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*Foodborne infections and intoxications in the Lublin voivodeship
in the years 1980-2000 in comparison with their prevalence
in the Polish population*

Foodborne intoxication is an acute infectious disease caused by ingestion of food contaminated with microorganisms or their toxins. Clinically foodborne intoxication is manifested by acute gastroenteritis (10). According to causing factors, foodborne intoxications are divided into: 1) Bacterial intoxications; 2) Intoxications caused by mushrooms; 3) Chemical intoxications; 4) Viral intoxications.

Foodborne intoxications occur in every part of the world. Comparison of incidence in different countries is problematical due to diverse systems of notification and registration of these infections (6). Moreover, some of the patients do not attend doctors when the course of intoxication is mild. The disease is the biggest problem in underdeveloped countries characterized by bad sanitary situation, however it is present also in well-developed countries (10). Only in the United States of America there are registered about 3 million cases of foodborne intoxications annually and the cost of their treatment reaches 17 billion dollars every year (1).

The aim of the paper is presentation of foodborne infections and intoxications registered in the Lublin voivodeship in comparison with their nationwide prevalence in the years 1980-2000.

MATERIAL AND METHODS . .

The analysed material comprised epidemiological data concerning the incidence rates of foodborne infections and intoxications registered in Poland in the years 1980-2000. The data come from health service units in the Lublin voivodeship and the whole country that are published by the State Hygiene Office in the form of "Reports on incidence of infectious diseases, intoxications and hospital infections". There were analysed the inci-

dence rates of foodborne infections and intoxications, of which those caused by salmonellos of animal source (including mushroom and chemical intoxication), registered in the Lublin voivodeship and in Poland in the years 1980-1996 in accordance with the "International Statistical Classification of Diseases and Related Health Problems (IX Revision)" as well as incidence rates of bacterial foodborne infections and intoxications (salmonellos of animal source, staphylococcal, botulism, others and those caused by undetermined agents), mushroom intoxications and other intoxications (chemical) in accordance with the "International Statistical Classification of Diseases and Related Health Problems (X Revision)" in both populations in the years 1997-2000.

RESULTS

The gathered data concerning the incidence rates of foodborne infections and intoxications, of which those caused by *Salmonellas* of animal source, in the years 1980-1996 are presented in Table 1. Table 2 contains incidence rates of bacterial foodborne

Table 1. Foodborne infections and intoxications of which those caused by *Salmonellas* of animal source in Lublin voivodeship and Poland in years 1980-1996.

Incidence rates per 100 thousand population. Numbers in accordance with ICD-9

Year	Foodborne infections and intoxications (005; 003; 988; 989)		of which those caused by <i>Salmonellas</i> of animal source (003)	
	Lublin voivodeship	Poland	Lublin voivodeship	Poland
1980	7.4	23.5	2.6	14.1
1981	28.7	34.1	22.2	21.0
1982	18.0	30.5	14.0	17.9
1983	33.1	29.7	12.2	17.3
1984	95.8	45.5	57.5	32.3
1985	75.1	60.9	57.5	46.2
1986	32.7	78.6	22.2	60.0
1986	53.3	85.7	31.7	70.7
1987	86.2	108.2	61.0	93.2
1988	136.6	93.0	125.4	81.5
1989	173.3	86.7	143.9	74.7
1990	110.8	89.2	59.8	81.4
1991	105.1	73.7	95.0	64.0
1992	75.6	59.4	70.1	50.0
1993	107.2	102.8	96.4	94.1
1994	122.5	89.2	114.5	77.8
1995	80.2	75.9	78.2	67.5
1996	80.2	78.2	75.9	67.5

Table 2. Bacterial foodborne infections and intoxications of which those caused by *Salmonellas* of animal source, mushroom intoxications and other intoxications (chemical) in Lublin voivodeship and Poland in years 1997-2000.

