REGIONAL ASPECTS OF COVID-19 MORTALITY IN THE REPUBLIC OF MOLDOVA[30]

Irina PAHOMII, *scientific researcher., PhD student*
Charles University, Faculty of Science, Prague, Czech Republic,
National Institue for Economic Research, Chisinau, Republic of Molodva
bragairina92@mail.ru

Abstract. *The study analyses regional aspects of Covid-19 mortality. Are studied age distribution, case fatality rate, share of premature mortality. The deaths are focused up to the age of 64-69 years. The highest case fatality rate is noted for the North - the lowest for Chisinau. The case fatality rate for men is nearly 2 times higher than for women. The highest share of premature deaths is noted in the Centre and South.*

Keywords: *Covid-19 deaths, regional aspects, case fatality rate, premature mortality.*
JEL Classification: J14, J17, P25

The spread of the Covid-19 pandemic is different in territorial aspect and due to different factors like age structure, living patterns or health status of population (Esteve, Permanyer, Boertien, & Vauple, 2020) (Dowd, et al., 2020) (Kashnitsky & Aburto, 2020) (Palloni & Walter, 2020). For an adequate and prompt response to the pandemic, it is necessary to know very detailed all the things linked to that (Dowd, et al., 2020).

Of the many available data regarding Covid-19 pandemic, information on reported deaths is of great demographic importance (Mesle & Robine, 2020).

The aim of this study is to give an overall view at the national and sub-national level regarding mortality with positive Covid-19 status.

The actuality of this research leads in the presentation of the current situation regarding regional discrepancies in the Covid-19 positive mortality.

In this study are analysed the mean and median age of death, case fatality rate and share of premature mortality at national and sub-national level. To define premature mortality was used age threshold of 65 years. The study operates with registered Covid-19 positive deaths until 4 of October. The used data are obtained from official page of the Ministry of Health of the Republic of Moldova (Ministry of Health, Labour and Social protection, 2020).

So, the last registered death is death number 1366, but because of lack of information and gaps in the registration was analysed just 1186 deaths. The deaths from Transnistria zone (94 deaths) was also excluded, due to low number of observations.

Data was analysed at the sub-national level, not on the district level mainly due to the high differences in the number and structure of population between districts. So, data were analysed for Chisinau municipality, North (the Balti municipality was integrated in the North zone because of the small number of registered deaths – 66 deaths), Centre and South zone.

At national level, there are districts that are very affected and districts with fewer losses, in absolute number of observations. According to official statistics the highest number of Covid-19 positive deaths are registered in the Chisinau municipality, while the lowest number of deaths (1 death) is registered in the Leova district (GIS Application, 2020).

Practically 40% of the registered deaths come from Chisinau municipality, a quarter being reported in the North region, followed by the Central region with just over 20%, and the remaining 17% are registered in the South (*Fig. 1*). At the same time, the case fatality rate reveals another situation. Thus, the highest Covid-19 positive mortality is registered in the North region (30.1 deaths per 1000 positive tested persons), for Chisinau municipality being specific the lowest mortality (17.8 deaths per 1000 positive tested persons).

