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*The incidence rate of chemical food poisonings  
in the Lublin province between 1976 and 1998*

The problem of chemical food poisonings should not be treated as a spontaneous, inevitable, separable from definite causes, conditions and situations phenomenon. Modern science provides numerous proofs that the health state of the population in a particular region or a country depends significantly on the existing socioeconomic, environmental, work-related conditions, complex administrative and economic actions of the authorities, education and culture as well as conscious co-operation of the society and its attitudes towards health prevention.

MATERIAL AND METHODS

The study period covered 23 years, i.e. the period when the Lublin province existed, from its foundation in 1976 on the strength of the government decision concerning the administrative division of the country into 49 provinces to 1998 when another administrative reform was introduced. The period was thus limited from necessity by two governmental decisions about the territorial functioning of the Lublin province. The data concerning the incidence of chemical food poisonings were obtained from the Regional Administration Unit for Control of Epidemics and Hygiene Promotion in Lublin, which, among other things, was concerned with the compilation of the statistics of food poisonings in the Lublin province.

RESULTS

THE INCIDENCE RATE OF CHEMICAL POISONINGS

Between 1976 and 1998, 7,253 cases of chemical poisoning were registered in the Lublin province by the Regional Unit for Control of Epidemics and Hygiene Promotion, which accounted for 0.5% of all registered infectious diseases and food poisonings. In the years 1976–1998, the highest incidence was observed in 1982 with 599 individuals infected (incidence rate 63.1). A very high incidence was also found in 1986 and 1998 – 400 patients. The lowest number of chemical poisonings was observed in 1976 – 164 patients (incidence rate 18.4). The case histories revealed that the majority of poisonings was caused by the consumption of toxic alcohol (mainly methanol) or other chemical substances and ethyl alcohol overdose. A high percentage of chemical poisonings resulted from drug overdose (particularly psychotropic drugs) – accidental or for suicidal purposes and from gas poisonings. Moreover, many cases were caused by the consumption of toxic plants often mistaken for edible ones.

In the period examined, pesticides caused 415 cases of poisoning, which accounted for 5.7% of all chemical poisonings. The case histories demonstrated that pesticide poisonings were mostly related to their improper use. The incidence rate in the period examined is presented in Table 1.

Table 1. The incidence rate of chemical poisonings in the Lublin province between 1976–1998 (1:100,000)

Year	Population	Chemical poisoning		Including pesticides	
		absolute number	incidence rate	absolute number	incidence rate
1976	890,725	164	18.4	14	1.6
1977	902,195	205	22.7	13	1.4
1978	912,127	224	24.6	18	2.0
1979	919,414	186	20.2	23	2.5
1980	930,120	266	28.6	18	1.9
1981	939,446	337	35.9	10	1.1
1982	949,124	599	63.1	24	2.5
1983	959,664	329	34.3	21	2.2
1984	972,221	310	31.9	17	1.7
1985	973,900	380	39.0	33	3.4
1986	988,335	420	42.5	18	1.8
1987	994,093	364	36.6	31	3.1
1988	1,002,996	279	27.8	20	2.0
1989	1,008,413	216	21.4	21	2.1
1990	1,008,413	227	22.5	26	2.6
1991	1,016,592	285	28.0	25	2.5
1992	1,022,153	276	27.0	15	1.5
1993	1,022,321	340	33.3	16	1.6
1994	1,024,784	386	37.7	19	1.9
1995	1,025,800	343	33.4	12	1.2
1996	1,026,847	324	31.6	4	0.4
1997	1,027,895	365	35.5	6	0.6
1998	1,027,703	428	41.6	11	1.1

The distribution of chemical poisonings in the Lublin province between 1976 and 1998 is presented in Figure 1.

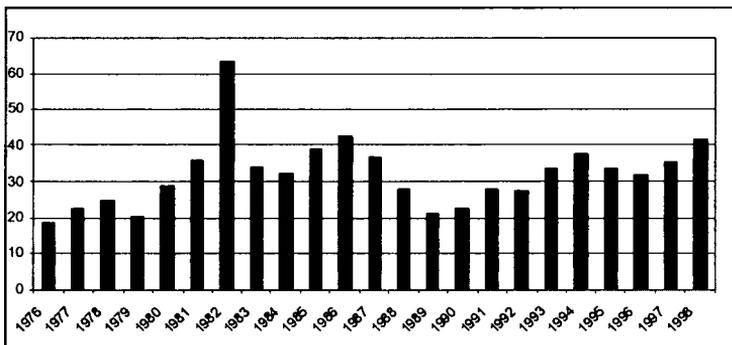


Fig.1. The incidence rate of chemical poisonings in the years 1976–1998

The comparison of the Lublin province data with the country-wide number of poisonings shows that the extent of chemical poisonings in the Lublin region was extremely high. The data of the Department of Hygiene in Warsaw have revealed that between 1989–1993 chemical substances on average resulted in 84 poisoning cases in the whole country while in the same period the number of cases in the Lublin province was 269, with a rising tendency in the next years.

