#### Constatări

Analizând mortalitatea maternă pe parcursul anilor 1996-2010 s-a constatat o dinamică de scădere a nivelului de decesuri materne. Indicatorul mortalității materne în anul 2009 în Republica Moldova este într-o scădere nepronunțată, comparativ cu anul 2005 (17,2 și, respectiv, 18,6 cazuri la 100 mii născuți vii). Însă valoarea maximă a fost atinsă în anul 2008 fiind  $38,4^0/_{000}$  și în 2010 -  $44,5^0/_{000}$ . Micșorarea mortalității materne se datorează implementării "Programului național de ameliorare a asistenței medicale perinatale", ameliorării serviciului de planificare familială, sporirii responsabilității față de conduita sarcinii din partea obstetricienilor ginecologilor și a femeii față de propria sănătate și soarta propriului copil. Dar rămân mai dezavantajoase femeile: (i) din localități rurale, (ii) cu studii secundare, (iii) din zona Centru a Moldovei, (iv) cu doua sau mai multe nașteri.

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# CAUSES OF DEATH AND LIFE EXPECTANCY AT BIRTH IN THE REPUBLIC OF MOLDOVA

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#### **Summary**

In the article "Causes of death and life expectancy at birth in the Republic of Moldova", we present some results of the joint project carried out between the Academy of Sciences of Moldova and the National Institute of Demographic Studies (INED), France. Our study is based on the original method of reconstruction developed at INED (F. Mesle, J. Vallin). We show the impact of broad classes of causes of death to the global changes in life expectancy at birth in Moldova between 1965 and 2008. Cause-specific mortality trends for large groups of cause since the mid 1960s are also presented.

### Rezumat

## Cauze de deces și speranța de viață la naștere în Republica Moldova

În articol sunt prezentate unele rezultate ale proiectului comun între Academia de Științe a Moldovei și Institutul Național de Studii Demografice din Franța (INED). Acest studiu se bazează pe metoda originală de reconstituire elaborată la INED (F. Mesle, J. Vallin). Sunt prezentate impactul cauzelor majore ale decesului asupra schimbările globale ale speranței de viață la naștere în perioada anilor 1965-2008, precum și tendințele mortalității după cauze de deces din mijlocul anilor 1960.

#### Introduction

In the Republic of Moldova, between 1965 and 2008, male life expectancy at birth lost 1,2 years (from 66,6 in 1965 to 65,4 in 2009) and female one gained only 1,6 years (from 71,5 in

1965 to 73,1 in 2008 [7, 9]<sup>1</sup>. At the same time, in France, for example, the increase in life expectancy over the same period is 10,1 years for males and 9,7 years for females<sup>2</sup>. The analysis of causes of death is a useful tool for a better understanding of the health crisis affected the Moldovan population. However, for any country the comparison of cause-specific mortality over a long period encounters the problem of changes in classification of causes of death [3]. In Moldova, from 1959 to 1991, the Soviet classification was revised in 1965, 1970, 1981 and 1988. After Independence, the 9<sup>th</sup> and the 10<sup>th</sup> Revisions of International Classification of Death (ICD) were successively applied. To ensure consistency between the classifications, we adapted a method for reconstructing continuous time series of deaths by causes developed for France (Vallin and Meslé, 1988, Meslé and Vallin, 1996) to the Moldovan data [10]. As a result, we reconstructed 1965-2008 coherent series of deaths by sex, 5-year age groups and cause, classified according to ICD-10 [8]. The examination of data quality, especially during the Soviet period, revealed its considerable inaccuracy pronounced the most in infancy and at older ages. Earlier, we proposed some methods of correction for infant mortality [7, 9]. In this paper, based on the reconstructed data we will show the impact of broad classes of causes of death on the total changes in life expectancy at birth between 1965 and 2008 years as well as the evolution of mortality trends by cause since the mid 1960s.

#### Material and methods

Our calculations are based on the reconstructed cause-of-death time series by sex, 5-year age groups and ICD-10 items. For every year of 1965-2008 period, abridged life tables were constructed. To estimate the contribution of different age groups and causes of death to life expectancy changes between two years we use a method of component proposed by E. Andreev [1]. For standardization of mortality rates, we use European population standard (WHO, 1992).

