

JAN GAWEŁKO¹, MONIKA BINKOWSKA-BURY¹, MAŁGORZATA MARĆ¹, GRAŻYNA HEJDA²

Zachorowania na raka szyjki macicy na Podkarpaciu w latach 1995-2005

Incidence of cervical carcinoma in the region of Podkarpacie in the period between 1995 and 2005

Streszczenie

Wstęp i cel pracy. W ciągu ostatnich 40 lat dynamika zachorowań na raka szyjki macicy (r.s.m.) na Podkarpaciu uległa znaczącym zmianom. O ile w latach 70. zachorowania na Podkarpaciu stanowiły prawie 6,3% wszystkich zachorowań w Polsce – to obecnie zmniejszyły się one do 4,8%. Celem pracy była ocena zachorowań na terenie województwa Podkarpaciego w latach 1995-2005, a więc w okresie znaczących zmian społecznych, obyczajowych i administracyjnych.

Materiał i metody. Metodą retrospektywnej analizy oceniano zachorowalność na raka szyjki macicy na Podkarpaciu oraz opracowano współczynniki zachorowalności surowe i standaryzowane oraz wskaźniki struktury zachorowań.

Wyniki. W latach 1995-2005 zarejestrowano na Podkarpaciu 2919 nowotworów szyjki macicy. Liczba zachorowań w skali rocznej zmniejszyła się z 219 do 138, a współczynnik surowy zachorowań zmniejszył się z 19,23 do 12,8. Zarejestrowano również zmianę wskaźnika struktury z 9,5 do 5,1. Stwierdzono również zmiany w zakresie obrazu histopatologicznego oraz struktury zaawansowania klinicznego.

Wnioski. W latach 1995-2005 na Podkarpaciu stwierdzono 7,38% wszystkich nowotworów szyjki macicy, zarejestrowanych w Polsce. W porównaniu z liczbą zachorowań w całym kraju, odsetek zachorowań na Podkarpaciu zmniejszył się z 5,3% w 1995 r. do 4,8% w 2005 r. Nastąpiło również przesunięcie r.s.m. na 8. miejsce w liczbie zachorowań na Podkarpaciu. Niepokojący jest niski odsetek zachorowań diagnozowanych w stadium raka przedinwazyjnego oraz ok. 30% odsetek zachorowań z lat 2000-2005, zgłaszanych jako nieokreślony stopień zaawansowania.

Słowa kluczowe: rak szyjki macicy, epidemiologia, nowotwory narządu rodne.

Summary

Background and purpose. In last 40 years the dynamics of cervical carcinoma incidence in Podkarpacie region has significantly changed. Thirty years ago it was 6.3% of all cervix cancers in Poland, now in 2005 – 4.8%. The aim of research was evaluation of incidence of cancer of the cervix in Podkarpacie region in the years 1995-2005.

Material and methods. The aim of retrospective analysis was to assess the incidence of cervical cancer, and to develop the incidence crude rate, age-standardised rate and percentage coefficients.

Results. In the years 1995-2005 the number of new cases of the cervical cancer diagnosed in Podkarpacie region was 2919. The general incidence rate decreased from 219 in 1995 to 138 in 2005. The crude rate incidence decreased from 19.23 to 12.8 and percentage decreased from 9.5 to 5.1. There were changes observed in histopathology and clinical staging too.

Conclusion. From 1995 to 2005 in Podkarpacie region there were registered 7.38% of the total number of cervical cancers in Poland. The proportion of incidence in Podkarpacie/Poland decreased from 5.3% in 1995 to 4.8% in 2005. Now cancer of the cervix takes 8th place in the cancer morbidity rate in Podkarpacie region. There was registered unexpected low number of diagnoses registered in “0” clinical stage and approximate 30% of new cases declared to cancer register as “indefinite stage”.

Key words: cancer of the cervix uteri, epidemiology, gynaecological neoplasms.

