

DEMOGRAPHICAL AND MEDICAL GEOGRAPHY RESEARCHES IN BUCOWINA

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Key words: ecology factors, medical-demographycal situations, landscape environment.

Cuvinte cheie: factori ecologici, situații medico-demografice, mediu landșaftic.

ABSTRACT:

The article investigates the ecology factors of environment and medical-demographycal situations of sickness rate and populations' mortality demonstrated with an example of urbanized landscapes of Bucovina. A greater corrective connection is revealed among cancer apathy ($r=0.5-0.6$), general dent rate ($r=0.5$), and an integral index of ecological safety of city's landscape environment. The author revealed backward (negative) dependency among the increased harshness of drinking water and cancer pathology of digestion organs and abdominal cavity.

This article deals with synthesis of medical-demographic study results of anthropic landscapes under the aspect of their utilization in order to increase human ecological conditions.

One of the problems that authors tried to solve in the process of research lies in developing of theoretical and methodological thesis (based on combined analysis of ecological factors and demographical status) in order to determine ecological situation in the region and to evaluate life and activity conditions of population.

Diseases related to ecology-geochemical factors. The process of contact between the substances from organism with environment (the concentration of elements in some organs and tissues, their elimination) is done through chains of biochemical alimentation. Such chains include chemical elements from rocks, soil, air, that and generate anthropology). These are absorbed by plants and animals what at their turn, get into humans through alimentation.

In table 1 there are shown medical- demographical characteristics (morbidity) which associates with specific geochemical indexes.

Geoecological researches (Gutuleac, 1995; Bacauanu et al., 1980; Ditoiu V. Holban, 2005) and medical-ecological researches (Gutuleac V., 2009; Gutuleac et al., 2003, 2008); using plurifactorial analysis, helped us determine each type of disease based on landscape units, considering environmental factors (composition of major elements and trace elements, conditions of acid base and reducing oxidant environment, degree of pollution and self- purification etc.).

It has been revealed that the percentage of population illness from rural areas is bigger in case of landscapes belonging to the geochemical group of

calcium Ca (steppe with hay) and reduced in case of acid group landscapes (forest steppe, deciduous and mixed forests).

Table 1. Symptoms and characters of diseases that associate to deficit or excess of some metal ions (Firench, 1973; Lucasov, 1980; Gutuleac, 1995).

Symptoms and characters of disease	Pb	Hg	Cd	F	As	Zn	Cu	Se	Tl	Co	Cr	Ni	Fe
Abortions	x			x									
Abdominal pain	x	x		x	x								
Balding	x	x		x	x				x				
Anemia	x	x		x	x	x				x			x
Loss of appetite	x	x			x								
Arthritis				x									
Addison disease					x			x					
Malignant neofomation	x				x						x	x	
Cirrhosis							x						
Slow plaque characterization						x							
Dental caries				x	x			x			x	x	
Skin inflammation		x											
Fatigue	x	x											
Hair damage	x												
Headache	x	x	x	x	x								
Affecting spleen, liver						x							
Impaired sexual glands						x							
Myocarditis										x		x	
Muscle damage	x												
Nausea and pouring	x	x	x		x		x				x	x	
Kidney	x	x	x	x									
Osteomyelitis			x										
Neuritis	x				x								
Increased Erythrocyte											x		
Lung damage		x	x	x		x	x				x	x	
Nasal inflammation										x	x		
Salivary elimination		x											
Skeletal deformation			x	x									
Thirst		x											
Thyroid disease										x			
Palpitations (shivering)		x			x								
Dizziness								x					
Weight loss	x	x			x								

Medical-geographical comparison analysis of Suceava district (Romania) and of regions from border zone of Chernivtsy region (Ukraine) show non-essential differences in the level of population death rate of those territories app. 1,5-2% (figure 1).

