

EPIDEMIOLOGICAL CHARACTERISTICS OF INFANT MORTALITY IN ROMANIA

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Abstract: Epidemiology is the medical science that deals with the study of distribution and determinants of health related states or events in certain populations, applying the results of this study in controlling health problems. The epidemiological process is the sum of the mechanisms by which a communicable, non-assignable, social disease spreads among the population. The onset, evolution and extinction process is due to the existing links which lack influence, impede or limit the progress of epidemiology. I revealed the epidemiological relevant causes, characteristics, intervention strategies, health care services based on the notion of the risk of infant mortality.

Keywords: a multitude of causes of infant mortality, favouring causes of infant mortality, infant mortality risk

Rezumat: Epidemiologia este știința medicală care se ocupă cu studiul distribuției și determinanților stărilor sau evenimentelor legate de sănătate în anumite populații, cu aplicarea rezultatelor acestui studiu în controlul problemelor de sănătate. Procesul epidemiologic este suma mecanismelor prin care o boală transmisibilă, netransmisibilă, socială se raspândește în rândul populației. Debutul, evoluția cât și stingerea procesului se datorează unor verigi existente a căror lipsă influențează, împiedică sau limitează derularea procesului epidemiologic. Am relevat din punct de vedere epidemiologic cauzele, caracteristicile, strategiile de intervenție, îngrijirile de sănătate fondate pe noțiunea de risc ale mortalității infantile.

Cuvinte cheie: o multitudine de cauze ale mortalității infantile; cauze favorizante ale mortalității infantile, riscul în mortalitatea infantilă.

INTRODUCTION

The main causes of infant death in Romania are:

- respiratory diseases
- perinatal causes
- congenital malformations
- infectious-parasitary diseases
- digestive diseases
- accidents

Deaths under 1 year of age are favoured by prematurity, protein-caloric malnutrition and by the economic and cultural factors.

INTERVENTION STRATEGIES

The intervention strategies in the health protection field should take into account the fact that the mortality and morbidity methods that condition these strategies are different according to age.

Starting from this principle, in case of the age group between 0-1 year old, the main health problem is represented by the post-neonatal mortality. It is or not necessary to confound the risk of neonatal death, which is obviously higher than the post-neonatal one, with the rate of post-neonatal mortality. Intervention strategies should be complementary and the maximum impact of the control actions on infant mortality will be held by those aiming at the age group between 1-11 months. The level of the post-neonatal infant mortality can be influenced through:

- the development of the family planning programmes in order to reduced the undesired children
- selective health care services awarded to the pregnant women in order to limit the action of the maternal factors
- pre and post-natal health care services awarded with priority to the normal and dystrophic children
- natural nourishment promotion regarding infants
- providing dietetic products for the normal and dystrophic children
- surveillance of the accomplishment of the immunization national programme
- proper equipment of the intensive care departments

As the mothers and children represent “endangered” populational groups, they need more medical services. Regarding the intervention methods that allow the use of available resources as efficiently as possible, the intervention strategies based on the risk notion represent the type of strategy and found rapidly applicability in the field of maternal-infant protection field.

THE METHOD OF MATERNAL AND INFANT HEALTH CARE BASED ON THE RISK NOTION

This method represents the result of the efforts that were made in order to establish new methods with a view to improve the maternal and infant health services.

It is a method for the identification of the groups (pregnant women, new-born) exposed to high risks of

disease/death, with a view take decisions regarding the allocation of the available resources.

The general principle (the main objective): to provide the best services for all services, but favouring those who need it more). This means that it is necessary to provide all the essential medical care services, but assigning with priority the existing resources to those who need them more. In fact, this method is an active social and sanitary policy of intervention based on the real data regarding the diseases risks (death), costs, resources, the efficacy of the different measures taken.

It is also called the "strategy of the high risks" because the method intervenes rarely in favour of the entire vulnerable population, addressing the risk groups who require special care.

