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MORBIDITY AND MORTALITY THROUGH DIABETES MELLITUS - ROMANIA IN A EUROPEAN CONTEXT

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Abstract

Mortality and morbidity caused by diabetes mellitus represent an important public health problem in Romania, because of the high number of affected individuals. Despite all public health measures and efforts, these indicators in Romania continue to be high because of the following factors: unhealthy diet with high caloric intake mainly refined sugars and saturated lipids, lifestyle changing, lack of physical effort. The number of deaths related to diabetes mellitus rose year by year, although the mortality in Romania remains under the average of the diabetes mellitus related mortality in European Union. The incidence and prevalence of diabetes mellitus is raising in all European countries, in Romania the incidence being above the average incidence in European Union. It is mandatory that all public health strategies related to this health issue to take into account the models of morbidity and mortality, the accent must be put on prevention, and the strategies based on the notion of risk.

Key words: diabetes mellitus epidemiology

INTRODUCTION

Diabetes mellitus represents a public health issue, in 2017 there were 424 million persons suffering of the disease, and estimations are that in 2045 there will be 628 million affected individuals (IDF DIABETES ATLAS, 2017). The global prevalence is rising, because of factors such as: economic development, urbanisation, aging of population, diet modification, reduced physical activity and other lifestyle changes. Affecting mostly individuals between 40 and 59 years, it produces a series of complications, microvascular or macrovascular, and is related to a series of comorbidities that have an important impact on the quality of life and work capacity of the affected people (Moța M. et all, 2016; Vesa CM et all, 2018). The health system, mainly by improving medical care, can reduce the morbidity and mortality by diabetes mellitus with approximately 10% (Akram T. Kharroubi and Hisham M Darwish, 2015).

The purpose of this study is to perform an analysis of the morbidity and mortality indicators concerning diabetes mellitus in Romania by

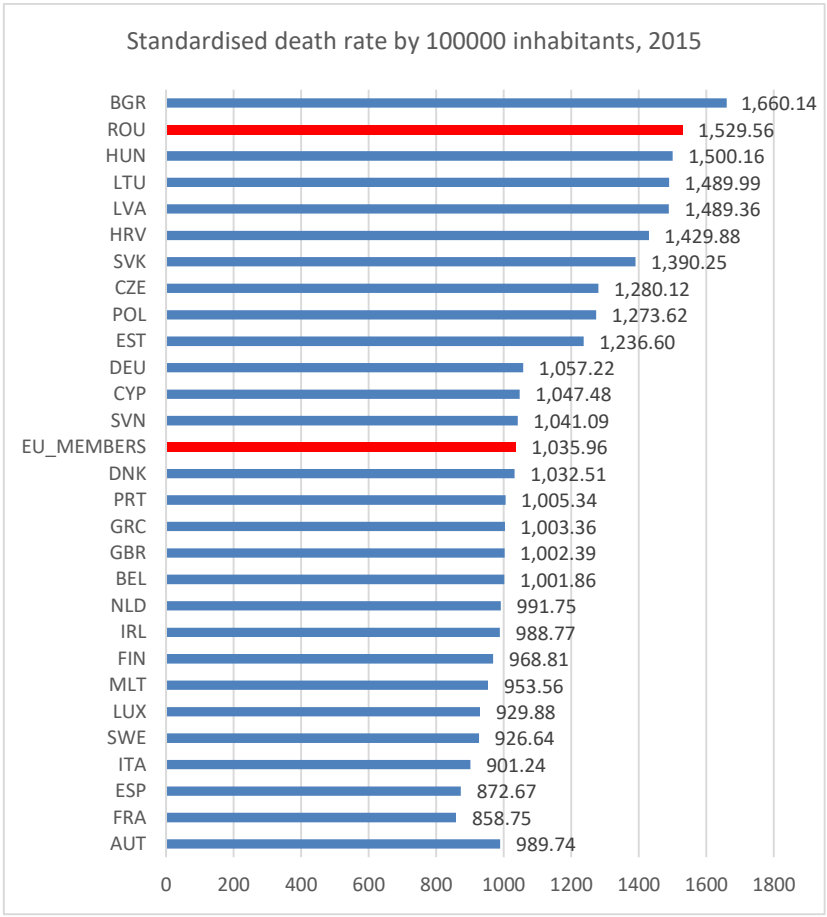
comparing them with the same indicators in the European Union, to identify the particularities of specific indicators, in order to estimate this phenomenon, and to apply concrete measures to improve these indicators.