#### INCIDENCE RATE OF MUSHROOM POISONINGS

The incidence rate of mushroom poisonings in the Lublin province between 1976 and 1998 is presented in Table 2. In the period examined, mushrooms caused 321 poisonings, which accounted for 0.02% of all cases of infectious diseases and alimentary poisonings. The highest number of mushroom-induced cases was observed in 1994 when 57 individuals were poisoned; in 1987, however, no such cases were registered.

Table 2. The incidence rate of mushroom poisonings in the Lublin province between 1976 and 1998 (1:100,000)

Year	Population	Mushroom poisonings	
		absolute number	incidence rate
1976	890,725	7	0.8
1977	902,195	13	1.4
1978	912,127	19	2.1
1979	919,414	21	2.3
1980	930,120	30	3.2
1981	939,446	17	1.8
1982	949,124	1	0.1
1983	959,664	38	3.9
1984	972,221	9	0.9
1985	973,900	6	0.6
1986	988,335	14	1.4
1987	994,093	-	-
1988	1,002,996	4	0.4
1989	1,008,413	10	1.0
1990	1,008,413	19	1.9
1991	1,016,592	7	0.7
1992	1,022,153	8	0.8
1993	1,022,321	11	1.1
1994	1,024,784	57	5.6
1995	1,025,800	11	1.1
1996	1,026,847	8	0.8
1997	1,027,895	6	0.6
1998	1,027,703	5	0.5

Figure 2 illustrates the graphic rate of mushroom poisonings.

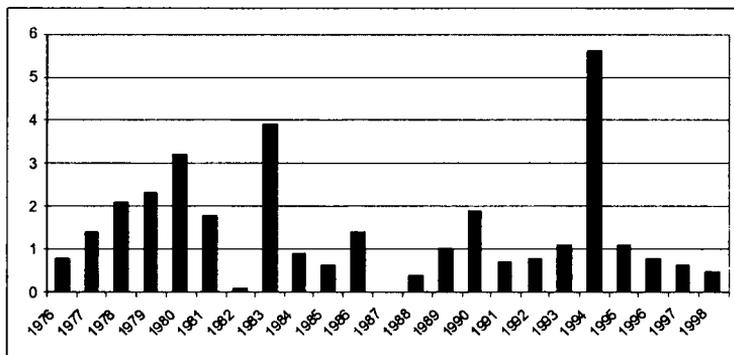


Fig. 2. Incidence rate of mushroom poisonings in the years 1976–1998

The case histories revealed that the majority of cases were caused by the mistakes in distinguishing toxic and edible mushrooms. The most common toxic mushrooms included: *Amanita phalloides*, *Amanita pantherina*, *Helvella aesculus*.

Although mushrooms accounted only for a small percentage of all registered cases of infectious diseases and food poisonings, it should be remembered that such cases are characterized by severe clinical course and very high mortality.

## CONCLUSIONS

1. Compared to the whole country, chemical poisonings in the Lublin province are an important epidemiological problem; their most frequent causes include: the consumption of toxic alcohols – mainly ethanol or other chemical compounds and ethanol overdose.

2. The qualifications of farmers should be systematically improved and various educational and sanitary activities carried out in order to provide the society with the information about safety measures required when pesticides are used.

## REFERENCES

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## SUMMARY

The aim of the study was to analyse the chemical poisonings in the Lublin province in the years 1976–1998. The analysis was based on the archive materials obtained from the Regional Unit for Control of Epidemics and Hygiene Promotion in Lublin. The findings demonstrate that chemical poisonings in the Lublin province compared to the whole country are a relevant epidemiological problem and that their most common causes include the consumption of toxic alcohols – mainly ethanol or

other chemical substances and ethanol overdosage. Moreover, the health education system of the society should be systematically improved.

Wskaźnik zatruc pokarmowych o etiologii chemicznej na terenie województwa lubelskiego  
w latach 1976–1998

Celem pracy była analiza zatruc o etiologii chemicznej na terenie województwa lubelskiego w latach 1976–1998. Problem zasadniczy pracy starano się rozwiązać na podstawie analizy materiałów archiwalnych Wojewódzkiej Stacji Sanitarnej-Epidemiologicznej w Lublinie. W wyniku dokonanej analizy stwierdzono, że zatrucia o etiologii chemicznej na terenie województwa lubelskiego stanowią na tle całego kraju bardzo poważny problem epidemiologiczny, a najczęstszą przyczyną zachorowań jest spożycie trujących alkoholi – głównie metanolu, spożycie innych związków chemicznych oraz przedawkowanie alkoholu etylowego. Stwierdzono również, iż należy systematycznie doskonalić system oświaty zdrowotnej społeczeństwa.