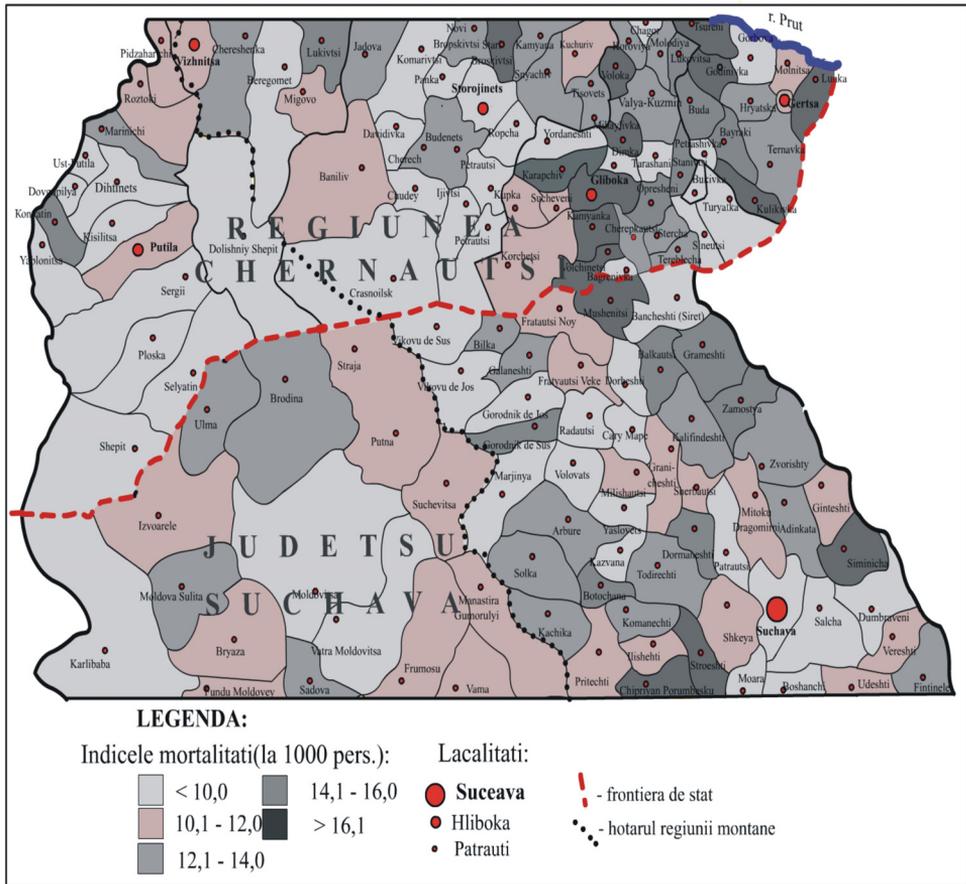


Fig. 1. Mortality index in Bucovina.

Based on combined analysis of technogene pollution indexes (Kc), and ecological danger (In) (Gutuleac, 1995) with index of population health (Bn-intense index of disease, for 10.000 population) is estimated the medical-ecological state of the territories.

As a result, the relation between environment factors and medical-demographical situation is highlighted. More pronounced correlation is noticed between ecological danger indexes and cancer pathology indexes ($r= 0.5 - 0.7$), ecologic danger and population mortality (0.6) (table 2).

Table 2. Medical – demographical and ecological indexes correlation (Bucovina territory).

Ecological situation	Concentration index, Kc (plumbum)				Ecological danger index (In)		Radioactive pollution	
	1998		2004		0-59 years	60<y ears	0-59 years	60<y ears
Morbidity and mortality	30-59 yrs	60<yr s	30-59 yrs	60<yr s				
Correlation coefficient								
Cardio-vascular	0.23	0.43	0	0.55	0.01	0.65	0.17	0.34
cancer	0.29	0.38	0.18	0.53	0.57	0.05	-0.06	0.12
respiratory	0.09	0.08	0.24	0.14	0.05	-0.25	0.08	0.07
Other causes	0.23	0.41	0.05	0.33	0.38	0.32	-0.03	0.22
mortality	0.36	0.51	0.14	0.58	0.44	0.54	0.06	0.34

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