

## HEALTH STATUS OF THE SIBIU COUNTY POPULATION BETWEEN 2008-2009

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**Cuvinte cheie:** stare de sanatate, indicatori dinamici, medie nationala, populatie judetul Sibiu

**Rezumat:** Lucrarea de față continuă seria studiilor monografice începută în urmă cu 11 ani. Aspectele stării de sănătate evidențiate la nivelul județului și a comunităților, exprimate prin indicatori specifici, reprezintă rezultatul concret al procesului de monitorizare și evaluare a fenomenelor înregistrate. Fenomenele înregistrate în decada 1999-2009 vor fi folosite în analiza longitudinală pe care ne propunem să o realizăm în următorii ani, în scopul depistării tendințelor reale ale principalelor aspecte ale stării de sănătate a populației județului Sibiu. Cunoașterea acestor tendințe furnizează argumente științifice pentru orientarea acțiunilor preventive, în vederea reducerii deceselor premature, a promovării calității vieții prin corectarea condițiilor de viață defavorabile sănătății și a creșterii speranței de viață și în special a speranței de viață în condiții de sănătate. Studiul își propune monitorizarea dinamică a principalelor indicatori ai stării de sănătate la nivelul jud. Sibiu, în vederea identificării și ierarhizării problemelor specifice de sănătate, a stabilirii nevoilor și alocării resurselor. Cercetarea s-a realizat prin metoda descriptivă (anchetă longitudinală retrospectivă), în perioada 1.01.2009-1.09.2011. Materialul de studiu este reprezentat de populația jud. Sibiu având 423606 locuitori în anul 2008; respectiv 425134 locuitori în anul 2009; sex ratio: 0,94 și distribuția populației pe medii de rezidență urban/rural: 67%/33% nu prezintă diferențe statistice în intervalul de studiu. Au fost luate în studiu date statistice referitoare la aspecte demografice și de morbiditate, precum și unii indicatori de efect în relația cu mediul. Rezultatele au fost evaluate comparativ cu nivelele medii naționale. Indicele brut al natalității în jud. Sibiu a fost superior celui național în anul 2008 și a înregistrat o ușoară scădere în anul 2009, la o valoare sensibil apropiată de valoarea medie națională. Există o supranatalitate moderată în mediul rural al jud. Sibiu. Rata brută a mortalității la nivelul jud. Sibiu este inferioară mediei naționale și se menține la valori constante. Rata brută a mortalității infantile în jud. Sibiu se menține la valori inferioare celor naționale. Principala cauză a mortalității infantile în jud. Sibiu este reprezentată de bolile aparatului circulator. Mortalitatea prin boli cardiovasculare în jud. Sibiu înregistrează valori inferioare celor naționale, diferență care se accentuează pentru ultimul an de studiu. Mortalitatea prin tumori înregistrează rate inferioare celor naționale pentru perioada de studiu și prezintă variații importante în ceea ce privește repartiția pe localități. Se remarcă o reducere semnificativă a sporului natural la nivelul întregului județ în ultimul an de studiu, valorile fiind însă superioare mediei naționale. Incidența specifică pe 16 grupe de boli identifică pentru primele ranguri bolile respiratorii, digestive, osteo-musculare și ale sistemului nervos. Principalele boli infecțioase și parazitare care înregistrează valori superioare mediei naționale în intervalul de studiu sunt varicela, hepatitele virale și rubeola. Cele mai înalte valori ale prevalenței bolilor cronice în intervalul de studiu au fost înregistrate pentru următoarele boli: hipertensiunea arterială, cardiopatia ischemică cronică și diabetul zaharat, a căror valori sunt sensibil egale în anii de studiu. Principalii indicatori ai stării de sănătate la nivelul jud. Sibiu caracterizează fenomenul general al tranziției demografice și al tranziției morbidității. Evaluarea comparativă a indicatorilor stării de sănătate la nivel județean și național confirmă o stare de sănătate superioară a populației jud. Sibiu.

**Keywords:** health status, dynamics indicators, national average, population in Sibiu county

**Abstract:** This paper continues the series of monographic studies started 11 years ago. Health issues highlighted in the county and communities, expressed through specific indicators, is the concrete result of the monitoring and evaluation of the phenomena recorded. Phenomena recorded in the decade 1999-2009 will be used in longitudinal analysis that we intend to achieve in the coming years, in order to detect real trends of the main aspects of the health of the population Sibiu. Knowledge of these trends provide scientific evidence to guide preventive actions to reduce premature deaths, promoting quality of life by correcting unfavorable living conditions of health and increased life expectancy and life expectancy, especially in health conditions. The study aims at monitoring the dynamics of the main health indicators of the Sibiu county in identifying and ranking specific health problems, establishing needs and resource allocation. The research was conducted by means of descriptive (retrospective longitudinal survey) from 1.01.2009-1.09.2011. Study material is the population of 423,606 inhabitants with Sibiu county in 2008, respectively 425 134 inhabitants in 2009, sex ratio: 0.94 and population distribution by residential urban / rural: 67% / 33% no statistical differences during the study. Were studied statistics on demographic and morbidity, and