MATERIAL AND METHOD

In order to realise the study the specific methodology for a social-economic research was utilized (analysis method, comparative method, statistic method), with a fundament on the data provided by the literature. Data was extracted and prelucrated from the publications of World Health Organisation (European Health for All Database 2018, Healthcare statistics, Eurostat, 2018) and Organisation of Cooperation and Economic Development (OECD Indicators, Health at a Glance 2017). There were analysed longitudinal studies (1970-2015) and transversal studies (2015).

RESULTS AND DISSCUSIONS

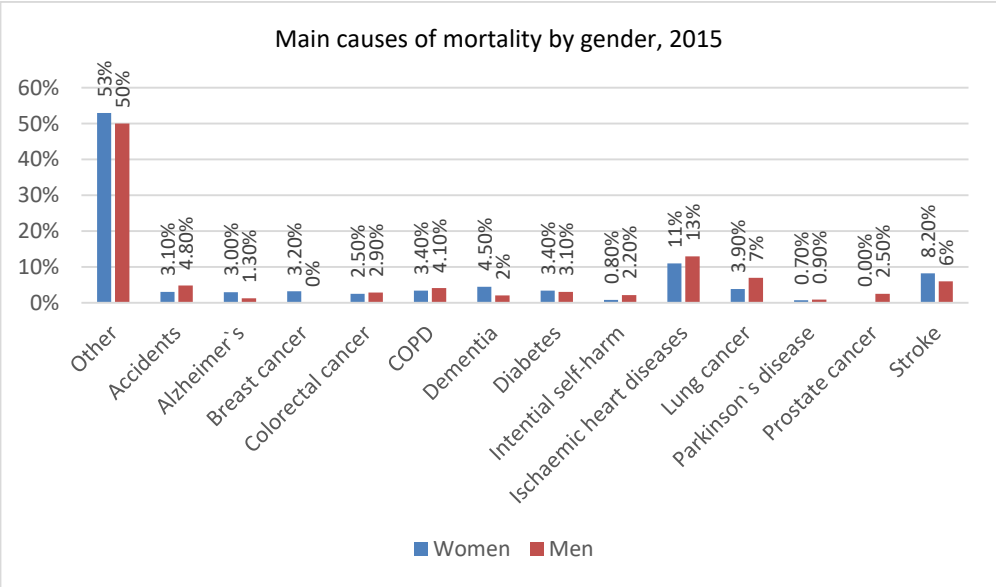
General mortality indicators, which strongly correlate with health system performance, place Romania in the second place in the European Union (1.529.56‰) after Bulgaria (1.660.14‰), the average in the EU being 1.035.96‰ (Figure 1).



Source: https://ec.europa.eu/info/legal-notice_en

Fig. 1. Standardised mortality rate (100000 persons), in the EU countries, in 2015

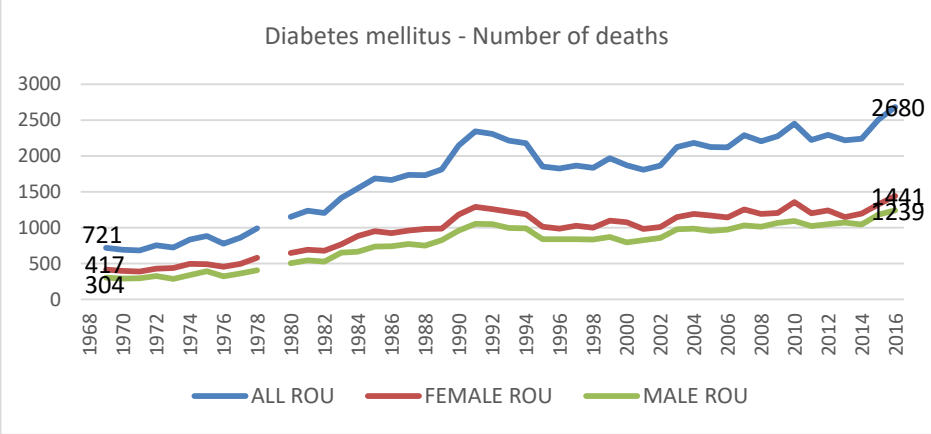
Analysis related to death cause places diabetes mellitus on the 6th position, both in women (3.4%) and men (3.1%) (Figure 2).



