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INFECTIOUS DISEASES IN POLAND IN 2011

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ABSTRACT

The aim of the study was assessment of the epidemiological situation of infectious and parasitic diseases in Poland in 2011

MATERIALS AND METHODS. The main source of data to develop the statistical overview was the annual bulletin "Infectious diseases in Poland in 2011," and "Vaccinations in Poland in 2011," / NIPH-NIH, CSI, 2011 and information contained in the articles of epidemiological journal in which authors depth discussion of the epidemiological situation of 27 diseases or groups of diseases. Data on deaths are based on the statements of the Department of the Central Statistical Office of Demographic Studies.

RESULTS. Upper respiratory tract infection classified as "influenza and influenza-like illness" in 2011, were reported in a total number of 1,156,357 cases, which was an 108.0% increase of incidence as compared with 2010. and in relation to the median of the years 2005 - 2009 of 205.9%.

In 2011, food infections dominated among the bacterial infections caused by *Salmonella*, with the continuing decline of incidence and fraction of salmonellosis among other etiologies. Among the diseases that can be prevented by vaccination it was reported 30.7% increase in the incidence of pertussis. In relation to the median of the years 2005-2009 is a decrease of 16.9%. A downward trend in the incidence of mumps was maintained. As compared to 2010, the incidence decreased by 7.0%. When compared to the median of the years 2005 to 2009 the decline was 38.3%.

In relation to the median of the years 2005-2009 there have been a decrease of the number of rubella cases by 67.7% and there have been no reported cases of congenital rubella. A further decline in the incidence of invasive disease caused by *H. influenzae* was observed. The incidence of tuberculosis in 2011 increased as compared to the previous year from 19.7 to 22/100,000 in respect to all forms of tuberculosis, and pulmonary tuberculosis from 18.3 to 20.5 / 100,000.

The number of newly diagnosed HIV-infected persons also increased. In 2011 it was reported 1,105 cases (2.87 / 100,000), compared with the previous year, an increase of 14.8%.

In 2011, there were reported 221 cases (0.57 / 100,000) of tick-borne encephalitis, i.e. by 25.5% less than in the previous year, the incidence of viral meningitis decreased by 11.8%.

In 2011, there were no cases of especially dangerous infectious diseases: plague, anthrax, diphtheria, polio, rabies and viral hemorrhagic fevers besides dengue, of which 5 cases acquired in endemic areas were reported to the epidemiological surveillance.

Due to infectious and parasitic diseases in 2011, died in Poland 3,408 people total. The share of deaths from these causes in the total number of deaths was 0.91%, and the mortality rate - 8.8 per 100,000 population, 52.0% of all deaths were due to sepsis.

Keywords: *infectious diseases, epidemiology, public health, Poland 2011*

INTRODUCTION

In 2011, which was the third year after implementation of the Act of December 5, 2008 on the Prevention and Control of Infections and Infectious Diseases in humans. (Journal of Laws No. 234, item. 1570, with amendments), regulations under the Act related to the epidemiological surveillance have still not been implemented. This deprived the health inspection of the basic tools for enforcement of the obligation to report infectious diseases and it possibly affected the number of registered cases.

THE PURPOSE OF THE STUDY

The purpose of the study was assessment of the epidemiological situation of infectious diseases on the basis of the results of the by epidemiological surveillance in Poland in 2011 as compared to 2010 and the years 2005 to 2009.

MATERIALS AND METHODS

The main source of data to develop the statistical overview was the annual bulletin "Infectious diseases in Poland in 2011," and "Vaccinations in Poland in 2011," / NIPH-NIH, CSI, 2011 and information contained in the articles of epidemiological journal in which authors depth discussion of the epidemiological situation of 27 diseases or groups of diseases.

Data on deaths from infectious and parasitic diseases are based on the statements of the Department for Demographic Research CSO registered in 2011 and selected earlier years.

RESULTS AND DISCUSSION

Table I. Infectious diseases in Poland 2005-2011. Number of cases, incidence per 100,000 population and the number of deaths, the statement includes figures for the diseases subject to notifications under surveillance.

Infections of the upper respiratory tract. In 2011, 1,156,357 reported cases of upper respiratory tract infections were classified as "influenza and influenza-like illness", compared with 2010, an increase of incidence was 108.0% and in relation to the median of the years 2005 to 2009 it was 205.9%. During the 2010/2011 season 53.3% of 1,224 samples taken during the period from 06.09.2010 to 27.03.2011 were identified as influenza A viruses (H1v), and 37.4% of influenza virus type B. However, among the 175 samples taken during the period from 05.09.2011 to 25.12.2011, so in the beginning of season 2011/12 influenza viruses have not been detected, and only in four cases RSV viruses were detected. Despite a marked increase in the incidence of influenza and other upper respiratory tract infections compared with the previous year, and the median of the years 2005-2009, the flu season in 2011 was not particularly severe.