¹University of Rzeszów, Institute of Nursing and Obstetrics

²University of Information Technology and Management, Rzeszów

INTRODUCTION AND AIM OF THE STUDY

By 1977, cervical carcinoma was a dominant malignant neoplasm in Polish women [1]. The incidence of the disease in Poland at the turn of the 1960s and 1970s exceeded 5,500 new cases per annum and it was not until 2003 when the number of cases fell below 3,500.

The region of Podkarpacie has traditionally been classified as the area of lower incidence and neoplasm-related death rates, similarly to other provinces of so-called eastern wall [2, 3]. These issues have been subjects of our previous publications [4, 5].

Our observations within the last 40 years prove that the dynamics of cervical carcinoma incidence in the region of Podkarpacie has changed significantly. In the 1970s, the incidence in the region of Podkarpacie was almost 6.3% of all cases in Poland – at present it has decreased to 4.8%.

Therefore, the purpose of the study was to evaluate the incidence in the region of Podkarpacie in the period 1995-2005, so in the period of significant social, moral and administrative changes.

SAMPLE AND METHOD

Cervical carcinoma incidence in the region of Podkarpacie was evaluated using the retrospective analysis method, on the sample of 2919 disease reports from the area of former krośnieńskie, przemyskie, rzeszowskie and tarnobrzskie provinces.

After rejecting repeating disease reports and patients from other provinces treated in the region of Podkarpacie, 1899 disease reports have been selected conforming with the initial disease reports of the inhabitants of the region of Podkarpacie. This number included 1849 reports with more data than only reporting neoplasms.

On this basis crude rates were calculated for 1995; in the beginning, for all initial disease reports (19.25) and then reports from the Region (17.5).

Data registered after 1 January 1999 refer to disease reports from the present region of Podkarpacie.

Disease reports for the years 1995-1999 were from the own studies of the archives of the former Rzeszów Oncological Register, whereas the data for the period 2000-2005 have been gathered from the resources of the Podkarpacie Province Neoplasm Register [6,7].

Data for the years 1995-1998 gathered on the basis of archives of the former Rzeszów Register are being published for the first time.

The figures concerning the incidence of carcinoma across Poland have been taken from the National Register of Neoplasm [8-16].

Demographic data have been gathered from the resources of the Provincial Statistical Office in Rzeszów.

As in the years 1997-1998 numerous strikes and protests in healthcare took place, which resulted, among others, in not completing a number of documents, the data for Poland from that period are missing in the National Register of Neoplasm.

The material of the former Rzeszów Register for the years 1997 and 1998 includes reports in the number exceeding 91% and 86% of the reports from the previous and following years and therefore the data have been deemed

as reliable, and they can form the basis for further calculations.

Data for the years 1995-1999 which were recorded in compliance with the codes of 9th Revision of International Statistical Classification of Conditions, have been re-coded in compliance with the requirements of the current 10th Revision.

Podkarpacie as a region from 1975, until the administrative reform dividing the country, in 1999 covered the area of the provinces of krośnieńskie, przemyskie, rzeszowskie and tarnobrzskie with the population of 2,159,000 inhabitants.

After the administrative reform, since 1 January 1999 the province of podkarpackie has included over 2,122,200 inhabitants and covered the area of former province of rzeszowskie in compliance with the data as of 1974 excluding the districts which were included in the provinces of małopolskie, świętokrzyskie and lubelskie.

The gathered epidemiologic and demographic materials made retrospective analysis possible for the years 1995-2005 and developing of the data on the basis of the common statistical procedures [16].

Basing on the entire gathered material crude and standard incidence rates and incidence percentages were developed. Moreover, an attempt has been made to evaluate the country/city rate and the histopathologic image in the analysed group of patients.

RESULTS

In the years 1995-2005, 1899 initial cervical carcinoma reports were drawn for people inhabiting the region of Podkarpacie.

In the analysed period, the number of cases in the annual perspective decreased from 219 in 1995 to 138 in 2005, and the crude incidence rate fell from 19.23 (for all carcinoma sufferers treated, including patients outside the region) and 17.5 in the region in 1995 to 12.8 for the present area of the province of Podkarpackie in 2005.