Source: OECD Health Statistics 2017

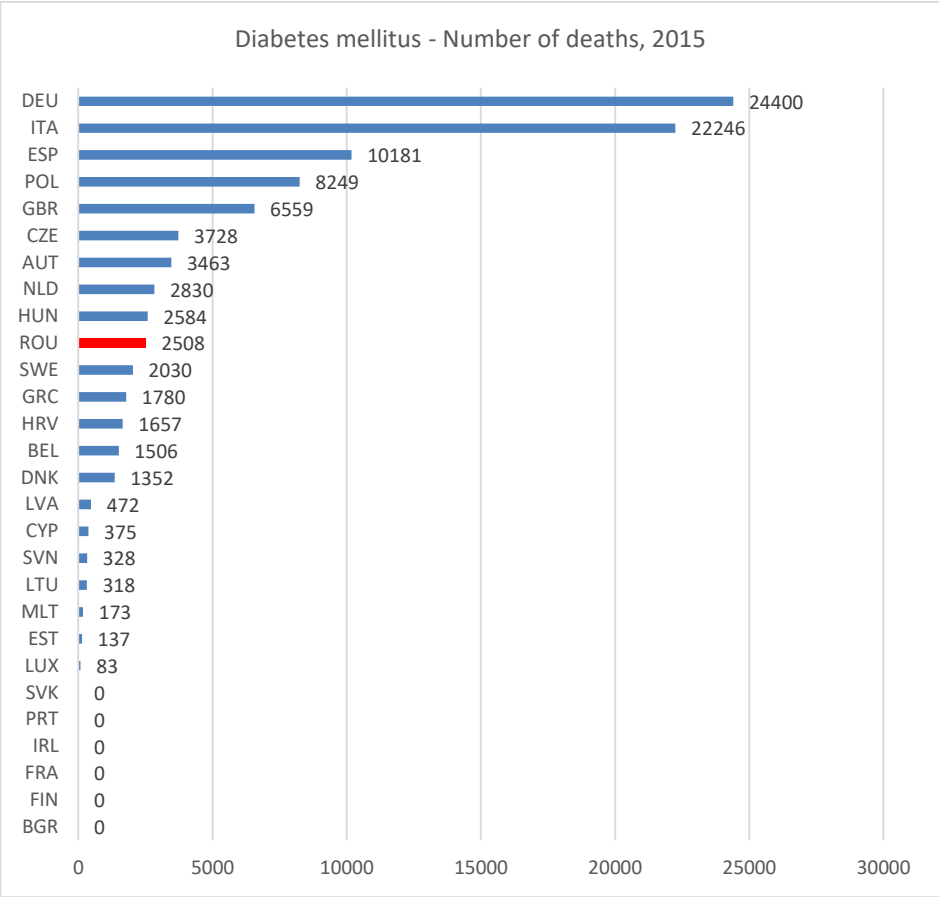
Fig. 2. Death causes distributed by sex, European Union, 2015

The numbers of deaths caused by diabetes mellitus raised from one year to another, in all EU countries, the values registered in Romania were 721 deaths in 1970, 2508 deaths in 2015 and 2680 deaths in 2016 (Figure 3-4).