Foodborne poisonings and infections. In 2011, bacterial foodborne infections, as in recent decades, were dominated by salmonellosis amid persistent downward trend both in terms of incidence and fraction of salmonellosis among other etiologies, particularly viral infections. Most viral infection was caused by rotaviruses. And those affected mostly children. In 2011, there were 30,769 cases of rotavirus infection, an increase of 45.9% over the previous year and 94.0% compared to the median of the years 2005-2009. Rotavirus infections in children are a growing problem that could lead to a partial solution to the wider use of vaccination.

A serious concern is the persistence of high rates of viral diarrhea in children under the age of two, so in the age in which diarrhea can have especially dangerous course leading to severe dehydration. In this age group it were reported a total of 34,318 viral and other gastrointestinal infections, of which 13,068 were classified as unspecified, probably of infectious etiology.

Noroviral infections occurring more frequently in adults are also an important issue. In 2011, there were cases of these infections by 34.5% less than in 2010, but in relation to the median of the years 2005 to 2009 there was an increase of 45.1%. A small percentage of laboratory confirmed diagnoses of diseases in which the primary symptom is diarrhea indicates low sensitivity of the diagnosis of noroviral infection and it is highly probable that there are many more than have been notified under surveillance. The same problem applies to a range of bacterial infections, such as campylobacteriosis, which in Poland is recognized much less frequently than salmonellosis, while in European countries is reported approximately 2-fold higher.

In 2011, there were reported only 17 cases of bacterial dysentery.

238 cases of yersiniosis were reported, and among them only few were serious. At the moment, it is not a major epidemiological problem, but this is one of the diseases where numbers of reported cases systematicaly increase.

Important etiologic agent of infections of the digestive system which is *E. coli* was not recorded more frequently than in previous years. Very serious epidemic caused by verocytotoxic strain in Germany did not spread in Poland, beyond sporadic cases.

Table I. Infectious diseases in Poland 2005-2011. Number of cases. incidence per 100.000 population and number of deaths the statement includes figures for the diseases subject to notification under surveillance

Disease		Categories of International Classification of Diseases (ICD-10)	Median in years 2005-2009			2010			2011		
			number of cases	incidence*	number of deaths**	number of cases	incidence*	number of deaths**	number of cases	incidence*	number of deaths**
1		2	3	4	5	6	7	8	9	10	11
Cholera UE		A00	0	0	0	0	0	0	0	0	0
Typhoid fever UE		A01.0	3	0.008	0	0	0	0	2	0.005	0
Paratyphoid fevers A. B. C UE		A01.1-A01.3	2	0.005	0	6	0.016	0	2	0.005	0
Salmonella infections	total	A02	11 704	30.7	6	9 732	25.5	4	8 813	22.9	3
	foodborne intoxication UE	A02.0	11 568	30.3	2	9 549	25.0	2	8 652	22.5	1
	parenteral infections	A02.1-A02.9	136	0.36	3	183	0.48	2	161	0.42	2
Shigellosis UE		A03	35	0.09	0	30	0.08	0	17	0.04	0
Other bacterial intestinal infections	total	A04	6 595	17.3	8	6 388	16.7	57	6 539	17.0	75
	enteropathogenic. enterotoxigenic. enteroinvasive *E. coli*	A04.0-A04.2	1 191	3.12	0	794	2.08	0	650	1.69	0
	enterohaemorrhagic *E. coli* UE	A04.3	4	0.010	0	4	0.010	0	5	0.013	0
	other intestinal *E. coli*	A04.4	771	2.02	0	999	2.62	0	860	2.23	0
	campylobacteriosis	A04.5	192	0.50	0	375	0.98	0	354	0.92	0
	yersiniosis UE	A04.6	182	0.48	0	206	0.54	0	238	0.62	0
	other specified and unspecified	A04.7-A04.9	4 078	10.7	8	4 010	10.5	57	4 432	11.5	75
Other bacterial intestinal infections in children under 2 years		A04	2 846	369.9	0	2 609	313.0	2	2 160	263.0	1
Other bacterial foodborne intoxications	total	A05	3 681	9.7	4	1 915	5.0	0	2 195	5.7	0
	staphylococcal	A05.0	407	1.07	0	217	0.57	0	283	0.73	0
	botulism UE	A05.1	46	0.12	1	32	0.08	0	35	0.09	0
	Clostridium perfringens	A05.2	4	0.010	1	8	0.021	0	24	0.062	0
	other specified	A05.3-A05.8	142	0.37	0	32	0.08	0	53	0.14	0
	unspecified	A05.9	3 096	8.1	3	1 626	4.3	0	1 800	4.7	0
Other bacterial foodborne intoxications in children under 2 years		A05	112	15.5	1	101	12.1	0	112	13.6	0
Giardiasis [lambliasis] UE		A07.1	3 011	7.9	0	2 350	6.2	0	1 736	4.5	0
Cryptosporidiosis UE		A07.2	0	0	0	0	0	0	1	0.003	0
Viral and other specific intestinal infections	total	A08	21 759	57.1	2	32 723	85.7	3	44 906	116.6	4
	rotaviruses	A08.0	15 702	41.2	0	20 902	54.7	1	30 769	79.9	2
	noroviruses	A08.1	956	2.5	0	2 121	5.6	0	1 402	3.6	0
	other specified and unspecified	A08.2-A08.5	5 606	14.7	2	9 700	25.4	2	12 735	33.1	2
Viral and other specific intestinal infections in children under 2 years		A08	10 226	1384.5	0	15 853	1901.7	0	21 250	2587.8	1
Diarrhoea in children under 2 years. NOS. presumed of infectious origin		A09	9 610	1289.1	1	11 581	1389.2	1	13 068	1591.4	1
Tuberculosis UE. 1)	total	A15-A19	8 593	22.5	744	7 509	19.7	568	8 478	22.0	640
	respiratory	A15-A16; A19	7 884	20.7	730	6 992	18.3	552	7 879	20.5	617