In the field of the maternal and infant health, the general objectives of this method are:

- the establishment of a practical method of assessing the risks individual are exposed to (children, mothers) and the groups of individuals
- taken into account these risks and the existing resources, the launch of a local strategy of intervention can be accomplished
- checking the efficacy (assessment) of these strategies

Stages of the method

1. Defining the effect (effects) that require the intervention (disease, death, invalidity etc.)

Once this established, the following are necessary:

- to measure and describe the effect (effects) and to establish the priorities. In this stage, we have to take into account a series of other criteria:
 - frequency
 - gravity
 - importance for the society
 - intervention possibilities (prevention and treatment)
 - cost
 - foreseen advantages
- in the establishment of the risk factor, there are two ways:
 - to choose a risk factor associated to many epidemiological variables
 - to draw up a list of risk factors that seem to influence the health of the mothers and children

In this stage, the following information is needed:

- demographic statistics
 - cultural traditions and customs
 - environment hygiene
 - health services
2. Identifying the risk factors that are accomplished through: the measurement of the characteristics of mothers, children, environment that are related to death or through the use of results, conclusions which already exist.

The following risk factors are to be mentioned:

- those who have a large prevalence in the population
 - risks that can be attributed to the large populations
 - those risks for which intervention measures exist
3. The elaboration of a mark awarding system that will

allow the classification of individuals (mothers, children) or of the groups of individuals in different risk categories, the highest marks corresponding to the highest risk. The simplest method is the empirical assignment of a number of points to each characteristic. A more precise method, but which requires preliminary studies consists in assigning points for each risk factor based on the measurement of the real risks within the targeted group.

The most precise method would be the assignment of marks according to the combination of the risk factor which play a part in the occurrence of the effect (variant analysis).

Irrespective of the chosen mark system, it is important to mention that any notation is useful only to the extent in which it has a large predictive value and is valid. So, the testing the validity of the notation system and of prediction is needed.

Sensitivity will show to what extent the individuals exposed to risks after the notation system remain exposed to risks.

Positive predictive value – proportion of deaths among the subjects exposed to risk.

Negative predictive value – survivors proportion among the subjects who are not exposed to risks.

Advantages of the method

- compels the medical personnel to a thorough, individual investigation through anamnesis, clinical, paraclinical examination.
- selects with high precision the subjects exposed to risks, who need most the protection and medical assistance differently.
- masters the prevalence of the risk factors in the population and in the risk population, which represent the information necessary to the planning of the health resources.
- represents a data bank for long term prospective exhaustive research longitudinally.
- allows the extension of research over mortality between 1-4 as well.

Limits of the method

- the assessment of the risk through the score will be accomplished with a loss of medical information;
- the method involve a very good professional training;
- the method efficacy depends on the personnel interests;
- this method is suited to be confounded with a statistical method (medical personnel prejudices regarding this type of approach)
- specialist physicians' restrain regarding this method, which brings about its limitation in the sector of the primary services.
- the method involves a large working volume for data processing.

GENERAL CONSIDERATION ON INFANT MORTALITY IN 2005 IN ROMANIA IN COMPARISON WITH THE EUROPEAN COUNTRIES

The rate of infant mortality in nine East

European countries and in the Commonwealth of the Independent States, among which Romania, as well is much higher than the official figures reveal, as it is mentioned in a report published by U.N. Fund for the children (UNICEF). The countries criticized by UNICEF for the accomplished statistics are: Armenia, Republic of Azerbaijan, Georgia, Republic of Kazakhstan, Romania, Republic of Tajikistan, Turkmenistan and Uzbekistan. The amplitude of the different constants between the official figures and the real ones ranges between almost 50% in case of Romania and Uzbekistan to fourfold in case of Azerbaijan – 74 dead children at 1000 births, as against the real figures – 17/1000 – as the study of the social monitor reveals (2003), accomplished by the Innocenti Research Centre.

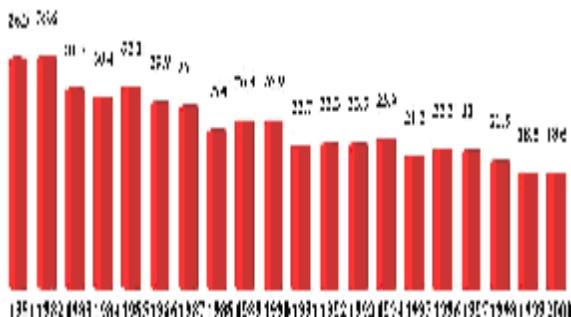
The report also reveals the fact that in the ex-communist countries in Caucasus and Central Asia, infant mortality is 12 times higher than that of the industrialized occidental countries.