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*some indicators of effect in relation to the environment. The results were benchmarked against the national average levels. Gross index of births in Sibiu County was higher than national in 2008 and decreased slightly in 2009 to a value close to sensitive national average. There is a moderate supra-nativity in the rural county of Sibiu. Gross mortality is less than the national average Sibiu County and is maintained at constant values. Gross rate of infant mortality in Sibiu County remains below the national values. The main cause of infant mortality in Sibiu county is represented by circulatory diseases. Cardiovascular disease mortality in Sibiu County recorded values below the national difference that is emphasized for the last year of study. Tumor mortality rates below the national record for the period of study and presents significant variations in the distribution of the localities. There is a significant reduction in the natural growth in the entire county in the last year of study, but the higher the national average. The incidence of specific diseases identified 16 groups for the first ranks respiratory diseases, digestive, osteo-muscular and nervous system. The main infectious and parasitic diseases that record high national average values during the study are chickenpox, hepatitis and rubella. The highest values of prevalence of chronic disease during the study were recorded for the following diseases: hypertension, chronic ischemic heart disease and diabetes, whose values are substantially equal to years of study. The main health indicators of the general phenomenon characterized Sibiu County demographic transition and the transition morbidity. Comparative assessment of health indicators at county and national health confirms a high population of Sibiu County.*

### INTRODUCTION

This paper presents partial results of the monographical studies started 11 years ago, focused on the health status of Sibiu county population. The study aimed to identify the main health phenomena within Sibiu county and its communities (towns, villages). The material can be a reference in order to set objectives and activities of other health programs conducted at local or national level. At the same time, the material contributes to the expansion and diversification of the main means of disseminating statistical information that characterizes the operational health.

### THE AIM OF STUDY

The study aimed a dynamic surveillance of the main health indicators at county level comparatively to the mean values at national level, in order to identify and rank the specific health problems, set necessities and allocate resources.

### MATERIAL AND METHODS

The research was conducted through a retrospective longitudinal investigation. The study period was 01.01.2008-31.12.2009. There were analyzed the main demographic and clinical indicators, accordingly to available data: gender, age group, residence environment, place of domicile, birth rate, mortality, morbidity. The main sources of information were represented by: The Department of Public Health of Sibiu County, The Statistical Department of Sibiu County, The National Center for Organization and Providing Informational System Bucharest. The study material is the stable population of Sibiu County, with the following demographic characteristics during the mentioned period: number 423,606 inhabitants in 2008, 425,134 inhabitants in 2009; sex ratio: 0.94, without statistical variations; area of residence urban/rural: 67%/ 33%, without statistical variations.

### RESULTS AND DISCUSSIONS

If in 2008 the gross birth index in Sibiu County was higher than the national average (12.4‰ in Sibiu County, 10.3‰ at national level), in 2009, the birth index in county Sibiu and national level overlap (10.0‰ in Sibiu County, 10.4‰ at national level). In terms of distribution of gross birth rate in towns, we identify a constant profile for the study period, characterized by high values for the places situated in central and southwestern of the county corresponding to the quarter IV (15.4 to 27.0% a population in 2008 and from 12.7 to 21.9% a population in 2009) and low values for localities on the eastern and western borders of the county (2.6 to 10.7% a population in 2008, and 3,1 to 8.6% a population in 2009). Overall, there is a

tendency to decrease the birth rate in the entire county. There is a moderate raise of the birth rate in rural (14.48% a population in 2008 and 11.78% are inhabitants in 2009) rather than in urban (11.46% a population in 2008 and 9.15% a population in 2009). Mortality index remained constant in Sibiu County and is lower than the national average during the study period (10.79‰). National mortality in the Sibiu County correspond to quartile I (6.4 to 10.2‰ in 2008, from 6 to 8.6‰ in 2009), among the 10 counties that recorded the lowest values of the indicator. Infant mortality rate in Sibiu County remains lower than the national mean value (9.29‰ in Sibiu County, 11‰ of at national level in 2008, respectively 6.34‰ in Sibiu County, 10, 1‰ of at national level in 2009). The main causes of infant mortality in Sibiu County are: the circulatory diseases (36.7%) tumors (20.4%) and respiratory diseases (8.1%) in 2008, respectively the respiratory diseases (41%), perinatal conditions (26%) and congenital malformations (19%) in 2009. The distribution by gender of the infant mortality shows a more pronounced male over mortality for the last year of study period (male 53%, female 47% in 2008 and 81% male, 19% female in 2009). The gross mortality rate through places of domicile recorded significant variations during the study period, emphasizing important values in western and south-east areas of Sibiu County, suitable to quarter IV (12.70 to 20.38% in 2008, respectively 12.53 to 34.57% in 2009). Specific mortality by gender shows a male supra-mortality a lower value in the last year of study (9.77% in 2008, 9.38% in 2009 in women, respectively 11.9% in 2008, 10.9% in 2009 in men). In terms of cardiovascular disease mortality rate, Sibiu County recorded values below the national values. This value ranges Sibiu County between the 10 counties classified in quartile I (520.3 to 641.1‰ in 2008 and 524.1-671.8‰ in 2009). The cardiovascular disease mortality is in a slight decrease in last year of study (637.9% in 2008, 601.2% in 2009) compared with the national trend of slight increase of the index.