Incidence rates per 100 thousand population. Numbers in accordance with ICD-10

Year	Bacterial foodborne infections and intoxications (A02; A05)		of which caused by <i>Salmonellas</i> of animal source (A02)		Mushroom intoxications (T62)		Other intoxications (chemical) (T36-T60; T63-T65)	
	Lublin voivodeship	Poland	Lublin voivodeship	Poland	Lublin voivodeship	Poland	Lublin voivodeship	Poland
1997	70.5	72.20	67.60	59.90	0.58	0.48	35.49	22.54
1998	106.4	78.92	102.40	68.99	0.58	0.60	42.59	21.49
1999	107.7	70.09	99.33	60.46	0.44	0.38	35.66	19.19
2000	105.3	69.02	99.06	58.77	0.76	0.80	44.02	21.41

infections and intoxications, of which those caused by *Salmonellas* of animal source, mushroom intoxications and other intoxications (chemical) in the years 1997-2000 in accordance with the "International Statistical Classification of Diseases and Related Health Problems (X Revision)". The epidemiological trends in incidence are presented in Figs. 1 and 2, respectively.

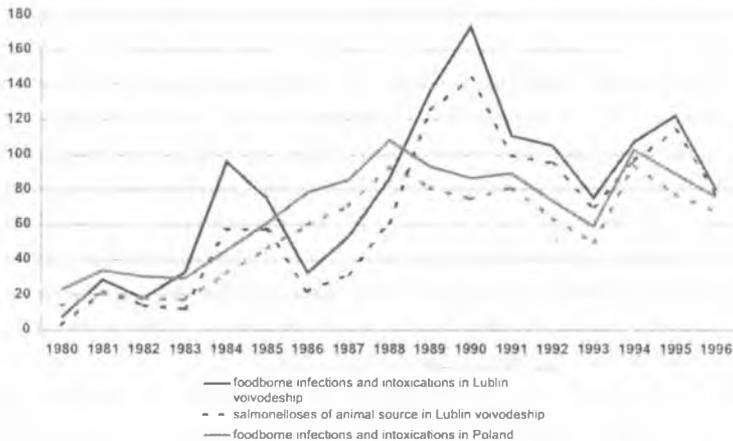


Fig. 1. Foodborne infections and intoxications of which those caused by *Salmonellas* of animal source in the Lublin voivodeship and Poland in the years 1980-1996

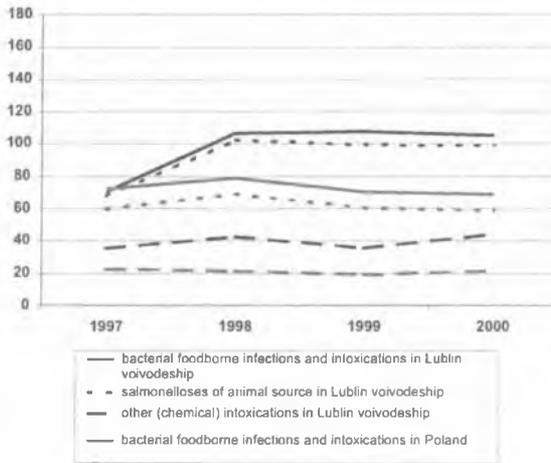


Fig. 2. Bacterial foodborne infections and intoxications caused by *Salmonellas* of animal source and other (chemical) intoxications in the Lublin voivodeship and Poland in the years 1997-2000

DISCUSSION

On the basis of the analysis of epidemiological situation of foodborne infections in the Lublin voivodeship there is observed a huge increase in incidence beginning after the year 1980 (2). In the studied period there appeared three distinctly increasing trends in incidence with maximum values of rates in the years 1984, 1990 and 1995 (2). In the Polish population there occurred an increasing trend in incidence of foodborne intoxications as well, starting in 1980 with maximum intensity of incidence in 1988 and again in 1994 (8). Incidence rates rose four- and fivefold during the period. After 1998 there are observed features of stabilisation of the trends of incidence in both populations (7). The observed increase in incidence rates in the Lublin voivodeship is due to enlargement of the territory of the voivodeship due to administrative reform. However, in many years of the analysed period the incidence rates of foodborne intoxications in the Lublin voivodeship exceed that of the whole country (5).