Source: WHO Europe, European HFA Database, October 2018

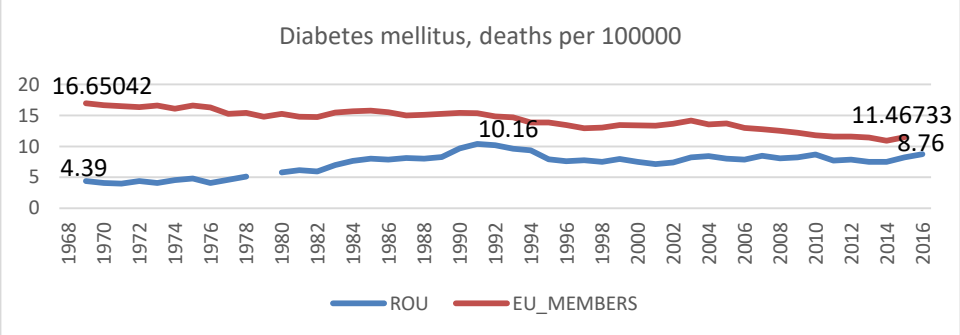
Fig.3. Evolutions of number of deaths caused by diabetes, in Romania, distributed by sex, 1970-2016



Source: WHO Europe, European HFA Database, October 2018

Fig.4. Number of deaths caused by diabetes mellitus, in European Union countries, 2015

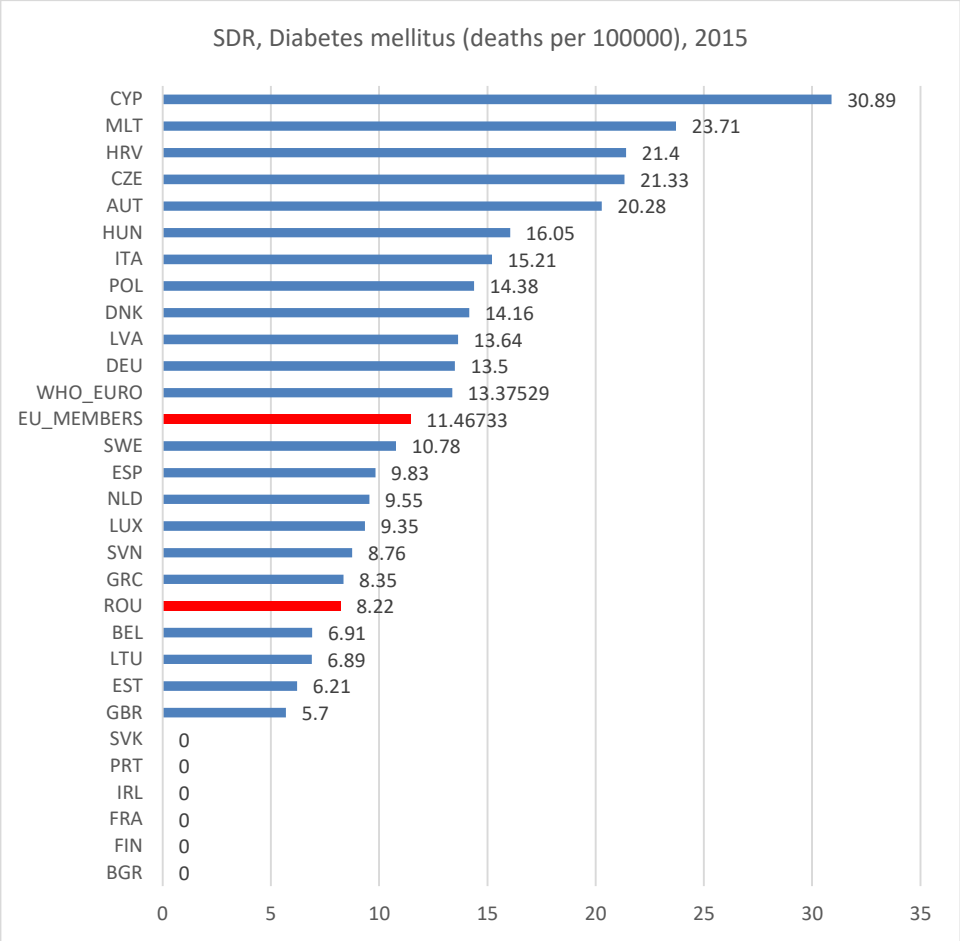
Standardised mortality caused by diabetes mellitus has a descendent evolution in EU, between 1970-1950 (from 16.65‰ to 11.46‰), in 2015, the highest values were in Cyprus 30.89‰, Malta 23.71‰ and Croatia 21,4‰ (Figure 5-6).