1		2	3	4	5	6	7	8	9	10	11
Plague [UE]		A20	0	0	0	0	0	0	0	0	0
Tularaemia [UE]		A21	3	0.008	0	4	0.010	0	6	0.016	0
Anthrax [UE]		A22	0	0	0	0	0	0	0	0	0
Brucellosis (new cases) [UE]		A23	3	0.008	0	0	0	0	0	0	0
Leptospirosis [UE]		A27	6	0.016	1	4	0.010	0	4	0.010	1
Listeriosis [UE]		A32; P37.2	33	0.09	3	64	0.17	1	64	0.17	4
Tetanus [UE]		A33-A35	19	0.05	8	16	0.04	5	14	0.04	5
Diphtheria [UE]		A36	0	0	0	0	0	0	0	0	0
Whooping cough [UE]		A37	1 987	5.2	0	1 266	3.3	0	1 669	4.3	0
Scarlet fever		A38	10 740	28.2	0	13 940	36.5	0	18 267	47.4	0
Meningococcal disease [UE]	total	A39	296	0.78	18	229	0.60	14	296	0.77	16
	meningitis and / or encephalitis	A39.0; A39.8/G05.0	190	0.50	2	146	0.38	2	193	0.50	0
	sepsis	A39.1-A39.4	190	0.50	14	154	0.40	11	192	0.50	15
Erysipelas		A46; O86.8	4 805	12.6	12	3 146	8.2	14	3 425	8.9	11
Legionellosis [UE]		A48.1-A48.2	21	0.06	0	36	0.09	1	18	0.05	0
Syphilis (total) [UE. 2)]		A50-A53	929	2.44	2	932	2.44	2	955	2.48	3
Gonorrhoea [UE. 2)]		A54	395	1.00	0	301	0.79	0	298	0.77	0
Other sexual transmitted diseases caused by Chlamydia [UE. 2)]		A56	695	1.82	0	539	1.41	0	319	0.83	0
Lyme disease		A69.2	7 735	20.3	3	9 003	23.6	3	9 170	23.8	1
Ornithosis		A70	1	0.003	0	0	0	0	0	0	0
Q fever [UE]		A78	5	0.013	0	0	0	0	0	0	0
Typhus fever. spotted fever and other rickettsioses		A75; A77; A79	0	0	0	0	0	0	2	0.005	0
Acute poliomyelitis [UE]	acute paralytic poliomyelitis. wild virus	A80.1; A80.2; A80.4	0	0	0	0	0	0	0	0	0
	acute paralytic poliomyelitis. vaccine-associated (VAPP. cVDPV)	A80.0; A80.3-9	0	0	0	1	0.003	0	0	0	0
Spongiform encephalopathy	Creutzfeldt-Jakob disease (CJD)	A81.0	12	0.03	14	18	0.05	21	21	0.05	21
	variant Creutzfeldt-Jakob disease (vCJD) [UE]	A81.0	0	0	0	0	0	0	0	0	0
Rabies [UE]		A82	0	0	0	0	0	0	0	0	0
Viral encephalitis	total	A83-A86; G05.1	514	1.35	19	452	1.18	12	399	1.04	11
	tick-borne viral encephalitis	A84	233	0.61	2	294	0.77	2	221	0.57	1
	other specified	A83; A85; B00.4; B02.0	42	0.11	4	34	0.09	3	37	0.10	1
	unspecified	A86	173	0.45	13	124	0.32	7	141	0.37	10
Viral meningitis	total	A87; G02.0	1 077	2.82	4	1 167	3.06	5	1 039	2.70	5
	enteroviral	A87.0	35	0.09	0	37	0.10	0	23	0.06	2
	other specified and unspecified	A87.1-A87.9; B00.3; B02.1	1 042	2.73	4	1 130	2.96	5	1 016	2.64	3
Dengue fever [UE]		A90-A91	2	0.005	0	6	0.016	0	5	0.013	0