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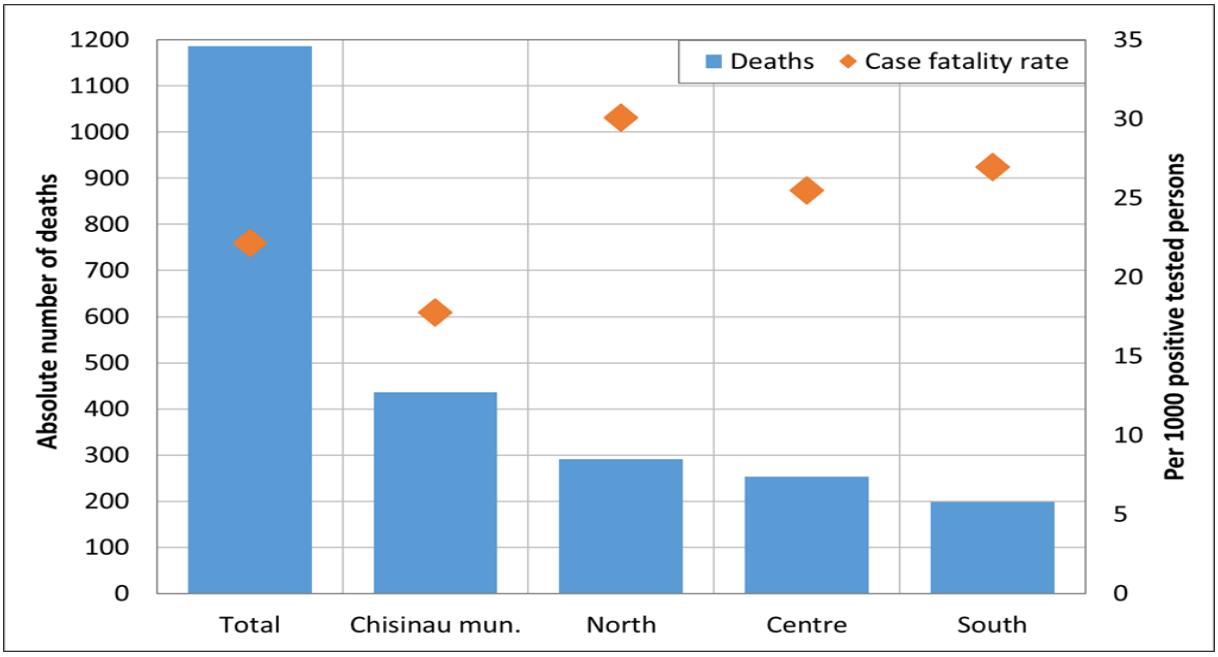

Figure 1. Absolute number of deaths and case fatality rate at national and sub-national level, 4.10.2020

Data source: Author calculations

Covid-19 positive deaths are concentrated up to the age of 72. Also, the sex distribution of Covid-19 positive deaths at national level is rather equal, without evident differences.

The relatively uniform distribution of Covid-19 positive deaths explains lack of differences between the mean and median age, with no lower and upper limits that stand out (*Table 1*). Male to female ratio confirm the uniformity of the distribution by sexes. Just in Chisinau municipality and South region slightly prevail male deaths.

Table 1

Mean, median age and male/female ratio at national and sub-national level, by sexes

		Chisinau municipality	North	Centre	South	Total
Total	**Mean age**	68.2	66.7	65.3	64.2	66.5
	Median age	68	67	66	64	67
Male	**Mean age**	68.1	66.5	65.2	64.2	66.4
	Median age	68	67	65	64	67
Female	**Mean age**	68.4	67.0	65.4	64.2	66.7
	Median age	69	66	66	65	67
Male/female ratio		1.1	1.0	0.9	1.1	1.0

Data source: Author calculations

Even though the total Covid-19 positive deaths are practically divided equally between the sexes, there are differences in their distribution by age groups. The share of deaths of women in younger age groups is usually lower compared to that of men.

The most affected age group is the group of 60-69 years, this fact being confirmed by the mean and median age of death. In the case of women, the last age group is also highlighted (*Table 2*). We must also mention that the case fatality rate for men at national level is practically 2 times higher than for women.

Table 2

Share of Covid-19 positive deaths by age groups at national and sub-national level, by sexes

	Age groups	Chisinau municipality	North	Centre	South
Total	**<59**	21.6	20.3	24.1	27.6
	60-69	33.9	39.0	43.1	39.3
	70-79	25.0	28.6	22.5	26.0
	80+	19.5	12.1	10.3	7.1
Male	**<59**	20.7	20.0	26.1	28.2
	60-69	34.8	39.3	44.5	37.9
	70-79	28.2	30.3	20.2	27.2
	80+	16.3	10.3	9.2	6.8
Female	**<59**	22.5	20.7	22.4	26.9
	60-69	33.0	38.6	41.8	40.9
	70-79	21.5	26.9	24.6	24.7
	80+	23.0	13.8	11.2	7.5

Data source: Author calculation

Another important problem is the high proportion of premature deaths (*Fig. 5*). We can see how situation is worsening from north to south. The better situation is registered for Chisinau municipality. Mainly it is due to better infrastructure and medical system possibilities. The general pattern that female premature mortality is lower can be seen behind.