At the same time, the cervical carcinoma standard rate decreased from 13.4 to 10.0 for the area of the present region of Podkarpacie.

Detailed figures in this respect are shown in Table I.

Another analysed parameter was the percentage reflecting the cervical carcinoma in relation to all cancers in women. For the 4 former provinces of the region, in 1995 it was 9.5 and for the area of the present region of Podkarpacie it was 8.6.

In 2005 the percentage decreased to 5.1 in the region of Podkarpacie.

The recorded changes in the percentage for Poland and the region of Podkarpacie is presented in Table 2.

Detailed histopathologic picture of the cervical carcinoma incidence is presented in Table 3.

In the analysed period, 49% of sufferers were country inhabitants and 51 % inhabited the city. Pre-invasive carcinoma constituted 4.33 % of all cervical carcinoma incidence in the years 1995-1999. Mean age for pre-invasive carcinoma was 46.45 in the years 1995-1999. Mean age for invasive carcinoma was 54.35 in the years 1995-2005.

TABLE 1. Crude and standardised rates in Poland and Podkarpacie region in 1995-2005.

	Crude rate Poland	Crude rate Podkarpacie	Standardised rate Poland	Standardised rate Podkarpacie
1995	19.5	^x 17.5	15.1	13.4
1996	19.6	16.1	15.0	11.8
1997	l.d.*	14.8	l.d.*	11.8
1998	l.d.*	15.0	l.d.*	11.4
1999	17.9	17.3	13.3	14.1
2000	19.0	16.6	13.8	13.0
2001	18.1	14.3	13.2	11.3
2002	18.3	15.8	13.2	12.7
2003	17.5	15.4	12.3	12.0
2004	17.0	16.3	11.9	12.4
2005	16.6	12.8	11.5	10.0

^x Rate 17.5 refers to the patients inhabiting the region of Podkarpacie. The rate for all registered sufferers was 19.23.

* l.d. = lack of data. The strikes of employees of Polish Health Care System in 1997-1998 resulted in certain information missing from some patient cards reporting neoplasms which were not successfully completed.

TABLE 2. Percentage in Poland and Podkarpacie in 1995-2005.

Year	Percentage Poland	Percentage Podkarpacie
1995	7,7	8,6
1996	7,6	8,4
1997	l.d.*	9,2
1998	l.d.*	8,9
1999	6,6	6,9
2000	6,8	7
2001	6,4	5,7
2002	6,3	5,7
2003	5,8	5,6
2004	5,7	5,5
2005	5,3	5,1

* l.d. = lack of data. The strikes of employees of Polish Health Care System in 1997-1998 resulted in certain information missing from some patient cards reporting neoplasms which were not successfully completed.

TABLE 3. Histopathology of the cervical cancer in Podkarpacie region 1995-2005.

Type of neoplasm	1995-2005
Carcinoma planoepitheliale	79.0%
Adenocarcinoma	12.2%
Other	8.8%
Total	100.0%

DISCUSSION

The years 1995–2005 were the period of dynamic changes in social life and administration as well as structural changes in healthcare system.

In the region of Podkarpacie, similarly to other regions, this resulted mainly in creating new administrative and local government structures and the reform of healthcare system.

The period between 1995 and 2005, so 11 years suffices to evaluate the situation in the area of cervical carcinoma incidence and to refer these observations to the previous decades and the situation in Poland.

As it was mentioned in the introduction, the absolute number of cases both in Poland and in the region of Podkarpacie decreased substantially.

By 1977 cervical carcinoma had been predominant, in the next decades the percentage was gradually falling, and thus e.g. in 1995 cervical carcinoma was in the 2nd position with the percentage of 7.7 [1, 7].

In the following years, the changes became more rapid, and in 2000 cervical carcinoma was on the 3rd position with the percentage of 6.8 [11].

In 2005, so after 11 years cervical carcinoma in Poland was on the 7th position with the percentage of 5.3.