1			2	3	4	5	6	7	8	9	10	11
Yellow fever UE			A95	0	0	0	0	0	0	0	0	0
Lassa fever UE			A96.2	0	0	0	0	0	0	0	0	0
Crimean-Congo haemorrhagic fever UE			A98.0	0	0	0	0	0	0	0	0	0
Disease caused by Marburg or Ebola virus UE			A98.3; A98.4	0	0	0	0	0	0	0	0	0
Varicella			B01	141 349	370.7	2	183 446	480.4	1	172 855	448.7	0
Measles UE			B05	100	0.26	0	13	0.03	0	38	0.10	0
Rubella UE	total		B06; P35.0	13 146	34.5	0	4 197	11.0	0	4 290	11.1	0
	congenital rubella		P35.0	1	0.24	0	1	0.24	0	0	0	0
Viral hepatitis	total		B15-B19	4 233	11.1	229	3 921	10.3	226	3 822	9.9	259
	type A UE		B15	109	0.29	0	155	0.41	0	65	0.17	0
	type B UE. 3)		B16; B18.0-B18.1	1 475	3.9	72	1 633	4.3	47	1 583	4.1	49
	type C /case definition from 2005/ UE. 3		B17.1; B18.2	2 753	7.2	132	2 111	5.5	163	2 151	5.6	194
	other specified and unspecified		B17.0; B17.2-B17.8; B18.8-B18.9; B19	70	0.18	23	60	0.16	16	53	0.14	16
AIDS UE. 4)			B20-B24	152	0.40	121	173	0.45	132	175	0.45	131
Newly diagnosed HIV infections UE. 4)			Z21	809	2.12	x	954	2.50	x	1 105	2.87	x
Mumps UE			B26	4 147	10.9	0	2 754	7.2	0	2 585	6.7	0
Malaria UE			B50-B54; P37.3-P37.4	20	0.05	1	35	0.09	0	14	0.04	0
Echinococcosis UE			B67	34	0.09	2	36	0.09	2	21	0.05	1
Trichinellosis UE			B75	70	0.18	0	51	0.13	0	23	0.06	0
Streptococcus pneumoniae infection UE	total		B95.3/ other	271	0.71	.	364	0.95	.	430	1.12	.
	meningitis and / or encephalitis		B95.3/ G04.2; G00.1	151	0.40	7	180	0.47	12	192	0.50	15
	sepsis		A40.3	91	0.24	1	171	0.45	5	188	0.49	6
	other specified and unspecified		B95.3/ other; J13	64	0.17	9	64	0.17	9	123	0.32	20
Haemophilus influenzae type B disease UE	total		B96.3/ other; A41.3	43	0.11	.	25	0.07	.	31	0.08	.
	meningitis and / or encephalitis		B96.3/ G04.2; G00.0	35	0.09	2	11	0.03	4	11	0.03	2
	sepsis		A41.3	15	0.04	1	16	0.042	0	14	0.036	2
Bacterial meningitis and / or encephalitis		other specified	G00.2-G00.8; G04.2	161	0.42	9	148	0.39	10	139	0.36	19
		unspecified	G00.9; G04.2	467	1.23	74	361	0.95	61	353	0.92	77
Meningitis other and unspecified			G03	319	0.84	38	506	1.33	37	493	1.28	41
Encephalitis other and unspecified			G04.8-G04.9	91	0.24	70	92	0.24	55	96	0.25	48
Influenza UE and influenza-like illness			J10; J11	374 042	981.3	18	551 054	1 443.0	28	1 156 357	3 001.5	95
Congenital toxoplasmosis UE			P37.1	8	1.93	2	7	1.69	3	4	1.03	1
Persons bitten by animals suspected of having rabies or contamination of saliva of these animals after which it was taken vaccination against rabies				7 102	18.6	.	7 524	19.7	.	7 842	20.4	.