#### **Results**

From 1965 to 2008, life expectancy at birth dropped by 1,2 year for males (from 66,6 years in 1965 до 65,4 years in 2008) and gained 1,6 year for females (from 71,5 years in 1965 to 73,1 years in 2008). Despite the lack of progress, changes in cause-specific mortality structure are substantial (*fig. 1*).

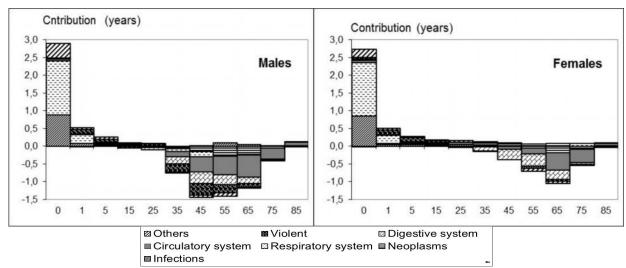


Figure 1. Age and cause of death contributions to the changes in Moldovan life expectancy between 1965 and 2008

Source: O. Penina, F.Mésle, J.Vallin (2010)

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<sup>&</sup>lt;sup>1</sup> The values of life expectancy at birth are given after the correction of infant mortality rates due to its under-registration, especially pronounced in the 1960s and 1970s (PENINA, O.; MESLÉ, F.; VALLIN, J. 2010. – Comment corriger la sous-estimation de la mortalité infantile en Moldavie? *Population-F*, vol. 65, n° 3, p. 563-580).

<sup>&</sup>lt;sup>2</sup> Data is taken from www.ined.fr

On the one hand, decline in infant mortality was the main contributor to the improvement of life expectancy (+2.9 years for males and +2.7 years for females); moreover, the decrease in child mortality added 0.8 year for both sexes. On the other hand, increase in adult mortality (ages 15+) opposed this progress and shortened life expectancy by 4.9 years for males and 2.0 years for females. The reduction of mortality from diseases of the respiratory system, infectious disease, other diseases and external causes (for females) accounts for a gain of 3 years in male and 3.6 years in female life expectancy. The increase in mortality from circulatory diseases, digestive diseases, neoplasms and external causes (for males) is responsible for a loss of 4.2 years in males and 2.1 years in females. These diseases, except neoplasms, are three leading causes of death at adult ages. For males, the highest losses are concentrated around the ages 45-64 whereas for females there is a shift to older ages (55-69 years).

It is worth highlighting a significant impact of digestive diseases at working ages on life expectancy dynamics, especially for females. Its negative contribution to the total losses at adult ages surpassed that produced by external causes for males (respectively, -1.0 and -0.9 in the total losses of -4.9) and even circulatory diseases for females (respectively, -1.1 and -0.9 in the total losses of -1.9).

To give a more complete view of mortality dynamics, the evolution of standardized mortality rates for seven broad groups of causes of death will be shown.<sup>3</sup>

Looking at the standardized mortality rates for broad groups of causes, it appears that the overall mortality trend from the mid-60s to the mid-80s is a result of a combination of contrasting trends for different cause-of-death groups. On the one hand, the rise in mortality from circulatory diseases, digestive diseases, external causes, neoplasms and the stagnation for other causes of death occurred. The situation was especially unfavorable for digestive diseases: during 1965-1984, standardized mortality rates increased almost by 5 times for females and 3 times for males. On the other hand, this period is marked by considerable progress in infectious diseases and headway since the mid-70s in respiratory diseases.

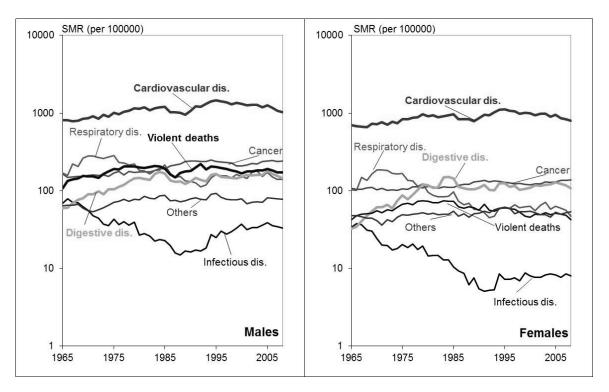


Figure 2. Annual trends in standardized mortality rates according to seven broad groups of causes of death since the mid-60s, by sex, logarithmic scale

Source: O. Penina, F.Mésle, J.Vallin (2010)

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<sup>&</sup>lt;sup>3</sup> European population standard is used (WHO, 1992).