In the region of Podkarpacie the changes were even more dynamic. In 1995, cervical carcinoma was on the 2nd position after mammary carcinoma and with 8.6 percentage, it was higher than for Poland, but in 2001, so after 6 years cervical carcinoma was on the 4th position, and in 2005 it was the 8th on the list [8, 11, 12, 16].

The dynamics of these changes are shown in Figure 1.

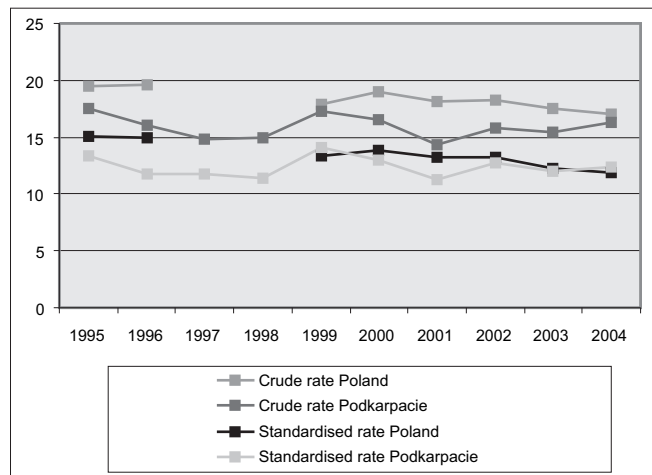


FIGURE 1. Dynamics of the changes in crude and standardised rates in Poland and Podkarpacie in the period between 1995-2005.

The percentage presented above over the period of 11 years unanimously confirms the quality changes in the carcinoma incidence in women.

In the region of Podkarpacie, after the period of dominance, cervical carcinoma is superseded by mammary carcinoma, alimentary duct cancers, carcinoma of uterus body, and ovarian carcinoma.

As far as histopathologic structure of the incidence in the region of Podkarpacie is concerned, in comparison to the years 1975-1984 and 1984-1994 equally important changes took place. The percentage of squamous cell carcinoma decreased to 79%, whereas in the years 1975-1984 it was over 87% and almost 89% in the period 1984-1994 [4]. Adenocarcinoma which constituted over 4.8 %, at present it is at the level of 12.2% [4].

Also, neoplasms classified as “others”, which constituted almost 8% at the turn of the 1970s and 1980s, and later their

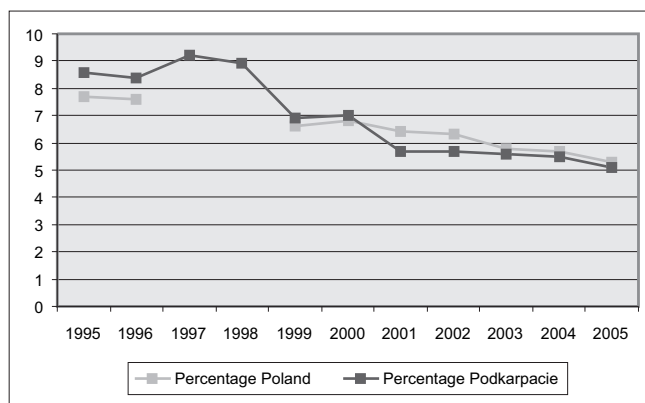


FIGURE 2. The changes in percentage in Poland and Podkarpacie in the period between 1995-2005.

percentage fell to over 6%, at present are again at the level of 8.8% [4]. Any completeness of histopathologic registration exceeded 70%, and negative phenomena occurring while reporting cervical carcinomas should be emphasised.

Above all, part of disease report forms did not contain histopathologic examination results at all, only in the years 2001-2005 they were absent in 11.2% of the forms.

In turn, over 15% of the forms were encoded with pseudo-results, such as: carcinoma, neoplasma malignum, cellulae carcinomatosae etc., so the results on the basis of which no epidemiological conclusions can be drawn, nor any therapeutic treatment can be implemented.

An open question remains whether any further therapeutic treatment was based on such dubious verification. Similar is the question of evaluating the clinical advancement.

