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MUMPS IN POLAND IN 2012

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ABSTRACT

BACKGROUND. Vaccination against mumps, introduced initially as recommended, from 2003 is mandatory in Poland and given as two dose scheme with MMR vaccine (mumps, measles, and rubella). Despite observed decline in mumps incidence for over a decade which is a result of conducted vaccinations, mumps is still a common childhood disease in Poland.

AIM. To assess epidemiological situation of mumps in Poland in 2012, including vaccination coverage in Polish population, in comparison to previous years.

METHODS. The descriptive analysis was based on data retrieved from routine mandatory surveillance system and published in the annual bulletins “Infectious diseases and poisonings in Poland in 2012” and “Vaccinations in Poland in 2012” (Czarkowski MP i in., Warszawa 2013, NIZP-PZH i GIS). Mumps cases were classified according to the criteria of surveillance case definition implemented in the European Union (Commission Decision of 28 April 2008 amending Decision 2002/253/EC). National Immunisation Programme for year 2012 was also used.

RESULTS. In total, there were 2779 mumps cases registered in Poland in 2012. Incidence of mumps was 7.2 per 100,000 and it was higher by 7.5% in comparison with 2011 and lower by 19.4% in comparison to median for the years 2006-2010. The highest incidence rate was observed among children aged 5 years (71.8 per 100,000). Incidence in women (5.9) was lower than in men (8.6). In 2012, 25 people were hospitalized due to mumps. Vaccination coverage of children aged 3 years in Poland in 2012 was 97.9%.

CONCLUSIONS. Systematic execution of mumps vaccination in accordance with the National Immunisation Programme resulted in a significant decrease in the number of registered cases. Due to the high vaccination coverage further decline in the number of cases is expected.

Key words: *mumps, epidemiology Poland, 2012*

INTRODUCTION

Introduction of mandatory vaccination against mumps in Poland in 2003 resulted in a decrease in the number of registered cases. However, more than 2,000 cases of mumps are still reported every year in Poland.

The aim of the study was to assess epidemiological situation of mumps in Poland in 2012, including vaccination coverage in Polish population, compared to previous years.

annual bulletin “Infectious diseases and poisonings in Poland in 2012”. Vaccination coverage was assessed based on data published in the annual bulletin “Vaccinations in Poland in 2012”. Mumps cases were classified according to the criteria of surveillance case definition implemented in the European Union (Commission Decision of 28 April 2008 amending Decision 2002/253/EC). National Immunisation Programme for year 2012 was also used.

RESULTS

MATERIAL AND METHODS

The descriptive analysis of epidemiological situation of mumps was based on data retrieved from routine mandatory surveillance system and published in the

Epidemiological situation of mumps in 2012. In 2012, a total of 2779 mumps cases were registered in Poland. Mumps incidence was 7.2 per 100,000 and was higher by 7.5% compared with the previous year and

Table I. Mumps in Poland in 2006-2012. Number of cases and incidence per 100,000 population and number and percentage of hospitalized cases by voivodship

Voivodship	Median 2006-2010		2011		2012			
	number of cases	incidence per 100 000	number of cases	incidence per 100 000	number of cases	incidence per 100 000	hospitalization number	%
POLAND	3 271	8.6	2 585	6.7	2 779	7.2	25	0.9
1. Dolnośląskie	224	7.8	209	7.2	157	5.4	2	1.3
2. Kujawsko-pomorskie	204	10.1	162	7.7	201	9.6	-	-
3. Lubelskie	157	7.9	141	6.5	165	7.6	6	3.6
4. Lubuskie	115	11.4	108	10.6	78	7.6	-	-
5. Łódzkie	179	7.3	163	6.4	129	5.1	1	0.8
6. Małopolskie	245	7.4	190	5.7	265	7.9	2	0.8
7. Mazowieckie	349	7.0	317	6.0	316	6,0	1	0.3
8. Opolskie	114	11.4	92	9.1	91	9,0	1	1.1
9. Podkarpackie	110	5.2	102	4.8	111	5.2	2	1.8
10. Podlaskie	98	8.2	82	6.8	84	7.0	2	2.4
11. Pomorskie	136	6.2	110	4.8	194	8.5	2	1.0
12. Śląskie	424	9.1	376	8.1	386	8.4	1	0.3
13. Świętokrzyskie	158	12.4	72	5.6	94	7.4	1	1.1
14. Warmińsko-mazurskie	99	6.9	75	5.2	105	7.2	-	-
15. Wielkopolskie	328	10.0	284	8.2	240	6.9	3	1.3
16. Zachodniopomorskie	157	9.3	102	5.9	163	9.5	1	0.6