Although at the beginning of the studied period *Salmonellas* comprised only a small proportion of etiological factors of foodborne infections and intoxications in Poland, in the following years the percentage was between 70% and 95% (3, 4). In both analysed populations epidemiological trends of foodborne infections correspond with these of *Salmonella* etiology. It is the increase in incidence rates of intoxications caused by *Salmonella* strains that produced total rise in incidence rates from foodborne infections. The reasons of the phenomenon can be the decline of the sanitary situation of animal breeding, mainly poultry and spreading of *Salmonellas* among them. Surveillance of quality and distribution of food of animal origin weakened. There deteriorated the hygiene of transport, processing and distribution of such food and there occurred the increase in number

of cases of foodborne infections and intoxications in canteens, cafeterias and fast food restaurants (4). Then again since the beginning of the 1990s there prevail intoxications caused by dishes prepared and consumed in households (7).

Poland belongs to the countries characterized by one of the highest incidence rates in Europe, although similar values are reported in Germany (9). Nevertheless the increase in number of cases of foodborne infections and intoxications caused by *Salmonellas* was registered in all European countries during the 1980s.

CONCLUSIONS

In the studied period in the Lublin voivodeship and throughout Poland there occurred a huge increase in incidence of foodborne infections and intoxications. Significant development in epidemics caused by *Salmonella* strains to the greatest extent influenced the increase in total number of cases of foodborne infections and intoxications. The epidemics was caused by deterioration of sanitary situation of the country, hygiene of the society and decline in quality of food of animal origin. The epidemiological situation of the disease in the Lublin voievodship is worse than nationwide average.

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2001.12.05

SUMMARY

The aim of the paper is presentation of foodborne infections and intoxications registered in the Lublin voivodeship in comparison with their nationwide prevalence in the whole country in the years 1980-2000. The analysed material comprised incidence rates of foodborne infections and intoxications, of which those caused by *Salmonellas* of animal source, registered in Poland and in the Lublin voivodeship in the studied years. In the analysed period in the Lublin voivodeship and throughout Poland there occurred a huge increase in incidence of foodborne infections and intoxications. The epidemics caused by *Salmonella* strains to the greatest extent influenced the increase in total number of cases of the disease, caused by deterioration in sanitary situation of the country, hygiene of the society and decline in quality of food of animal origin. The epidemiological situation of the disease in the Lublin voievodship is worse than nationwide average.

Zatrucia pokarmowe w województwie lubelskim w latach 1980-2000 w porównaniu z ich występowaniem w populacji ogólnopolskiej

Celem pracy jest przedstawienie sytuacji epidemiologicznej zatruc pokarmowych w województwie lubelskim w latach 1980-2000 w porównaniu z ich występowaniem w populacji ogólnopolskiej. Materiał obejmował dane dotyczące wskaźników zapadalności na zatrucia pokarmowe, w tym wywołane przez pałeczki *Salmonella* pochodzenia zwierzęcego, zarejestrowane w Polsce i w województwie lubelskim w analizowanym okresie. Zauważa się, że na terenie województwa lubelskiego, jak i w całej Polsce, doszło do wzrostu zapadalności na zatrucia pokarmowe. Nastąpił ogromny rozwój epidemii bakterii z rodzaju *Salmonella*, który w największym stopniu wpłynął na zwiększenie się ogólnej liczby zatruc pokarmowych. Spowodowane to zostało pogorszeniem się sytuacji sanitarnej kraju, obniżeniem się poziomu higieny w społeczeństwie oraz niską jakością żywności pochodzenia zwierzęcego. Sytuacja epidemiologiczna zatruc pokarmowych w województwie lubelskim jest gorsza niż średnia ogólnopolska.