No 26 (2018)
P.1
The scientific heritage

(Budapest, Hungary)

The journal is registered and published in Hungary.
The journal publishes scientific studies, reports and reports about achievements in different scientific fields. Journal is published in English, Hungarian, Polish, Russian, Ukrainian, German and French.
Articles are accepted each month. Frequency: 12 issues per year.
Format - A4
ISSN 9215 — 0365

All articles are reviewed
Free access to the electronic version of journal

«The scientific heritage»
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E-mail: public@tsh-journal.com
Web: www.tsh-journal.com

CONTENT

BIOLOGICAL SCIENCES

CHEMICAL SCIENCES

MEDICAL SCIENCES

PHARMACEUTICAL SCIENCES

asthma in England: a national study of 333,294 patients / C.R. Simpson, A. Sheikh // J R Soc Med. – 2010. – V.103. – P.98-106.

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ЗАБОЛЕВАЕМОСТЬ И СМЕРТНОСТЬ СЕЛЬСКОГО НАСЕЛЕНИЯ ОТ БОЛЕЗНЕЙ СИСТЕМЫ КРОВООБРАЩЕНИЯ

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MORBIDITY AND MORTALITY OF RURAL POPULATION WITH CIRCULATORY DISEASES

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Аннотация

Изучено и проанализировано связь между показателями заболеваемости и смертности от болезней системы кровообращения у сельского населения. Доказано, что смертность взрослого населения от острого инфаркта миокарда и инсульта напрямую зависти от показателей их распространенности и заболеваемости.

Abstract

An association between the morbidity and mortality rates of the rural population with circulatory diseases has been studied and analyzed. And it has been proved that the mortality rate of the adult population from acute myocardial infarction and stroke is the higher, the higher is their prevalence and the morbidity rate.

Ключевые слова*:* заболеваемость, распространенность, смертность, болезни системы кровообращения, сельское население.

Keywords*:* morbidity, prevalence, mortality, circulatory diseases, rural population.

In contrast to the countries of the European region, circulatory diseases (CD) in Ukraine have their own characteristics: increased mortality, disability (especially among the rural population (RP); northeast prevalence vector; rejuvenation of patient contingents; a significant incidence of morbidity with temporary disability in men of working age.

Due to these peculiarities, the medical and social importance of CD in Ukraine is constantly growing, they belong to the first places among the causes of death, disability, which leads to significant economic losses for the family and the state from premature death, especially at working age; as well as to large financial costs for the diagnosis, treatment and rehabilitation of patients.

The fight against CD and, in particular, with arterial hypertension, is most effective, and in some cases - the only possible only in the preventive plane.

To study and analyze the relationship between the rates of prevalence, morbidity and mortality from CD in the adult population of the rural region.

For the analysis, statistical data of the Ministry of Health of Ukraine on morbidity and mortality of the population of Ukraine from CD processed using analytical, sociological and mathematical-statistical methods were used.

Calculation of the correlation coefficient (r) was carried out according to the formula:

$$r = \frac{\sum d_x \times d_y}{\sqrt{\sum d_x^2 \times \sum d_y^2}},$$

where x and y – variants of compared variational series;

dx and dy – deviation of each variant from the arithmetic mean.

The bond strength was estimated on the scale: 0.01-0.29 (weak), 0.3-0.69 (average), 0.7-0.99 (strong).

Historically, the development of health care, accessibility and quality of medical care to rural residents have always been lower than for residents of the city, which led to low rates in the dynamics of health.

In our work, we investigated the causal relationship between the incidence rates of CD and a number of other indicators (characteristics of individual samples), in particular, with the share of the rural population in the sample and mortality from adult and, separately, the able-bodied population.

The specific values of the connection are given in Table 1.