lower by 19.4% compared with the median for 2006-2010. In 2012, the highest incidence was observed in three voivodeships: Śląskie (386), Mazowieckie (316) and Małopolskie (265), which together accounted for almost 1/3 of the total number of registered cases. The lowest incidence was recorded in lubuskie voivodship (78). The largest increase in the number of cases compared to 2011 was recorded in pomorskie voivodship (by 76.4%), the largest decrease in lubuskie voivodship (by 38.5%) (Table I).

The highest number of mumps cases were recorded in the second quarter of 2012 (787 cases, i.e. 28.3% of all registered cases), the lowest in the third quarter (580 cases, i.e. 20.9% of all registered cases).

It should be noted that observation of the last fifteen years confirms the extension of the epidemic cycle of mumps, and a progressive incidence decrease in all age

groups (Fig. 1). In 2012, as in the previous year, the highest incidence was recorded in children and teenagers aged ≤ 14 years - 2063, i.e. 74.2% of the total number of cases.

Number of cases among children aged 5-9 years was 942, i.e. 36.1% of the total number of cases, incidence 54.5 per 100 thousand. Cases in age groups 0-4 and 10-14 years accounted for 21.1% (587 cases, incidence 28.4 per 100,000.) and 17.0% (472 cases, incidence 24.8), respectively. Of the total the number of registered cases. In those over 44 years of age the incidence was less than 1 per 100,000, and cases in this age group accounted for 4.1% of the total number of cases in 2012 (Tab. II.).

In 2012 there were 1602 cases of mumps recorded among males (8.6 per 100 000), i.e. 36.1% more than in females (1177 cases, 5.9 per 100 000). As in the previous year, most cases of mumps in age group above 40 years were recorded among females.

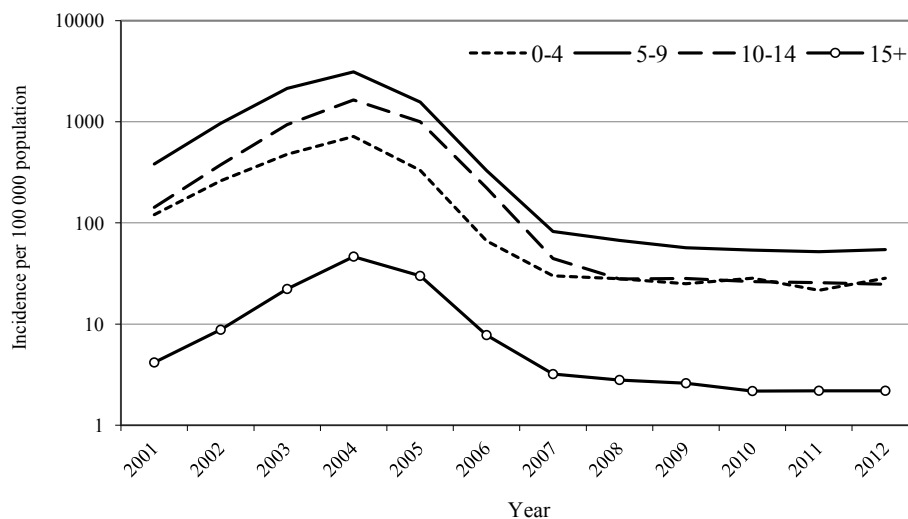


Fig. 1. Mumps in Poland, 2001 - 2012. Incidence per 100,000 population by age group

Table II. Mumps in Poland in 2011-2012. Incidence per 100,000 and percentage in age groups

Age group	2011		2012	
	incidence per 100 000	%	incidence per 100 000	%
0 - 4	21.6	17.3	28.4	21.1
0	4.3	0.7	3.6	0.5
1	12.0	2.0	9.4	1.4
2	17.8	3.0	29.7	4.5
3	29.4	4.8	36.3	5.6
4	45.1	6.9	60.2	9.1
5 - 9	52.0	36.4	54.5	36.1
5	69.7	10.2	71.8	10.2
6	58.5	8.2	65.8	8.9
7	51.0	7.0	47.5	6.2
8	46.9	6.4	46.5	5.9
9	32.9	4.6	38.2	4.9
10 - 14	25.7	19.4	24.8	17.0
15 - 19	11.5	10.6	11.9	9.7
20 - 29	3.5	7.7	3.1	6.6
30 - 39	1.7	3.8	1.8	4.0
40 +	0.7	4.8	0.8	5.5
Total	6.7	100.0	7.2	100.0