Out of the general number of 1899 cases, missing data in 407 made it impossible to evaluate the advancement, which in the period 2000-2005 constituted as many as 246. The forms were filled with the following statement: 'unspecified level of advancement'.

Therefore, the examined material was to some extent possible to be verified using available medical documentation, information forms and information gathered from the patients and the employees of pathomorphology, and it will be the subject of a separate work.

Implementation of the 10th revision caused the change in the method of encoding the conditions, from digital topographic codes to symbol and digital system. Implementation of histopathologic diagnoses into the classification rendered it possible to identify some cancers by the code number.

Unfortunately, knowledge of new encoding principles is still low, therefore data in this area are very often simplified schematically, which leads to the loss of valuable information.

Pre-invasive carcinoma may serve as an example, whose histopathologic symbol 8010/2 should be encoded with D 6 or as moderate dysplasia with code N.

Unfortunately, in practice these codes are notoriously omitted therefore the gathered data on pre-invasive carcinoma refer only to the period 1995-1999.

As it was mentioned above, the percentage was in the years 1995-1999 – 4.33% of all cervical carcinoma cases, and it was lower than in the 1970s when it was 5.84 % and 5.46% [4, 5].

Changes in the age of patients are also interesting; the age level for the pre-invasive carcinoma was 46.5 for the

years 1995-1999, whereas in the period 1975-1984 it was 40.5 and in the years 1985-1994 – 41.27. Consequently, a significant age shift is visible. Throughout the years 2000-2005, both pre-invasive and micro-invasive carcinoma were diagnosed in single cases, so it was impossible to perform any further comparisons. Important changes occurred also in other examined areas.

In the period 1995-2005 – 49% of the patients inhabited the country, whereas 51% were city dwellers.

This constitutes an important change with reference to the past decades, as in the years 1975-1994, 60.3% patients lived in the country and 39.7% in the city [4]. The last analysed index was the age of invasive cervical carcinoma.

The mean age for the invasive carcinoma in the period 1995-2005 was 54.35, whereas in the 2 previous decades it was 53 and 53.6 years respectively.

Taking into consideration the vast material subject to the analysis, regularity can be stated that the mean age for invasive carcinoma has been shifting in the past 30 years.

CONCLUSIONS

1. In the period 1995 – 2005 in the region of Podkarpacie 7.38% of all cases of cervical carcinoma in Poland were reported.
2. In comparison to the number of cases across the country, the percentage of incidence in the region of Podkarpacie was 5.3% in Poland in 1995 and 4.8% in 2005.
3. Cervical carcinoma in the region of Podkarpacie shifted from the 2nd position in 1995 to the 8th position in terms of incidence in 2005.
4. Pre-invasive carcinoma was 4.33% of all cervical carcinoma cases in the period 1995-1999 so the number was lower than in the years 1975-1994.
5. Mean age for pre-invasive carcinoma in the years 1995-1999 was 46.45 and it was higher than in the period 1975-1994.
6. Mean age for invasive carcinoma in the years 1995-2005 was 54.35 and it was higher than in the period 1975-1994.
7. In the period 1995-2005, squamous carcinoma constituted 79% of all cervical carcinomas, whereas the adenocarcinoma constituted 12.2 %
8. In the analysed period 49% of the patients inhabited the country, and 51% lived in the city.
9. Absence of data renders it possible to evaluate the degree of advancement in 407 cases of cervical carcinoma, which in the years 2000-2005 constituted as many as 246, i.e. approximately 30%.

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Informacje o Autorach

Dr n. med. JAN GAWELKO, dr n. med. MONIKA BINKOWSKA-BURY, dr n. med. MAŁGORZATA MARC – Uniwersytet Rzeszowski, Instytut Pielęgniarstwa i Położnictwa, lek. med. GRAŻYNA HEJDA – Wyższa Szkoła Informatyki i Zarządzania w Rzeszowie, Katedra Zdrowia Publicznego.

Adres do korespondencji

Dr n. med. Jan Gawelko
35-302 Rzeszów ul. Nazimka 11