* incidence. respectively per 100 000 population total. children under 2 years and live births (congenital disease); ** number of deaths according to data from the Demographic Surveys and Labour Market Department-CSO; EU - disease under European Union surveillance ; 1) data from Institute of Tuberculosis and Lung Diseases; 2) data from Centre for Health Information Systems (CSIOZ); 3) number of cases and incidence total (including mixed infections with HBV + HCV); 4) data from Department of Epidemiology. NIPH -NIH by date of diagnosis of infection / disease

Diseases that can be prevented by vaccination, included in the program of mandatory vaccination (PSO). The surveillance of this group of diseases is particularly important because the data on the incidence of these diseases have a direct impact on vaccination policy. In the group of diseases that can be prevented by vaccination there was an increase in the incidence of pertussis by 30.7% (1,669 cases reported in 2011, and 1,266 cases in 2010). In relation to the median of 2005-2009, this is a decrease of 16.9%. Annual fluctuations in the incidence of pertussis are relatively large, but so far clear upward trend cannot be found. However, the relatively short period of immune protection provided by the vaccine makes possible that there is a increase of cases among adults, who may have less pronounced symptoms. Adults you can be a source of infection for children who have not been vaccinated.

In 2011 it was observed persistence of the downward trend in the incidence of mumps. Compared to 2010, a decrease in incidence was 7.0%, but in relation to the median of the years 2005 to 2009 the decline was 38.3%. This trend is associated with the introduction in 2003 of universal MMR vaccination. In relation to the median of the years 2005-2009 there have been cases of rubella decrease of 67.7%, but compared with the previous year changes in incidence were minimal (up 1.3%), which is within the margin of error. The 2011 was no case of congenital rubella.

For several years, there were observed cases of measles in different age groups, usually associated with importation to our country. It also involves migration to Poland of people who do not vaccinate their children. At low incidence, even small outbreaks of measles cause significant changes in incidence, indicates the epidemiological problems of access to vaccination of people with certain social or ethnic groups.

In 2011 recorded 38 cases of measles, in 2010 - 13 cases. The increase in incidence as compared with the previous year was 189.7%, but compared with the median of the years 2005 to 2009 there was a decrease in incidence of 62.4%.

In 2011, a further decline in the number of invasive disease caused by *H. influenzae*. Number of reported cases of meningitis and / or encephalitis was similar to the previous year, 11 cases, but the number of cases of sepsis decreased from 16 to 14, resulting in a decrease incidence of 13.3%. In relation to the median of 2005-2009, a decrease in the incidence of meningitis was 68.9%, and sepsis 7.6% . This confirms the effectiveness of the introduction to the calendar in 2007, universal vaccination of children against *Haemophilus influenzae* type b (Hib).

The incidence of disease caused by *Streptococcus pneumoniae* has increased in 2011 compared to 2010 in each category of reporting: meningitis and / or encephalitis, septicemia, and "other and unspecified". In the last category streptococcal pneumonia is included. In total, this represents an increase of 17.1%, with 364 (0.95 / 100,000) to 430 (1.12 / 100,000) reports, however, these figures do not reflect the actual epidemiological situation of *S. pneumoniae* infections, due to a low of low sensitivity of reporting. It is a group of diseases, which often have heavy course and can lead to death. Therefore, the problem of universal vaccination of children against pneumococcal infections continues to be valid and urgent.

In 2011, there were 296 cases of invasive meningococcal disease, which corresponds to the median of the years 2005-2009.

The incidence of tuberculosis in total (all the forms) in 2011 increased compared to the previous year from 19.7 to 22.0 / 100,000, and pulmonary tuberculosis from 18.3 to 20.5 / 100,000. Differences in the incidence of tuberculosis between the provinces are the hallmark of not only the epidemiological situation in the provinces but also the demographic and living conditions of the population. The highest incidence of pulmonary tuberculosis were recorded in the region of Lublin 33.9 / 100,000. As compared to 2010 growth of incidence in this region was 24.6%. In the second consecutive Świętokrzyskie district incidence of tuberculosis was 30.2%, and the increase compared to 2010 was as high as 45.9%. The lowest incidence of tuberculosis was in Wielkopolskie District, where was 11.7 / 100,000.

