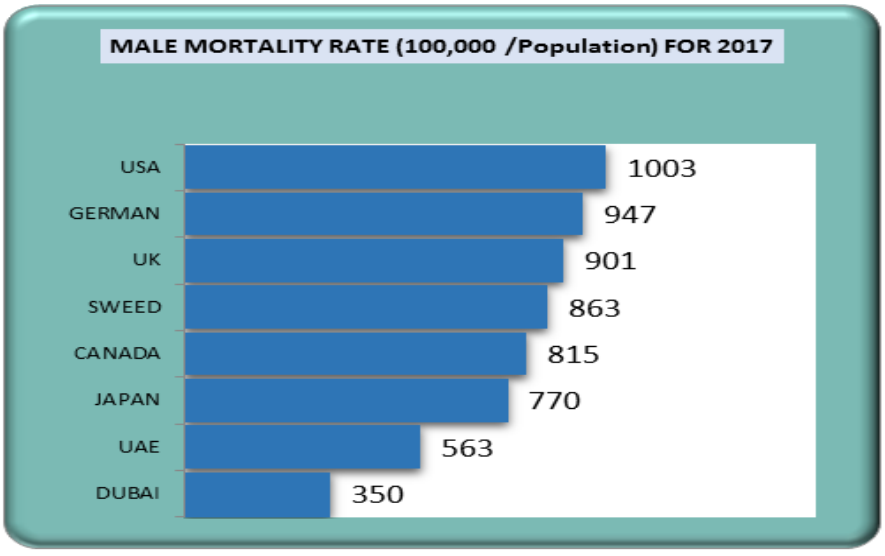

Figure-3. Incidence rate of mortality among male Dubai population 2017 compared to international community.

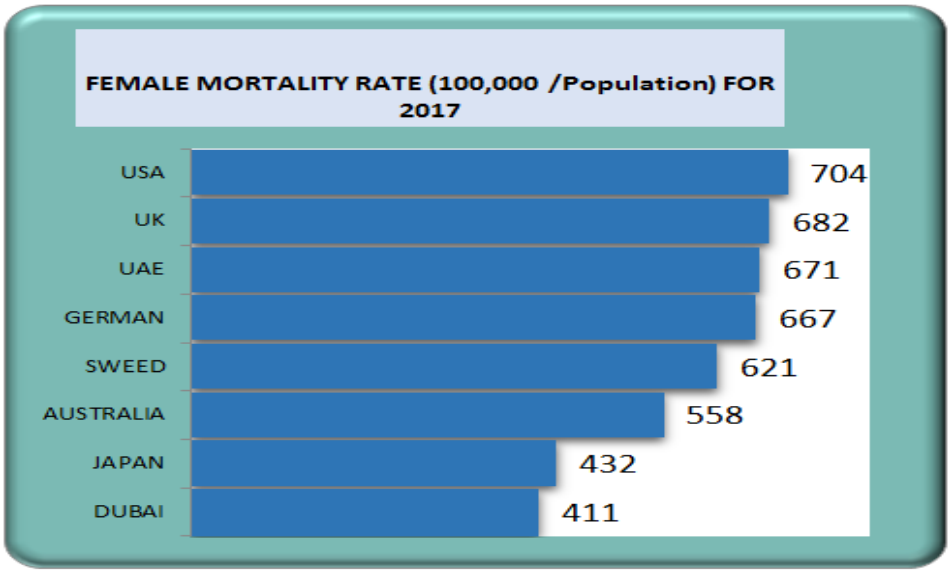

Figure-4. Incidence rate of mortality among Female Dubai population 2017 compared to international community.

5. DISCUSSIONS

The current study reveals that the death rate from circulatory diseases, neoplastic diseases and respiratory related diseases remained the main cause of death among Dubai population as reflected by the annual mortality statistics. It has been highlighted that the rate of cardiovascular related disease showed 30.4% in 2017 which is equivalent to 26/100000 of the population. It is estimated to increase up to 56/100000 of the total population by 2027 and by 2037 will rise up to 95/100000%. In the light of modern lifestyle, there is an increasing prevalence of NCDs which is based on mortality trends in Dubai in the last ten years. The study revealed that the mortality from neoplastic diseases among the Dubai population was 19% equal to 17/100000 in 2017. It is forecasted to be 47/100000 in 2027 and 67/100000 in 2037, as for respiratory related mortality among Dubai population in 2017, it was 11% equal to 10/100000 and is predicated to be 25 /100000e 15% in 2027, and estimated to increase by 45/100000 in 2037. Death rates and burden of disease shows that the more advanced a country becomes, with higher incomes, the more noncontagious diseases will comprise the dominant sector for cause of death and burden of disease. During this time, chronic diseases will emerge, most of which will be diseases of aging. The death rate will show two to three times increase as current rate per 100,000 of population.

These findings is similar to other studies e.g., Iran will be beyond the epidemiological transition. During this time, chronic diseases will emerge, most of which will be diseases of aging [8]. The death rate from the endocrine, nutritional and metabolic diseases shows a substantial increasing trend. It is predicted that from 10.19 per 100 000 population in 2006, the rate will reach 78.78 per 100 000 population in 2026 and 197.71 per 100 000 population in 2035. In this regard, the prediction for global death rates and burden of disease shows that the more advanced a country becomes, with higher incomes, the more noncontagious diseases will comprise the dominant sector for cause of death and burden of disease [9]. It is predicted that diabetes will be the fourth leading cause of death in developed countries, the sixth in middle-income countries and the ninth in developing countries by 2030 [10, 11]. In the Islamic Republic of Iran, non-communicable diseases account for more than 76% of the total burden of disease [12]. In the Islamic Republic of Iran, the rise in the aging populations is one of the fastest in the world. An aging population is not important in itself, but its consequences.

Moreover, effects on the socioeconomic and health care aspects doubles its importance. Increasing age will lead to decline in health, a rise in chronic diseases and will increase the burden of the disease. The basis for prevention is to identify the primary risk factors, especially among the elderly population [13, 14].

6. CONCLUSION

Mortality interventions and forecasting in the Population of Dubai can be made through Projections that represents a set of three visions for the future population health, based on certain explicit assumptions. Although, the wide uncertainty ranges around future projections, they enable health care system decision and policy makers to appreciate better the implications for health and health policy of currently observed trends, and the likely impact of future trends, such as the ageing population.

7. RECOMMENDATION

Analysis correct mortality registration classification can be a significant tool for proposing future forecasting, intervention and epidemiological transition. Based on the mortality and morbidity data handling there is a need to have more investment in the health care system for the expected high returns (yield).

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Contributors/Acknowledgement: All authors contributed equally to the conception and design of the study.

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