

Impact of the pandemic on change in mortality of men and women

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Increase in mortality of men and women for 2019-2020 and 2020-2021 in Moscow (%)

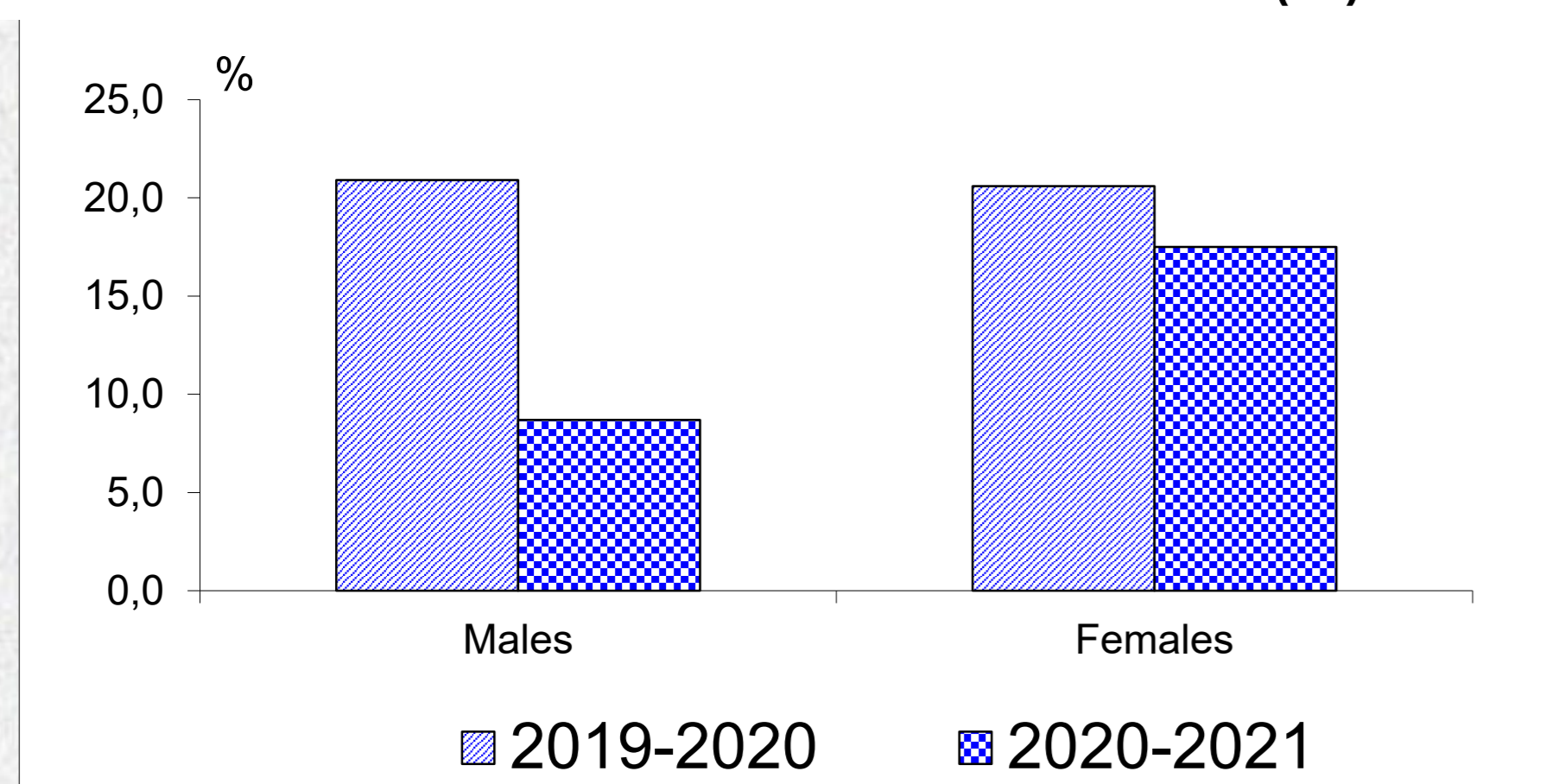


Table 1. Contribution of main classes of death causes (%) to excess mortality of males and females (over level of 2019) in Moscow