Other infectious and parasitic diseases. Worrying is the increase in newly diagnosed HIV-infected persons, even though it resulted in part from the actions taken for improvement of the sensitivity of surveillance. In 2011, number of registered cases was 1,105 (2.87 / 100,000), compared with the previous year, an increase was of 14.8%. These data indicate insufficiency of health promotion and lack of adequate opportunities for substitution drug treatment and institutional structures for harm reduction.

Major public health problem is viral hepatitis. Of these, the most serious epidemiological problem causes hepatitis C, against which there is no effective vaccine. In 2011, 2,151 new cases were reported, and the incidence was 5.6 / 100,000, compared to 2010 remains within the limits of error. The reversal of the increasing trend in the incidence of hepatitis C is a phenomenon which gives hope for further improvements related to hygiene and sterilization quality in medical institutions. However, due to the chronic nature of these infections, the number of people infected with the virus increases, presenting a major threat to public health and the growing problem of the treatment of severe complications of the infection. The epidemiological situation

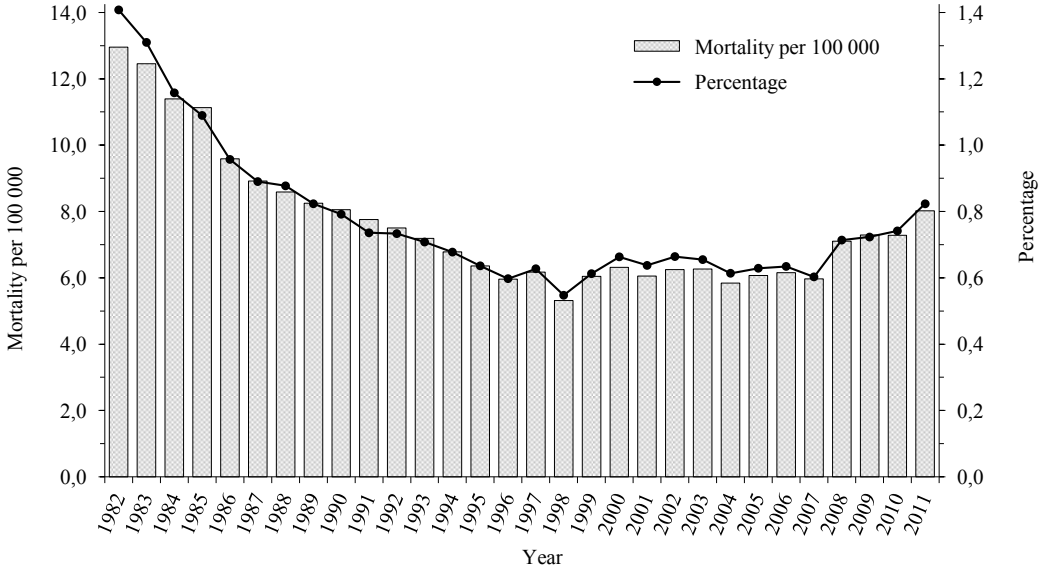

Fig. 1. Infectious diseases mortality per 100,000 population and deaths from infectious diseases as percentage of all deaths by year - Poland 1982-2011

of infections with hepatitis B differs mainly due to the possibility of active immunization.

In 2011, the number of reported cases of hepatitis B was 1,583 (4.1 / 100,000). It was a slight decline in incidence compared with the previous year. The incidence of hepatitis B is very low in children aged 0-14 years. This is due to the mandatory vaccination against the disease. In this age group in 2011, there were only six cases of hepatitis B. The incidence is higher in the city than in rural areas, and both in the city and in the countryside higher in men than in women.

Since many years Poland is a country with very low endemicity of hepatitis A. Every year there is a few, rarely more than a hundred cases (in 2011 there were 65) is usually associated with the arrival of infected persons from abroad and to minor outbreaks.

Lyme boreliosis is an illness whose endemicity is growing in Poland for many years. In 2011, there were 9,170 cases (23.8 / 100,000), as compared to the previous year, there was a marked change, but in relation to the median of the years 2005 to 2009 was the increased incidence of 17.3%.