In terms of distribution by place I of the cardiovascular mortality, there is a growing number of towns included in quartile IV (865.4 to 1502.1% in 2008 and 809.68 to 4207.9% in 2009). At the same time there is a tendency of reducing the number of places included in quartile I (190.3 to 486.5% in 2008, 0 to 473.4% in 2009.) quartiles II and III remain constant. The mortality by tumors maintains a relatively constant level, corresponding to quarter III (209.6 to 233.1% in 2008, 220.6 to 239.2% in 2009), below the national rate for the period of study (in 2008, 216.6%, in 2009, 220.7% population). The distribution tumor mortality on places varies greatly within the study. Natural population growth rate is decreasing in Sibiu County, being positive in 2008 (1.6‰ and negative in 2009 (-

0.1‰). Natural growth index remains high but the national average value during the study (-1.5‰ in 2008 and -1.6‰ in 2009). In localities of central and south-western area we recorded the highest positive values of the natural growth, corresponding to quarter IV (5.96 to 19.75‰ in 2008 and 3.84 to 14.02‰ in 2009). There is a significant reduction in the natural growth in the entire county in the last year of study. The index of natural growth in the Sibiu County remains relatively constant during the study, within the quartile IV (-0.1 to 2.9‰ for 2008 respectively -0.4 to 1.9‰ in 2009). The specific incidence in Sibiu County in 2009 was 97817.86‰, up from 2008 when it had a value of 96897.82‰. The incidence of specific diseases identified 16 groups of the first rank values that exceed the national average for the period of study for: respiratory diseases (48009.94‰ in 2008 and 50727.54‰ in 2009), digestive diseases (7671.52‰ in 2008 and 7707.22‰ in 2009), osteo-muscular diseases (6795.47‰ in 2008 and 6739.05‰ in 2009) and nervous system conditions (6413.27‰ in 2008 and 7003.44‰ in 2009).

In terms of the incidence of infectious and parasitic diseases, in 2008, Sibiu County recorded higher values than the national mean for chickenpox (335.5‰, respectively 231.6‰), viral hepatitis other than A and B (39.4‰, compared to 22.5‰), hepatitis type A (34.0‰, 14.7‰), rubella (23.6‰, compared to 8.1‰), scarlet fever (20.1‰, 14.4‰). Values below the national average were recorded for tuberculosis (18.6‰, respectively 87.3‰), hepatitis B (3.1‰, compared to 3.4‰) and syphilis (6.1‰, compared to 18.7‰). In 2009, the county values above the national average were registered for viral hepatitis (63.3‰, compared to 21.6‰), hepatitis type A (19.5‰, compared to 15.2‰), NANB hepatitis (43‰, compared with 2.8‰) scarlet fever (34.6‰, compared to 10.1‰), syphilis (18.3‰, 15.1‰ inhabitants). The highest values of prevalence of chronic disease during the study were recorded for the following diseases: blood hypertension (12489.4‰ in 2008 and 12897.8‰ in 2009), chronic ischemic heart disease (7176.2‰ in 2008 and 7335.8‰ in 2009) and diabetes (3665.9‰ in 2008, 3943.5‰ in 2009), values that are fairly similar in the period of study.

### CONCLUSIONS

1. Gross index of births in Sibiu County was higher than national in 2008 and decreased slightly in 2009 to a value sensitive close to national average
2. There is a moderate overnatality in the rural of Sibiu County.
3. Gross rate of infant mortality in Sibiu County remains below the national values. The main cause of infant mortality in Sibiu county is represented by circulatory diseases.
4. Gross mortality is less than national average Sibiu County and is maintained at constant values.
5. Cardiovascular disease mortality in Sibiu County recorded values below the national mean that is obvious for the last year of study.
6. Tumor mortality rates are below the national average and shows significant variations in the distribution over the county.
7. There is a significant reduction in the natural growth in the entire county in the last year of study, with higher values than the national average.
8. The incidence of specific diseases identified 16 groups for the first rank: respiratory diseases, digestive, osteo-muscular and nervous system diseases. The main infectious

and parasitic diseases that record high national average values during the study are chickenpox, hepatitis and rubella.

The highest values of prevalence of chronic disease during the study were recorded for the following diseases: blood hypertension, diabetes and chronic ischemic heart disease, whose values are substantially equal to years of study. The main health indicators in the Sibiu County general characterize the phenomenon of demographic transition and transition of morbidity. Comparative assessment of health indicators at county and national level confirms a high population health status in Sibiu County.

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