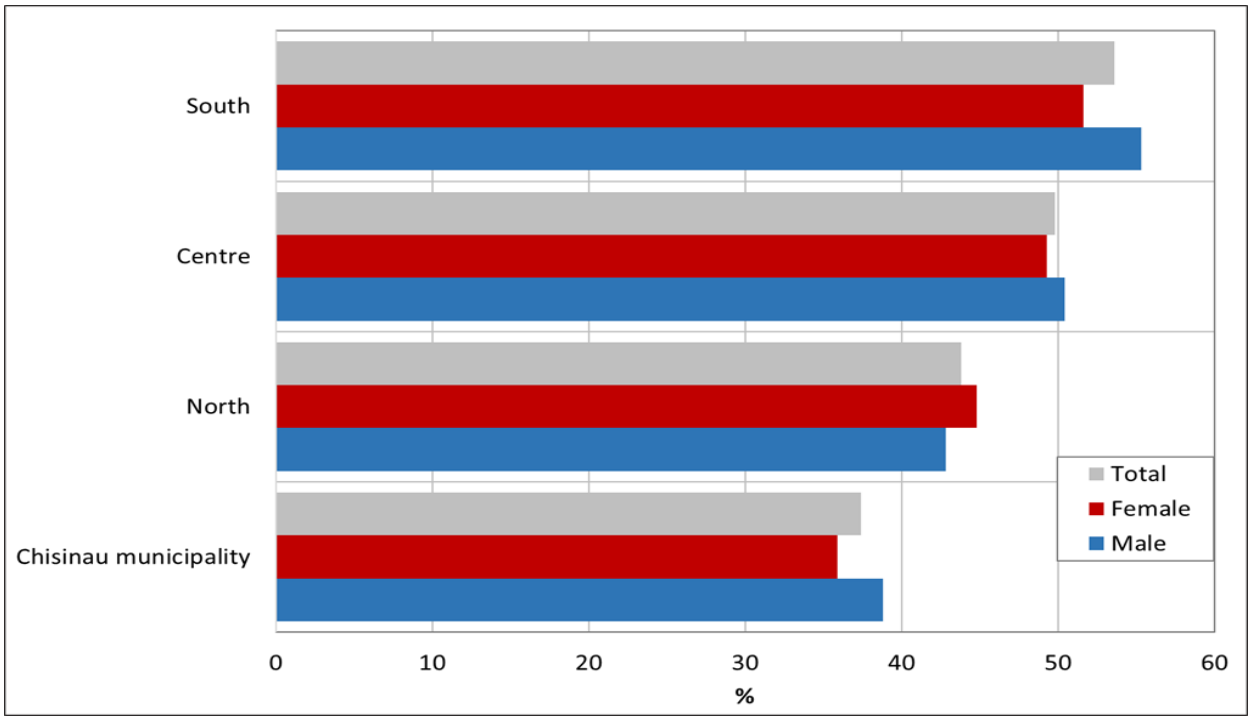

Figure 2. Share of premature Covid-19 positive deaths, by sexes and regions

Data source: Author calculation

In conclusion can be stated that Centre and South region are characterized by a younger structure of deaths than the North and Chisinau municipality. This is mainly due to age structure of that regions. Also, the distribution of Covid-19 positive deaths by age is rather uniform, with a concentration of deaths up to the age of 64-69 years and a relatively equal share of deaths by sex, however the case fatality rate for men is practically 2 times higher than for women.

An alarming problem that has been attested at this stage is the high proportion of premature deaths, especially in the Centre and South region.

We should note that it is still early to make clear conclusions regarding the mortality from/due to Covid-19, events are still under way, so the situation may change significantly.

It is important to point out that the choice of analysis indicators can essentially change the conclusion.

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