Source: WHO Europe, European HFA Database, October 2018

Fig.5.Evolution of mortality related to diabetes mellitus, in Romania and EU, 1970-2016

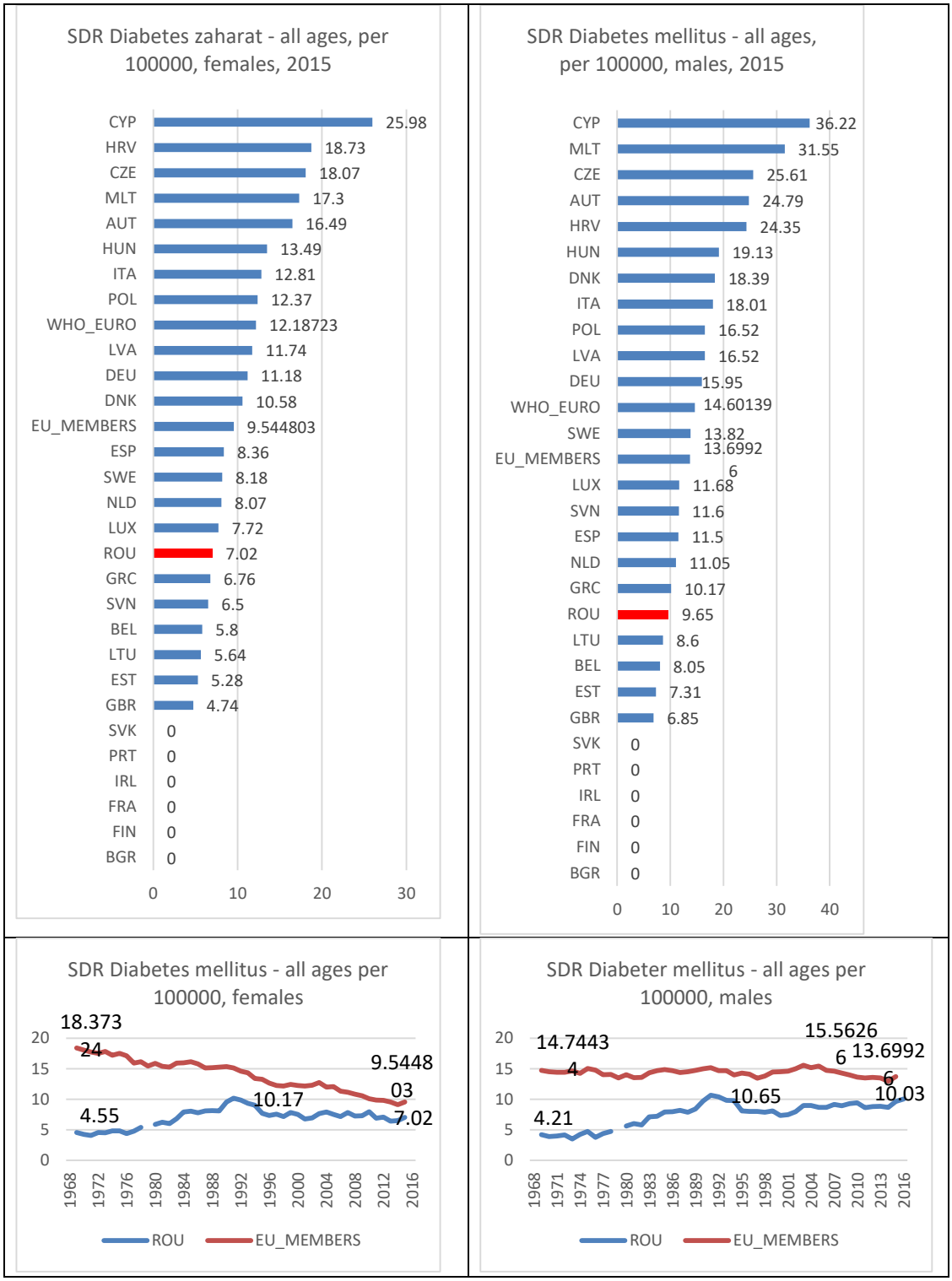
At the opposite side with the lowest mortality caused by diabetes mellitus we find Lithuania 6.89‰, Estonia 6.21%ooo and Great Britain 5.7‰.