In 2012, the incidence of mumps in the cities (6.9 per 100,000) was lower than in rural areas (7.7). The disease predominated in cities with population of $\geq 100,000$ (709 cases, the incidence of 6.5 per 100,000), the lowest number of cases was recorded in the cities with population of 50-99,000 (215, incidence 6.6). Comparing rural area with the cities, incidence by age groups did not significantly differ.

In 2012, 25 people were hospitalized due to mumps, which accounts for 0.93% of all registered cases. The highest number of hospitalized cases due to mumps, i.e. 6, was in lubelskie voivodeship.

Vaccinations against mumps in 2012. In 2003, vaccination against mumps (MMR vaccine against measles,

mumps and rubella) was introduced to National Immunisation Programme as mandatory. Until 2003, vaccination of children against mumps was only recommended. Until the introduction of mandatory vaccination against mumps, temporary increase in incidence occurred every 3-4 years. Now the extension of the epidemic cycle of mumps is observed. According to the current National Immunisation Programme, two doses of mumps vaccine are given: first dose at 2 years of age (13-14 months) and a booster dose at 10 years of age. In 2012, mumps vaccination coverage in children aged 3 years reached 97.9% in the country (Fig. 2). The highest vaccine coverage was recorded in Warmińsko-mazurskie voivodeship (99,7%) and the lowest in Mazowieckie (96,4%) and Małopolskie (97,3%) voivodeships.

Among 2,779 registered in 2012 cases of mumps, 496 (17.8%) were not vaccinated against mumps, 1388 (49.9%) received one dose, and 212 (7.6%) received two doses. In 683 patients (24.6%) vaccination status was unknown.

CONCLUSIONS

There is a decreasing trend in mumps incidence in Poland observed since the introduction of mandatory vaccination against mumps, although the dynamics of this process has slowed down.

Received: 29.04.2014 r.

Accepted for publication: 30.04.2014

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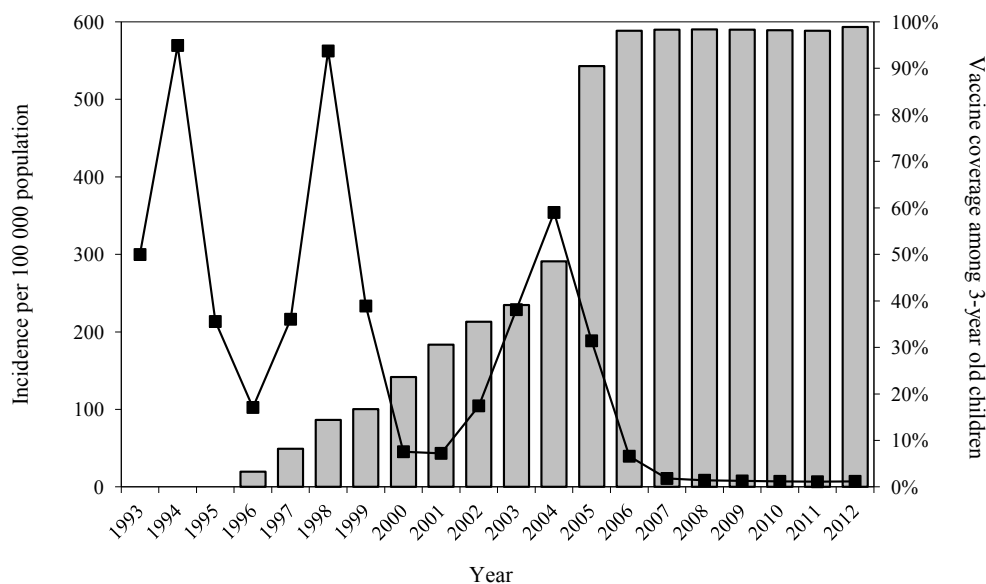


Figure 2. Mumps in Poland in 1993-2012. Incidence per 100,000 population and vaccine coverage among 3-year old children

