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CHICKENPOX IN POLAND IN 2011

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ABSTRACT

INTRODUCTION. A number of chickenpox cases which occur in children indicate the rationality of the use of preventive vaccination. In Poland since 2002, chickenpox vaccination is recommended.

AIM OF THE STUDY. The aim of this study was to assess the epidemiological situation of chickenpox in Poland in 2011 and to compare with the situation in the previous years.

MATERIALS AND METHODS. Assessment of the epidemiological situation chickenpox in 2011 in Poland was based on analysis of the data published in the annual bulletins: "Infectious diseases and poisonings in Poland in 2011." and "Immunization Safety in Poland in 2011 (Czarkowski MP. Et al., Warsaw, NIPH-NIH, GIS). In addition, on data from the "Immunization Program for 2011" (Annex to the Statement of the Chief Sanitary Inspector on Oct. 28, 2010).

RESULTS. In 2011. 172 855 registered cases of chickenpox were registered in Poland in 2011. Incidence was 448.7/100. It was lower than in 2010. (480.4/100,000). Highest incidence was in Mazowieckie, the lowest in Podlaskie. Across the age groups the highest incidence (3708.7/100,000) was reported in age group 5-9. The incidence of chickenpox in men (472.3/100,000) was higher than in women (426.5/100,000). In inhabitants of rural areas it was higher (473.5) than among urban residents (432.7/100,000). Number of hospitalized cases was 1 016. Number of people vaccinated against chickenpox amounted to 38 943 people.

SUMMARY. In 2011 there was small decrease in the incidence of chickenpox. But the rising trend is continuing in Poland since 2004. It can be partly explained by improved surveillance of the disease. Overall high incidence of chickenpox brings problem of widespread vaccination of children.

Keywords: *chickenpox, epidemiology, Poland 2011*

INTRODUCTION

Incidence of chickenpox in children indicates need for preventive vaccination. In Poland since 2002 chickenpox vaccination is recommended, but not included in national program of obligatory vaccinations. Scheme of vaccination against chickenpox include two doses of vaccine.

MATERIALS AND METHODS.

Assessment of the epidemiological situation chickenpox in 2011 in Poland was based on analysis of the data published in the annual bulletins: "Infectious diseases and poisonings in Poland in 2011." and "Immunization Safety in Poland in 2011 (Czarkowski MP.

Et al., Warsaw, NIPH-NIH, GIS). In addition, on data from the "Immunization Program for 2011" (Annex to the Statement of the Chief Sanitary Inspector on Oct. 28, 2010).

RESULTS

In 2011 in Poland 172 855 cases of chickenpox were registered. It was 5.8% less than in the previous year. However, in the last decade there is a growing trend of incidence. (Fig. 1.) The incidence of chickenpox in 2011 was 448.7/100,000. It was 6.6% lower compared to 2010. The largest increase in incidence by 35.8% as compared to 2010 was recorded in the Podlaskie, the biggest decrease in Pomorskie -19.4% (Table I). Chickenpox is characterized by seasonality. In 2011, the

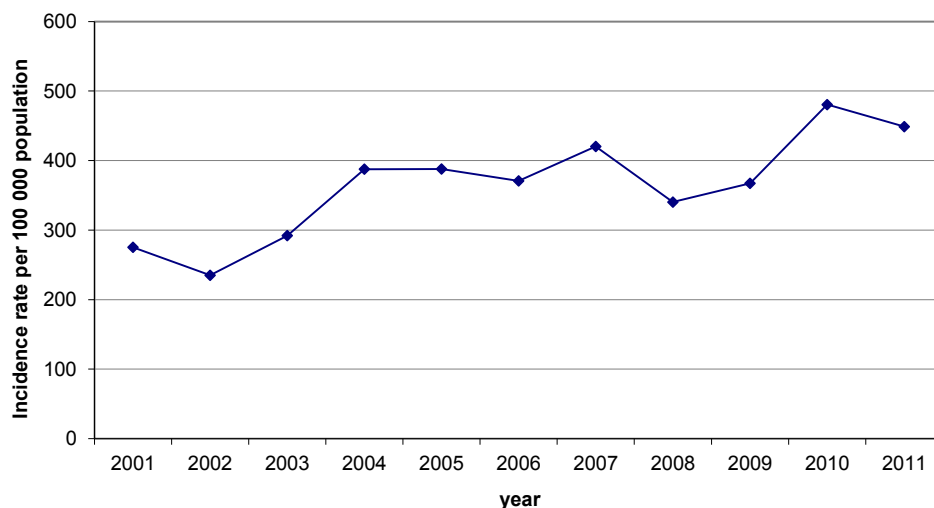


Fig. 1. Chickenpox in Poland in 2001-2011. Incidence per 100,000 population

Table I. Chickenpox in Poland in 2008-2011. Number of cases and incidence per 100,000 population and number of hospitalized by province