The period of "wide fluctuations» (1985-1998) affected the most circulatory diseases, digestive diseases and external causes (for males); moreover, after a long period of improvement, the situation deteriorated for infectious and respiratory diseases.

The recent cause-specific mortality dynamics look quite contrasting. On the one hand, the decline in mortality from circulatory diseases, after a rapid post-crisis recovery in the second half of the 1990s, is still persisting up to now and even accelerated over the recent years (*fig. 2*). On the other, the unfavorable trends (increase or stagnation) for all other groups of causes of death halt this recent progress.

#### **Conclusions**

Like for other countries of the former USSR, Moldovan life expectancy at birth is much lower compared to the Western countries. The present situation is a result of a long-term health deterioration of the adult population started since the mid1960s. and partially compensated by considerable progress achieved in infant mortality. Cardio-vascular diseases, digestive diseases and violent deaths (for males) are the main causes of death at adult ages responsible for the global life expectancy changes between 1965 and 2009. An extremely high level of mortality from digestive diseases, especially among females, is a peculiar feature of Moldovan type of mortality. Further analysis of the reconstructed time series by detailed cause will provide us with better insight into the health deterioration of the Moldovan population.

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# UNELE PARTICULARITĂȚI A CONDIȚIILOR DE VIAȚĂ ȘI STĂRII DE SĂNĂTATE A PERSOANELOR LONGEVIVE

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# **Summary**

# The living conditions of old people (80 years and over)

The living conditions of old people are a reflection of the living conditions of society as a whole. The change in living standards in Republic of Moldova in the past 20 years has had its effects on the living conditions of old people .A uniform evaluation of the standard of living is very difficult, and a comparison of the living conditions of old people presents enormous problems, but the main components of the standard of living can be compared ...

#### Rezumat

Condițiile de viață ale oamenilor vârstnici sunt o reflectare a condițiilor de viață ale societății în ansamblu. Schimbarea nivelului de trai în Republica Moldova în ultimii 20 de ani a avut efectele sale asupra condițiilor de viață ale persoanelor longevive. O evaluare uniformă a nivelului de trai este foarte dificilă și o comparație a condițiilor de viață ale persoanelor în vârstă prezintă enorme probleme, dar principalele componente ale nivelului de trai poate fi comparate ...

## Actualitatea

În cadrul modernizării și transformărilor rapide care definesc lumea de astăzi, rolul și locul populației longevive de 80 și mai mult în familie și comunitate au suferit modificări importante. Numărul tot mai mare al vârstnicilor duce la modificarea poziției lor în viața familială și cea socială și necesită un efort de adaptare reciproc din partea tuturor membrilor familiei și societății.

Complexitatea schimbărilor condițiilor social-economice și a factorilor ce influențează sănătatea populației, în special a celei vârstnice, necesită efectuarea cercetărilor științifice orientate spre determinarea influenței modului de viață asupra sănătății, care în mare parte caracterizează comportamentul și activitatea omului. În același timp, este necesar de menționat faptul că studiile speciale ce caracterizează modul de viață al populației vârstnice de 80 ani și mai mult, nu sunt efectuate cercetări, ceea ce determină actualitatea cercetărilor în acest domeniu.

# Scopul

Aprecierea opiniei populației longevive (80 ani și peste) privind modul de viață și factorii ce influențează starea lor de sănătate.

#### Materiale și metode

Studiul descris în lucrarea de față a fost un studiu descriptiv, după volumul eșantionului integral și selectiv. Prin studiul integral a fost efectuată analiza morbidității și mortalității populației de 80 ani și peste în perioada anilor 2005 - 2008, ce a permis să caracterizăm frecvența și impactul asupra stării sănătății populației de 80 ani și peste. Au fost luate în considerație metodologia de cercetări discriptive asupra parametrilor epidemiologiei morbidității