

Małgorzata Sadkowska-Todys, Bożena Kucharczyk

CAMPYLOBACTERIOSIS IN POLAND IN 2011

Department of Epidemiology, National Institute of Public Health
National Institute of Hygiene in Warsaw

ABSTRACT

THE AIM OF THE STUDY. To assess the epidemiological situation of campylobacteriosis in Poland in 2011 as compared with the situation in 2010.

MATERIALS AND METHODS. The assessment was based on the results of the analysis of data from the annual bulletin „Infectious diseases and poisonings in Poland”, 2010-2011 (MP Czarkowski et al., NIH and GIS), information from the forms of individual cases and epidemiological investigations forms on outbreaks of campylobacteriosis, which were sent by the Sanitary-Epidemiological Stations to the Department of Epidemiology and data from the Department of Demographic Studies of the Central Statistical Office. All cases were classified according to a surveillance case definition.

RESULTS. In 2011, number of campylobacteriosis cases registered in Poland was 354, the incidence rate was 0.92/ 100,000. All cases were reported as confirmed. No deaths were recorded. More than 61% of reported cases came from two provinces - Śląskie 112 (31%) and Warmińsko-mazurskie 104 (29%). The highest incidence was observed in Warmińsko-Mazurskie (7.16/100,000). Hospitalized were 57.5%. The lowest percentage of hospitalization (31.3%) was in Śląskie. In six provinces all reported cases were hospitalized. *Campylobacter* species was determined in 282 patients (79.7%). It was found that 270 cases were caused by *C. jejuni* and 12 by *C. coli*. The majority of cases (264, 74.6%) occurred in the age group 0 - 4. Among the cases were 217 men and 127 women. In 2011, one family outbreak was caused by *Campylobacter*.

CONCLUSION. In Poland, campylobacteriosis is rarely diagnosed and recorded. Routine diagnosis of infection with *Campylobacter* is done in two provinces only.

Keywords: *campylobacteriosis, epidemiology, Poland, 2011*

THE AIM OF THE STUDY

According to the Act on Prevention and Control of Infections and Infectious Diseases in Humans of 5 December 2008, campylobacteriosis is subject of mandatory surveillance. Number of reported cases is very low and the incidence is approximately 1/100,000. An average in the European Union Countries in 2010 was 56.95 / 100,000. The aim of the study was to assess the epidemiological situation of campylobacteriosis in Poland in 2011 as compared with the previous years.

MATERIALS AND METHODS.

The assessment was based on the results of the analysis of data from the annual bulletin „Infectious diseases and poisonings in Poland”, 2010-2011 (MP Czarkowski et al., NIH and GIS), information from the forms of individual cases and epidemiological investigations forms on outbreaks of campylobacteriosis, which were sent by the Sanitary-Epidemiological Stations to the Department of Epidemiology and data from the Department of Demographic Studies of the Central Statistical Office. All cases were classified according to a surveillance case definition adopted by the European Commission in its decision of 28 April 2008, amending Decision 2002/253/EC and put into routine surveillance in Poland in 2009 .

Table I. Campylobacteriosis in Poland in years 2010-2011. Number of cases and incidence rate per 100,000 population by province

Province	2010								2011							
	No. of cases per quarter				No. of cases	Incidence rate	Hospitalization		No. of cases per quarter				No. of cases	Incidence rate	Hospitalization	
	I	II	III	IV			No. of cases	%	I	II	III	IV			No. of cases	%
Kujawsko-Pomorskie	4	1	1	7	23	0.63	12	92.3	8	3	-	1	23	0.57	10	83.3
Lubelskie	-	-	-	-	-	-	-	-	-	-	-	1	1	0.05	1	100
Lubuskie	6	9	12	7	34	3.36	33	97.1	6	4	5	7	11	2.64	27	100
Małopolskie	6	15	7	13	34	1.24	34.00	90.2	9	6	6	16	37	1.11	33	89.2
Mazowieckie	3	6	5	8	22	0.42	16	72.7	6	8	12	7	33	0.63	24	72.7
Podkarpackie	-	1	-	3	4	0.19	4	100	1	1	1	1	4	0.19	4	100
Podlaskie	-	-	-	-	-	-	-	-	-	-	-	1	1	0.08	1	100
Pomorskie	-	-	-	3	3	0.13	2	66.7	-	-	-	1	1	0.04	1	100
Śląskie	24	46	56	45	171	3.69	71	41.5	15	21	36	40	112	2.42	35	31.3
Świętokrzyskie	-	-	2	-	2	0.16	-	-	-	-	-	-	-	-	-	-
Warmińsko-mazurskie	11	10	33	14	68	4.76	12	17.6	17	39	30	18	104	7.16	50	48.1
Wielkopolskie	10	5	1	1	17	0.50	16	94.1	3	9	6	3	21	0.61	17	81
Zachodniopomorskie	-	-	-	-	-	-	-	-	-	-	-	-	1	0.06	1	100
Total	64	93	117	101	375	0.98	203	54.1	63	92	98	101	354	0.92	204	57.6