Province	2008		2009		2010		2011		Hospitalization	
	number of cases	incidence rate	number of cases	incidence rate	number of cases	incidence rate	number of cases	incidence rate	number of hospitalized	%
POLAND	129 662	340.2	140 115	367.2	183 446	480.4	172 855	448.7	1 016	0.59
1. Dolnoslaskie	8423	292.8	8 847	307.5	13771	478.6	11233	385.2	21	0.19
2. Kujawsko-pomorskie	9641	466.6	9610	464.5	12941	625.3	10363	493.9	90	0.87
3. Lubelskie	6221	287.6	6100	282.4	10214	474	10594	487.1	70	0.66
4. Lubuskie	3562	353.1	5645	559.1	7242	716.5	6244	610.3	14	0.22
5. Lodzkie	6839	268	9123	358.4	8837	348.1	7998	315.2	55	0.69
6. Malopolskie	11223	341.9	10964	333	15162	458.9	14671	439.1	87	0.59
7. Mazowieckie	19413	373.7	16111	309	26582	508	25686	487	146	0.57
8. Opolskie	4490	434	6437	623.8	4321	419.6	5519	543.4	39	0.71
9. Podkarpackie	5439	259.3	5198	247.5	6105	290.3	6848	321.8	83	1.21
10. Podlaskie	3991	334.8	4478	376	3768	316.9	5175	430.5	45	0.87
11. Pomorskie	6293	284.1	7879	354.1	8893	397.8	7304	320.5	79	1.08
12. Slaskie	16119	346.7	20833	448.7	26087	562.4	23499	507.5	70	0.30
13. Swietokrzyskie	6323	496.5	5101	401.3	6455	509	5730	447.6	34	0.59
14. Warminsko-mazurskie	4799	336.4	4147	290.5	7399	518.3	6981	480.4	27	0.39
15. Wielkopolskie	12925	381.1	15534	456.5	19322	565.9	17360	503.2	110	0.63
16. Zachodniopomorskie	3961	234.1	4108	242.6	6347	374.8	7650	444	46	0.60

highest incidence was recorded in December (23 278 cases), the lowest in August and September (2 230 cases) (Fig. 2). Most cases, as in the previous year, recorded in Mazowieckie (25 686), Śląskie (23 499) and Wielkopolskie (17 360), at least in the Podlaskie (5 175), Opolskie (5 519) and Świętokrzyskie (5 730). In 2011, most cases of chickenpox were registered in children and adolescents up to 14 years of age (158 427 cases), which accounted for 91.6% of the total number of registered cases. Most infected children aged 0-4 years (74 349) and 5-9 years (67 176). It was 43.0% and 38.9% of the total number of registered cases. In people over 20 years of age chickenpox accounted for only 5.9% of the total number of cases. The lowest number of cases (60) occurred in people aged over 75 years (2.4/100,000) (Tab.II).

In 2011, the incidence of chickenpox among men was 472.3/100,000. It was 10.7% higher compared to the incidence of women (426.5/100,000). There were no significant differences in incidence between men and women in the age groups. The highest incidence (3 708.7/100,000) was reported in children 5-9 years. Overall incidence in rural areas was 473.5/100,000. It was 9.4% higher than in the urban population (432.7/100,000). The highest incidence was observed in the cities with population of <20 thousand (490.3 per 100 thousand.), whereas in cities > 100 thousand it was (386.1/ 100,000). Among children aged 0-4 years higher incidence was observed in the cities, and in children aged 5-9 years in the rural population. In 2011, number of hospitalizations due to chickenpox was 1 016 representing 0.58% of the total number of registered cases.