In recent years, attention is drawn to the increasing incidence of scarlet fever. In 2011, the reported number was 18,267 (47.4 / 100,000), as compared with the previous year, it was an increase of 29.9%, as compared with a median from 2005 to 2009 it was 68.3%. In 2011, there were reported 21 cases of echinococcosis, a rare but very serious parasitic disease.

It were reported 23 cases of trichinosis. Decrease in incidence of 55.3% could result in a better veterinary supervision of meat.

Also recorded 14 cases of malaria in people who have acquired the infection abroad in endemic areas. In 2011, there were 221 cases (0.57 / 100,000) of tick-borne encephalitis. This was a decrease of 25.5% compared to the previous year.

Incidence of viral meningitis declined by 11.8%.

In 2011, there were 37 reported cases of flaccid paralysis in children aged 0-14 years, which gives the incidence of 0.63 / 100,000. Distribution of reports from individual regions is uneven. There were no reports from the three districts: Dolnośląskie, Lubuskie and Opolskie. Only four provinces: Małopolskie, Podlaskie, Warmińsko-Mazurskie and Wielkopolskie, provided the numbers of reports over the expected minimum set by the World Health Organization.

In 2011 and there were no reported cases of especially dangerous infectious diseases: plague, anthrax, diphtheria, polio, rabies and viral haemorrhagic fevers besides dengue, of which 5 cases of infections were acquired in endemic areas.

Deaths and mortality from infectious diseases. According to the data collected by the Department of the Central Statistical Office of Demographic Studies, in 2011 due to infectious and parasitic diseases - including deaths caused by some forms of meningitis and encephalatis and flu (symbols G00-G05 and J10-J11 - International Classification of Diseases) – total of 3,408 died in Poland. The share of deaths from these causes in the total number of 375,501 deaths in Poland in 2011 was 0.91%, and the mortality rate 8.8 per 100,000 population.

Both measures were therefore significantly higher in comparison with recorded in the previous year (respectively 0.80% and 8.0), indicating a continuation of the moderate upward trend in mortality from infectious diseases that occur in Poland since 1998. It should be noted that this trend is continuing, despite the relatively

stable epidemiological situation of the infectious disease in Poland (Fig. 1).

The main factor behind the increase in the fraction of deaths from infectious diseases is increasing from year to year the number of sepsis indicated by doctors as the underlying cause of death. In 2011 were registered 1,773 of such cases (without meningococcal sepsis and without sepsis in neonates) and they were, like the year before, more than half (52.0%) of all deaths due to infectious diseases. It is a phenomenon that may indicate a systematic deterioration of the quality of data on deaths due to infectious diseases, as in the case of deaths associated with sepsis should refer to the initial infection which developed into sepsis.

Besides sepsis, most deaths from infectious diseases in 2011 led to tuberculosis and its long-term effects: 649 deaths, including 3 deaths of children: one at 1 and one at 3 years of age and one in the age group 5-9 years, 19.0% of all deaths due to infectious diseases. Viral hepatitis of all types, including the late consequences of hepatitis – lead to 262 deaths, 7.7%. Bacterial meningitis and / or encephalitis caused 133, 3.9%. AIDS caused 130 deaths, 3.8% and influenza 95, 2.8%. Including sepsis, these diseases were the cause of nearly 90% of all deaths due to infectious diseases.

In certain regions the share of deaths from infectious diseases in the total number of deaths ranged from 0.52% in the Świętokrzyskie District and 0.59% in the Wielkopolskie to 1.15% in the Zachodniopomorskie and 1.51% in Pomorskie, and mortality from infectious diseases - from 5.2 per 100,000 population in the Wielkopolska and 5.6 in Świętokrzyskie to 11.4 in Mazowieckie and 12.8 Pomorskie. Territorial differentiation of mortality was in 2011, relatively small, and the ratio of the highest - in the scale of provinces - mortality rate to the lowest ratio was 2.5:1.

As in previous years, clearly differentiating factors of mortality from infectious diseases were gender and location (environment) of residence. In 2011, the share of infectious and parasitic diseases in the causes of male deaths (0.98% mortality of 10.5 / 100,000) was significantly higher than the share of these diseases, causes of death in women (respectively 0.82% and 7.3), and the mortality rate for men was higher than the mortality rate of women by 42.5%. Particular attention was drawn two-, three- fold differences to the disadvantage of men reported in the age group of 25-29 years to 65-69 years.