Causes of death	Males		Females	
	2020	2021	2020	2021
Certain infectious and parasitic diseases	-0.6*	-0.7	0.0	-0.2
Neoplasms	-0.4	-3.7	-0.4	-4.1
Endocrine, nutritional and metabolic diseases	2.4	0.4	3.2	0.3
Mental and behavioural disorders	6.4	9.8	3.4	1.0
Diseases of the nervous system	12.9	1.7	25.9	2.6
Diseases of the circulatory system	15.1	0.5	8.2	8.1
Diseases of the respiratory system	0.2	-1.0	0.7	0.3
Diseases of the digestive system	3.0	0.5	0.9	-0.2
Diseases of the genitourinary system	0.6	0.0	0.9	0.3
Symptoms, signs and abnormal clinical and laboratory findings	-13.3	-3.3	-5.6	0.8
External causes of mortality	6.6	4.0	3.0	1.4
COVID-19	68.0	92.1	60.9	90.2

* - Negative contribution means that the mortality has decreased compared to 2019

Differences in change in the structure of mortality of men and women are due to:

- higher mortality of men from COVID-19 and their vulnerability to social stress caused by the pandemic;
- greater vulnerability of women to neurotropic effects of the SARS-CoV-2 virus and systemic immune/inflammatory processes caused by it.

Table 2. Growth* in death rate of Moscow men and women from 2019 to 2021 from main causes (black color means «by number of %», red color means «at number of times»)

Notes
 * Positive for at least one gender
 ** The mortality rate is given according to official statistics, and estimates of the contribution of individual diseases to the structure of causes are made on the basis of a database of deaths in Moscow

Allegedly related to social stress due to the pandemic
 Presumably due to systemic immune/inflammatory processes caused by infection with coronavirus

Causes of death	Growth	
	Males	Females
Mental and behavioural disorders:	4.5	2.5
Mental disorders resulting from drug	25.9	31.5
Harmful use of alcohol	3.6	3.4
Endocrine, nutritional and metabolic diseases**:	25.5	13.7
Type 1 diabetes mellitus	8.1	6.8
Type 2 diabetes mellitus	39.8	29.0
Unspecified diabetes mellitus	75.3	30.7
Polyglandular dysfunction	62.3	40.6
Disorders of other endocrine glands	-44.2	5.0
Other hyperalimentation (E65,E67-E68)	30.7	108.5
Diseases of the nervous system*:	12.6	17.9
Degeneration of nervous system due to alcohol	26.3	73.4
Multiple sclerosis	-35.7	108.1
Encephalopathy, unspecified	-9.2	84.8
Other specified disorders of brain	350.2	73.0
Other specified disorders of central nervous system	221.9	457.5
Diseases of the circulatory system:	-5.7	1.3
Acute myocardial infarction	12.4	4.4
Other acute ischaemic heart diseases	114.8	112
Atherosclerosis	51.3	15.4
External causes of mortality:	20.2	21.6
Accidental falls	6.4	47.1
Accidental poisoning and exposure to narcotics	126.7	66.7
Road traffic accidents	31.1	15.4
Diseases of the digestive system**:	1.4	-1.4
Gastric ulcer	4.9	-20.2
Duodenal ulcer	1.4	1.3
Fibrosis and cirrhosis of liver	24.4	29.0
Acute pancreatitis	36.0	14.5
Other diseases of pancreas	-13.8	9.6
Diseases of the respiratory system**:	-15.9	5.7
Other chronic obstructive pulmonary disease	-12.6	32.1
Other respiratory diseases principally affecting the interstitium	272.6	745.5