Table 1

The relationship between prevalence, morbidity and mortality from CD and the proportion of rural population

Indicators	Correlation coefficient (r)	Severity level (p)
Prevalence	0,01	> 0,05
Morbidity	0,45	< 0,05
Mortality	0,04	> 0,05

As can be seen from the table, the relationship between the level of morbidity and the proportion of rural population of medium strength. At the same time, the smaller the share of the rural population, the lower the incidence of CD, which is evidence of the impact on the primary incidence rates, primarily socio-economic conditions for the existence of the population and the way of life. In this case, there is a proven fact of increased primary morbidity and mortality from a low level of medical care and quality of life conditions of heart failure.

Table 2 gives medical and statistical data on the relationship between the incidence of CD and mortality from them among the adult population (18 - 100).

Table 2

The relationship between levels of morbidity per individual CD and the death rate from them of the adult population (18 - 100)

Disease	Correlation coefficient (r)	Severity level (p)
Hypertensive disease	0,23	> 0,05
Cardiac ischemia	0,22	> 0,05
Acute myocardial infarction	0,68	< 0,001
Cerebrovascular diseases	0,52	< 0,01
Brain strokes	0,91	< 0,001

The data in Table 2 show that with an increase in the incidence of acute myocardial infarction (MI), cerebrovascular disease (CVD), and stroke, death rates from these diseases also increase. The strongest connection is observed with strokes, which indicates the greatest threat to this disease for the life of RP.

We found no such dependence in hypertensive and ischemic diseases.

Correlation between the levels of morbidity of CD and the level of mortality from these diseases among the able-bodied population is presented in Table 3.

Table 3

Correlation between the levels of morbidity of CD and the death rate from them of the able-bodied population (18-60)

Disease	Correlation coefficient (r)	Severity level (p)
Hypertensive disease	0,23	> 0,05
Cardiac ischemia	0,14	> 0,05
Acute myocardial infarction	0,49	< 0,05
Cerebrovascular diseases	0,53	< 0,01
Brain strokes	0,78	< 0,001

So, among the able-bodied population, similar patterns were found, but the severity of the connection between the diseases stroke and acute MI is somewhat lower - 0.78 and 0.49, respectively.

Such a relationship also exists between the prevalence of CD and mortality rates from them in adults and the able-bodied population. Generalized data on the impact of the prevalence of CD on mortality from them

among adults and the able-bodied population are presented in Tables 4, 5.

Table 4

The correlation between the levels of prevalence of C D and the death rate from them of the adult population (18 - 100)

Disease	Correlation coefficient (r)	Severity level (p)
Hypertensive disease	0,16	> 0,05
Ischemic heart disease	0,55	< 0,01
Acute myocardial infarction	0,64	< 0,001
Cerebrovascular diseases	0,83	< 0,001
Brain Strokes	0,79	< 0,001

The data in Table 4 show that the higher the prevalence of adult CD, the higher the mortality from them, especially the death from cerebrovascular diseases, as well as the stroke, where a strong direct correlation was detected.

Table 5

Correlation between the levels of prevalence of CD and mortality levels of the able-bodied population (18-60)

Disease	Correlation coefficient (r)	Severity level (p)
Hypertensive disease	0,30	> 0,05
Cardiac ischemia	0,20	> 0,05
Acute myocardial infarction	0,55	< 0,01
Cerebrovascular diseases	0,62	< 0,01
Brain Strokes	0,55	< 0,01

As can be seen from Table 5, the relationship between the prevalence of CD and mortality from them in the able-bodied population of medium strength (in general, the mortality of the able-bodied population from the CD is lower than that of an adult, and from hypertension is higher).

Conclusions.

1. A direct correlation was established between the average strength of the rural population and the levels of its incidence in diseases of the circulatory system, as well as their prevalence.

2. It was found that the mortality of the adult population from acute myocardial infarction and stroke is higher, the higher their prevalence and incidence. This indicates a low level of quality of care.

Further research will focus on the impact of quality of care on the prevalence of diseases of the circulatory system and mortality from them.

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