The executive manager of UNICEF, Carol Bellamy, said that “such statistics which lack in accuracy and that mislead, may feed an attitude of self-contentment, maintaining among the governments and the medical staff, the unawareness of the infant mortality risk and of the need to react, keeping the parents and the community leaders in the dark.

We went beyond the official statistics and we spoke to mothers in their rooms and their statements revealed a “crisis of the infant survival”, as the UNICEF manager mentioned. According to the report, the fault for this gap between the real and the official statistics is due to the inadaptation of the international standards of defying the viable births, the partial registration of births at local level and the obstacles encountered when registering the births.

The social monitor is a regional annual report which examines the situation of the children within the countries in transition of the Central and Eastern Europe and of CIS. Those twenty-seven countries included in the social monitor are: Albania, Armenia, Azerbaijan, Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, Estonia, Russian Federation, Georgia, Kazakhstan, Kyrgyzstan, Leetonia, Lithuania, Macedonia, Moldavia, Montenegro, Poland, Serbia, Romania, Slovakia, Slovenia, Turkmenistan, Tajikistan, Ukraine and Uzbekistan.

Picture no. 1. Infant mortality in Romania



Picture no. 2. Infant mortality per environments and age groups between 1993 - 2003

- la 1000 născuți vii -

Anul	Mortalitatea infantilă		Grupuri de vârstă			
	sub o lună		pesta o lună		pesta o lună	
	Urban	Rural	Urban	Rural	Urban	Rural
1993	19,7	26,3	5,2	3,0	10,1	17,2
1994	20,1	27,2	5,1	3,0	10,7	18,0
1995	18,2	23,8	5,0	2,8	8,7	14,4
1996	15,5	20,6	4,7	2,3	6,8	12,0
1997	16,5	22,0	4,8	2,5	8,1	12,5
1998	16,7	23,0	4,8	2,7	7,7	12,3
1999	14,9	21,1	4,3	2,6	6,6	12,0
2000	16,1	20,8	4,1	2,2	7,0	11,2
2001	15,6	20,8	3,0	2,0	6,8	11,4
2002	14,1	18,3	3,0	1,6	5,3	11,2
2003	13,7	16,4	2,3	1,2	5,4	10,2

SURSA: I.N.S. și C.S.S.D.M.

Picture no. 3. Infant mortality taking into account the main causes of death between 1993 - 2003

- la 1000 născuți vii -

Anul	Boaf ap. resp.	Infecții bacteriene	Anomalii congenitale	Sindr. alcoolice	Boaf ap. Digestiv	Alte cauze
1993	6,8	5,2	3,9	1,1	1,0	1,0
1994	8,7	5,1	3,9	1,4	1,3	1,1
1995	7,8	4,1	3,8	1,0	0,7	1,0
1996	8,3	4,9	4,1	1,2	0,9	1,1
1997	7,8	4,3	4,0	1,1	0,8	1,1
1998	6,6	4,2	4,2	1,0	0,5	1,2
1999	8,3	5,3	3,2	1,0	0,8	1,1
2000	5,7	4,2	3,5	1,0	0,8	0,8
2001	5,4	4,0	3,9	1,0	0,5	1,0
2002	5,4	3,9	4,1	1,0	0,3	1,0
2003	4,8	3,9	4,0	1,0	0,2	1,0

SURSA: I.N.S. și C.S.S.D.M.

Picture no. 4. Infant mortality indices and structure of deaths taking into account the main reasons of death in 2002 and 2003

CAUZE DE DECESE	DECESE SUB UN AN			
	la 1000 născuți vii în 2002	la 1000 născuți vii în 2003	la 1000 născuți vii în 2002	la 1000 născuți vii în 2003
TOATE	17,3	16,7	100,0	100,0
Boaf ap. respirabile	5,9	4,9	34,1	28,9
Infecții bacteriene	5,0	4,4	28,9	26,4
Anomalii congenitale	4,1	4,3	23,6	25,9
Boaf ap. digestive	3,6	3,9	20,8	23,6
Boaf ap. hepatice	8,5	11,2	49,1	67,2
Accidente	8,7	10,8	50,3	64,8
Alte cauze	1,0	0,2	5,8	1,2

SURSA: I.N.S. și C.S.S.D.M.

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