In the cities of infectious and parasitic diseases in 2011 were a cause of 1.03% of deaths, while in the country - 0.72%. Overall mortality from infectious diseases in urban areas (9.9 / 100,000) was higher than the mortality rate in rural areas (7.2) by 38.9%. Higher mortality from infectious diseases in the cities was reported almost exclusively among the adult population, aged 30 years and above. Among children and adolescents, only in the age group 5-9 years mortality in urban areas (0.8) was higher than in rural areas (0.5).

Most deaths from infectious diseases was noted among the elderly (modal for 75-79 years old) and the highest mortality from these diseases - among the oldest people over the age of 84 years (73.6 / 100,000). It should be noted that in the oldest age group, i.e. older than 84 years, the proportion of deaths attributed to sepsis was high and they were up 69.9% of all deaths due to infectious diseases. The largest percentage of infectious diseases were, however, in the overall mortality rate of children and young people under the age of 14 and adults aged 30 to 44 years (Fig. 2). In the group of children aged 0-4 years, this share was 3.6%, including infants -

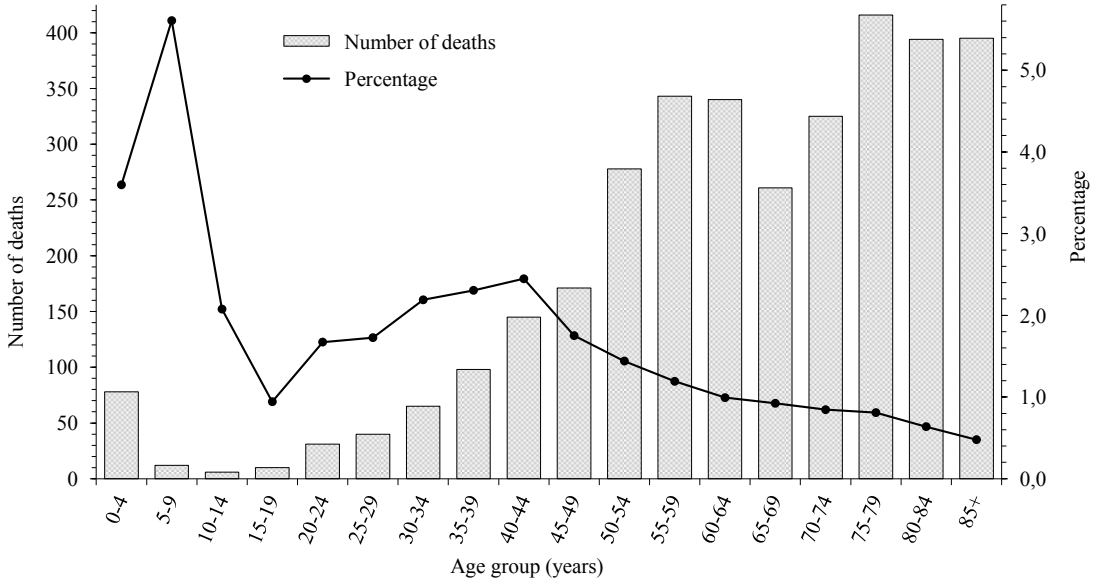

Fig. 2. Number of deaths and deaths from infectious diseases as percentage of all deaths by age group - Poland 2011

2.4% (11.1 deaths / 100,000) in pediatric patients 2 years of age - 11.8%, in the three years of age - 13.3%, at 4 years of age - 9.3% and 5 years of age - 3.6%), while in the group of children aged 5-9 years - 5.6%, and 10-14 years of age - 2.1%. The causes of adult deaths in the age group of 30-34 years, the proportion of deaths due to infectious diseases was 2.2%, in the group of 35-39 years - 2.3% in the group of 40-44 years - 2.4%.

SUMMARY AND CONCLUSIONS

The epidemiological situation of infectious diseases in 2011 did not differ significantly from that of the previous year. There was a continuation of the trend of the previous years in terms of diseases that can be prevented by vaccination. Also, trends in the incidence of food poisoning and infections, in reducing the incidence of bacterial disease with an increase in the incidence of disease of viral etiology, were reflected in the data reported in 2011.

The basic problem of epidemiological surveillance in Poland remains low percentage of laboratory, especially microbiological confirmation of diagnosis. Contrary to the recommendations of the ECDC and the general trends in the European Union confirmed diagnosis rate in Poland remains at very low levels.

The continuing high level of vaccination achieved in respect of the mandatory vaccination. percentage of people using the recommended vaccination remains abnormally low.

Received: 23.04.2013
Accepted for publication: 29.04.2013

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