Table II. Chickenpox in Poland in 2010-2011. Number of cases, incidence per 100,000 population and percentage in age groups

Age group	2010			2011		
	number of cases	incidence rate	%	number of cases	incidence rate	%
0-4	72834	3675.8	39.70	74349	3597.7	43.01
0	5586	1337.6	3.05	5804	1459.5	3.36
1	9062	2178.3	4.94	9154	2161.5	5.30
2	11307	2822.2	6.16	12324	2847.6	7.13
3	21511	5664.6	11.73	22090	5280.4	12.78
4	25368	6904.3	13.83	24977	6334.5	14.45
5-9	76651	4298.4	41.78	67176	3708.7	38.86
5	23863	6669.1	13.01	22501	5967.4	13.02
6	20528	5850.7	11.19	18076	4965.6	10.46
7	14018	4007.9	7.64	11551	3253.5	6.68
8	10186	2857.4	5.55	8415	2379.5	4.87
9	8056	2187.1	4.39	6633	1834.7	3.84
10-14	18999	946.00	10.36	16902	863.9	9.78
15-19	4623	186.9	2.52	4261	179.8	2.47
20-29	4350	70.25	2.37	4144	68.45	2.40
30-39	4552	78.30	2.48	4433	73.85	2.56
40 +	1437	8.27	0.78	1590	8.92	0.92
Total	183446	420.20	100,00	172855	448.7	100

Most people were hospitalized in Mazowieckie (146), in Wielkopolskie (110) and in Kujawsko-Pomorskie (90). Least of all were hospitalized in Lubuskie (14) (Tab.I)

Vaccination against chickenpox. In Poland, there are two types of vaccine against chickenpox Monovalent vaccine contains attenuated live strain of varicella-zoster virus and polyvalent vaccine, combined with the measles and mumps and rubella. The use of monovalent vaccine is recommended for 9 months of age, and for post exposure prophylaxis. Polyvalent vaccine is recommended for children from 11 months old to 12 years of age Since 2010. In Poland is recommended two doses system of chickenpox vaccine administration. Vaccination against chickenpox since 2002 belongs to recommended vaccinations. According to the Immunization Program in 2011, chickenpox vaccination is mandatory only for those who are particularly exposed to infec-

tion. This group includes children under 12 years old whose immunity is impaired: HIV-infected, with acute lymphoblastic leukemia in remission and with prior immunosuppressive therapy or chemotherapy. Vaccination against chickenpox is also mandatory for children from the age of 12 who did not have chickenpox and are in household contact with those mentioned above. According to the Immunization Program for the year 2011 for chickenpox vaccination is recommended to those who have not had chickenpox and have not been vaccinated, and women who have not had chickenpox and are planning to become pregnant. In 2011, in Poland, 38 943 persons were vaccinated against chickenpox. It was increase by 23.5% compared to the previous year (31 540). Among persons aged 0-19 years 37360 people were vaccinated, which accounted for 95.9% of all vaccinees. As in the previous year, highest number of vaccinated people was in Mazowieckie (12 204), Dolnośląskie (4 782) and Wielkopolskie (3 200), the smallest in the Świętokrzyskie (382).

SUMMARY AND CONCLUSIONS

In 2011 there was small decrease in the incidence of chickenpox since the previous year. But the rising trend is continuing in Poland since 2004. It can be partly be explained by improved surveillance of the disease. Overall high incidence of chickenpox brings problem of widespread vaccination of children.

Received: 14.01.2013

Accepted for publication: 30.01.2013

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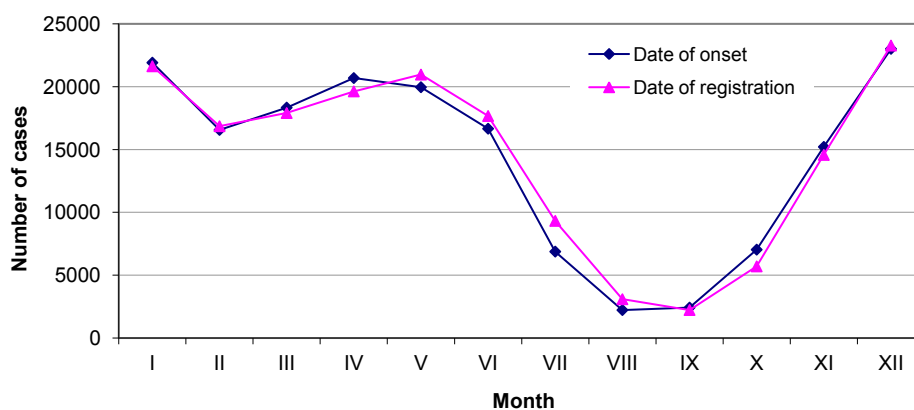


Fig. 2. Chickenpox in Poland in 2011. Number of cases by month