Data source: Infections diseases and poisonings in Poland (annual report) NIPH-NIH

RESULTS

In Poland in 2011, there were 354 reported cases of campylobacteriosis, 3 cases less than in 2010. The incidence was 0.92/100,000. All met the criteria of confirmed case. Cases of campylobacteriosis was reported in 13 provinces, with more than 61% of notifications came from two regions - the Śląskie 112 (31%) and Warmińsko-mazurskie 104 (29%). The highest incidence was observed in the Warmińsko-mazurskie - 7.16 per 100 thousand. In Śląskie the majority of cases are reported from two counties (over 81%) of Bielsko-Biala - 52, the incidence 29.79/100,000. and 39, the incidence

of 24.75. In addition, in the district of Bielsko-Biala number and incidence of campylobacteriosis is higher than the number and incidence of salmonellosis (46 cases, the incidence 26,35). Such a situation is typical for the western EU countries.

The percentage of people with campylobacteriosis who were hospitalized in 2011 was 57.6 and it was similar to the previous years. The lowest fraction of hospitalizations was in the regions in which reported the highest incidence, such as Śląskie - 31.3% and Warmińsko-Mazurskie - 48.1%. In the other provinces hospitalization rate was higher than 72% (tab.I). In 2011, there were no deaths, for which the initial cause was *Campylobacter* infection.

Campylobacter species which was etiological agents of the disease was identified in 282 cases (ap-

Table II. Campylobacteriosis in Poland in 2011. The species of *Campylobacter* strains isolated from cases by province

Province	Species of <i>Campylobacter</i>		
	<i>C. jejuni</i>	<i>C. coli</i>	not determined
Kujawsko-Pomorskie	1	-	11
Lubelskie	-	-	1
Lubuskie	9	2	16
Małopolskie	13	3	21
Mazowieckie	23	3	7
Podkarpackie	4	-	-
Podlaskie	1	-	-
Pomorskie	-	-	1
Śląskie	102	2	8
Warmińsko-mazurskie	97	-	7
Wielkopolskie	19	2	-
Zachodniopomorskie	1	-	-
Total	270	12	72

Table III. Campylobacteriosis in Poland in 2011. Number of cases by age and species

age group	Species of <i>Campylobacter</i>			total
	<i>C. jejuni</i>	<i>C. coli</i>	not determined	
0	64	5	27	96
1	71	-	19	90
2	29	2	7	38
3	22	1	3	26
4	9	1	4	14
0-4	195	9	60	264
05-09	26	2	6	34
10-19	4	-	7	11
20-49	15	1	-	16
50-59	4	-	1	5
> 60	13	-	1	14

Table IV. Campylobacteriosis in Poland in 2011. Main symptoms

symptoms	Species of <i>Campylobacter</i>			total
	<i>C. jejuni</i>	<i>C. coli</i>	nieokreślone	
diarrhoea (with blood)	264 (110)	11 (4)	68 (22)	343 (136)
stomach ache	67	3	21	91
vomiting	71	5	30	106
fever	140	9	52	201
other	58	2	14	74

proximately 79.7%). Out of them 270 cases (about 76%) were caused by *C. jejuni* and 12 (3.3%) by *C. coli*. In 72 cases identified *Campylobacter* species was not identified. (Table II).

Most cases of campylobacteriosis (264 cases - more than 74.6%) occurred in children from the age group 0 - 4, most of them in children under one year of age - 96 cases (Table III.). 217 cases occurred among men and 127 among women.

The predominant symptom was diarrhea, which occurred in 343 patients (over 96.8%), including a 136 (approximately 39.6%) with traces of blood in feces. Fever was reported in more than 56.8% of patients (Table IV.).

In 2011, there was one family outbreak of campylobacteriosis that occurred in Śląskie. A total of four people were exposed, three of whom became ill, including one child under one year of age.

SUMMARY AND CONCLUSIONS

- 1 In Poland, campylobacteriosis is very rarely diagnosed. In most provinces only hospitalized cases were reported.
- 2 In 2011 more than 61% of reports came from two provinces Śląskie and Warmińsko-Mazurskie, which indicates that the routine diagnosis of *Campylobacter* infection is conducted only in a few districts in the country.
- 3 The dominant causative species of *Campylobacter* was *C. jejuni*. Diagnosis with accuracy to the species is determined in a prevalent number of cases - in recent years in about 80% of reported cases.

Received: 26.04.2013

Accepted for publication: 30.04.2013

Address for correspondence:

Dr. Małgorzata Sadkowska-Todys

Department of Epidemiology

National Institute of Public Health - National Institute of Hygiene

ul. Chocimska 24, 00-791 Warszawa

mtodys@pzh.gov.pl