Source: WHO Europe, European HFA Database, October 2018

Fig.6. Standardised mortality caused by diabetes mellitus at 100000 persons in 2015, in European countries

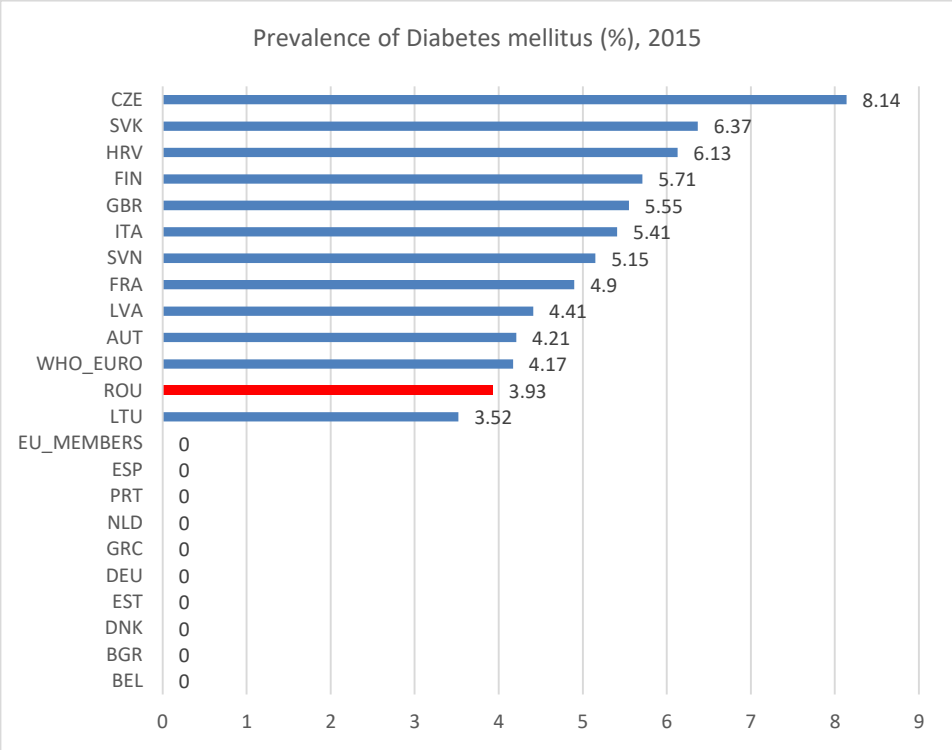
Depending on sex, the standardised mortality by diabetes in EU is higher in men than in women. In Romania in the years 1970-1992 this indicator has a decedent trend in both sexes, after that, in women the evolution is slightly descendent, and in men the values remain approximately constant (Figure 7).



Source: WHO Europe, European HFA Database, October 2018

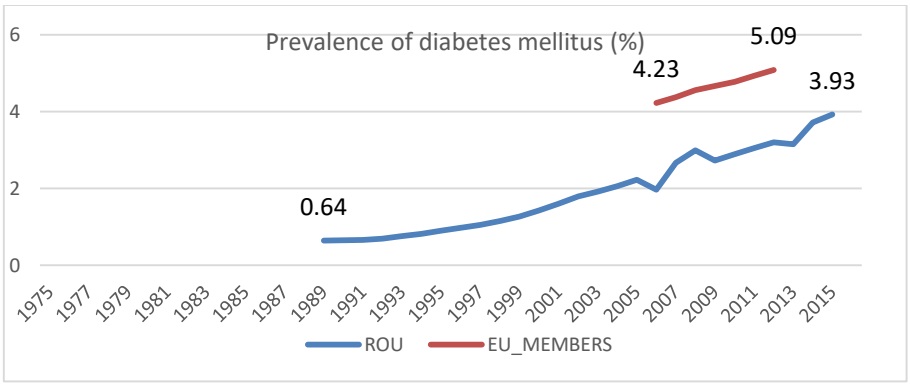
Fig. 7. Standardised mortality caused by diabetes mellitus in 100000 persons in 2015, depending on sex, in EU countries

The latest reported data regarding diabetes mellitus prevalence in European Union are from 2012, when the value of this indicator was 5.09%. From the countries that reported these data in 2015, the highest values are found in Czech Republic (8.14%), Slovakia (6.37%) and Croatia (6.13%). The prevalence in Romania in 2015 was 3.93%. In evolution this indicator had an ascendant trend in the years 1989-2015(it was 0.64% in 1989) (Figure 8-9).



Source: WHO Europe, European HFA Database, October 2018

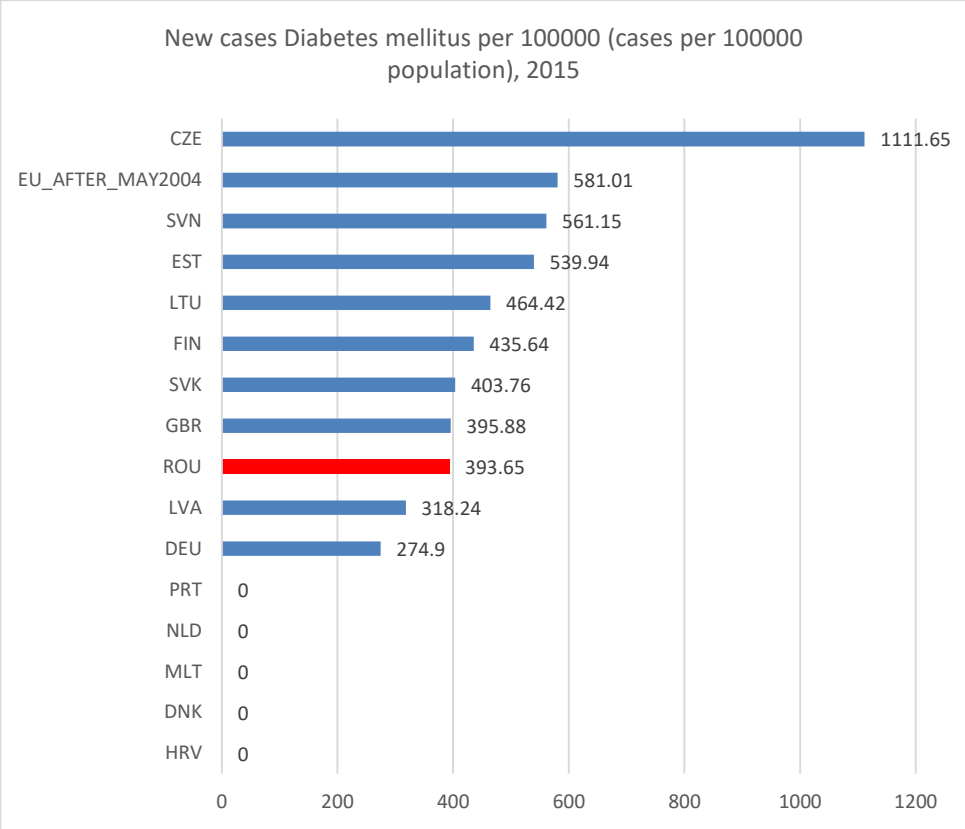
Fig. 8. The prevalence of Diabetes mellitus (%) in 2015, in European countries



Source: WHO Europe, European HFA Database, October 2018

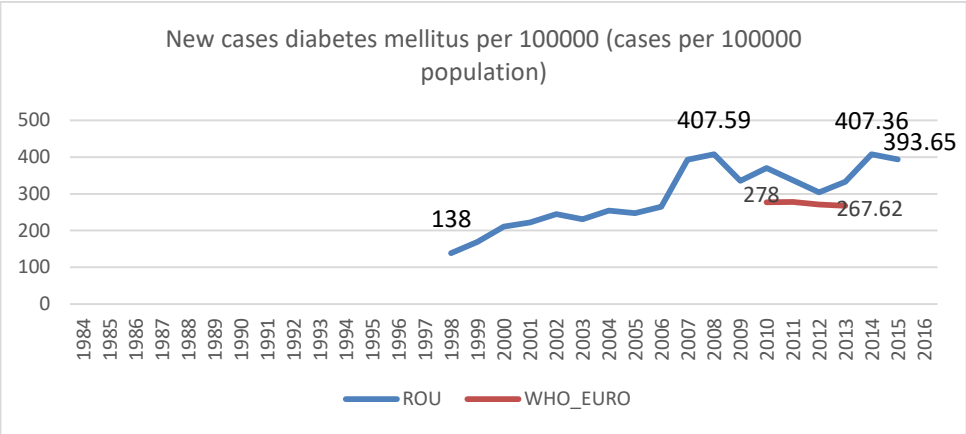
Fig. 9. Evolution of diabetes mellitus prevalence in Romania and EU, 1989-2015

The EU average incidence of diabetes mellitus was reported in the years 2010-2013, with values of in 276.9‰ 2010, 278‰ in 2011, 270.64‰ in 2012 and in 267.62‰in 2013. In 2015, from the countries that reported the incidence, the highest values were found in Czech Republic 1111.65‰, Slovenia 581.01‰ and Estonia 561.15‰. In Romania the incidence of diabetes mellitus is above the average of European Union with values of 393.65‰ in 2015, the highest value was in 2008 – 407.59‰ (Figure 10-11).



Source: WHO Europe, European HFA Database, October 2018

Fig. 10. Incidence of Diabetes mellitus (in 100000 persons), in 2015, in European countries



Source: WHO Europe, European HFA Database, October 2018

Fig. 11. The evolution of incidence of diabetes mellitus, in Romania and EU, 1989-2015

The health system does not give a high importance to prevention, were a very important role plays the early detection of those disease with major impact on health or the detection of risk factors that produce the disease.

It is mandatory that prevention strategies in this area, to be adapted to the models of morbidity and mortality, an important role being that of prevention programs, but also strategies based on the notion of risk.

CONCLUSION

The standardised mortality rate, expressed as number of deaths/100000 persons, in 2015, in EU was 1.035.96‰, Romania being on the second place in European Union (1.529.56‰) after Bulgaria (1.660.14‰).

According to cause of death, diabetes mellitus represents the 6th cause of death (3.26%), after ischemic heart disease, stroke, pulmonary cancer, accidents and chronic obstructive pulmonary diseases, the registered values were 3.4% in women and 3.1% in men.

The standardised mortality rate caused by diabetes mellitus, in 2015, was 23.23‰ in UE and 13.09‰ in Romania.

The number of deaths caused by diabetes rose in the years 1970-2015. In Romania, in 2015, there were 2680 deaths, 1441 in women and 1239 in men.

The evolution of standardised mortality caused by diabetes mellitus, has a slightly descendent trend in 1970-2015 in European Union. In Romania this indicator is raising from in 4.39‰ 1970 to 8.76‰ in 2016, much higher in men – 10.03‰ than in women – 7.02‰.

The prevalence is raising, in all European countries, Romania, being under the average in EU (EU: 5.09%, RO: 3.93%).

The incidence (at 100000 persons) is rising, in all EU countries, Romanian is above the EU average (EU: 267.62‰, RO: 393.65‰).

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