



The Comparative Analysis of Prevalence Parameters of the Stomach Cancer Among City and Rural Population of the Azerbaijan Republic

Azərbaycan Cumhuriyyəti'ndə Şehirde ve Kırsal Kesimde Yaşayan Bireylerde Mide Kanseri Prevalans Parametrelerinin Karşılaştırmalı Analizi

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SUMMARY

In Azerbaijan Republic among men disease stomach cancer more than among women. A level of an intensive parameter of disease above for the townspeople (11.2 on 100.000 population), than for peasants (10.1 on 100.000 population). With the years was marked increase of a level of an intensive parameter disease of stomach cancer. The general death rate coefficient has appeared above among the patients living in cities (on 100.000 population 8.91 against 7.07), but the lethality coefficient was above for countrymen (48.16% against 39.74%). The peak of disease on size of the standardized parameter among the city men has fallen to age intervals 50-69 for men and 60-69 years for women; for peasants this fact was observed in rather senior age groups- accordingly 60-69 years and 70 years and over.

Key Words: Stomach cancer, intensive morbidity rate, common mortality rate, urban population, rural population.

ÖZET

Azərbaycan Cumhuriyyəti'ndə mide kanseri erkeklere kadınlara nazaran daha sık görülür. Şehirde yaşayanlarda 11.2/100.000 oranında görülürken, kırsalda yaşayanlarda bu oran 10.1/100.000'dir. Yıllar geçtikçe mide kanseri sıklığında artış dikkati çekmektedir. Genel mortalite şehirde yaşayan insanlar için 100.000'de 8.91 iken, kırsalda yaşayanlarda 100.000'de 7.07'dir ve anlamlı fark yoktur fakat morbidite şehirde yaşayanlarda daha yüksektir (%48.16'ya karşın %39.74). Standart parametreler dikkate alındığında şehirde yaşayanlarda mide kanseri erkeklerde 50-69 ve kadınlarda 60-69 yaşlarında pik yapmaktadır. Kırsal kesimde yaşayanlarda ise bu pik yaşı erkeklerde 60-69 ve kadınlarda 70 yaş ve üzeridir. Bu sonuçlara göre şehirde yaşayan popülasyonda mide kanseri görülme sıklığı daha erken yaşlarda pik seviyesine ulaşmaktadır.

Anahtar Kelimeler: Mide kanseri, morbidite oranı, mortalite oranı, şehir popülasyonu, kırsal popülasyon.

INTRODUCTION

The stomach cancer (SC) remains one of the most important problems not only for modern oncology, but also for all public health service. The social importance of this disease is due to high morbidity and mortality rates (1,2). According to World Health Organization (WHO) data annual morbidity rate is about one million primary cases and mortality rate is about 650.000 cases all over the world (3,4).

Today the prior directions of modern oncology science are not only working out of new more effective modalities of combined and complex treatment but also finding out of risk factors for SC with subsequent development of measures for primary prophylaxis and revealing in early stages by use state of the art methods of clinical investigation of the population (5,6).

World practice shows high efficacy of epidemiological investigation by method of comparative analysis of statistical data among people populations which are differed by social, domestic, ethnic parameters and living in different climatic and geographical regions (7).

The aim of our investigation is carrying out of comparative analysis of epidemiological characteristics for SC among different groups of Azerbaijan population. An urban and rural people will be investigated in this research.

MATERIALS and METHODS

We used data gained during retrospective analysis of case reports of 901 patients with SC who received in patient treatment and examination in National Center of Oncology of Azerbaijan Republic from 1996 to 2006 years. 605 of them were males and 296 were women. 488 patients were urban and 413 were rural people. Also we reviewed data about annual morbidity and mortality rates from the department of statistics of Ministry of Public Health of Azerbaijan Republic. Statistical rates were calculated according to standard mathematical equals recommended by WHO for analysis of different epidemiological parameters (8).

RESULTS and DISCUSSION

According to records of Central Statistical Department of Azerbaijan Republic 51.5% of all population of the country are urban people and 48.5% -rural people. 49.2% of all population are males and 50.8%-females. Among urban people 49.82% are males and 50.18% are females, among rural people 48.58% and 51.42% correspondingly.

In our research 54.2% of patients were urban and 45.8% were rural people. Comparative characteristics of SC patients depending on gender among urban and rural population is shown in Figure 1.

While distributing of patients according to gender we revealed significant prevalence of males over females in both groups. During more detailed comparative this data we found that among urban patients proportion of males was higher than among rural patients. Quantitative proportions of above mentioned are 2.21/1 and 1.87/1 correspondingly.

Comparative analysis of intensive SC morbidity rate showed it's high level among urban people (11.2/100.000 of population). Among rural people it was 10.1/100.000 population. This rate was 15.5/100.000 for males and 13.5/100.000 for females in urban population and 7.0/100.000 versus 6.8/100.000 among rural population.

Common mortality rate from SC for urban people was 8.91/100.000 and 7.07 for rural people. But mortality rate differed from morbidity rate and was higher among rural patients-48.16% versus 39.74% among urban patients. We can explain this fact by late appealability of rural patients. Data mentioned below confirms our suggestion.

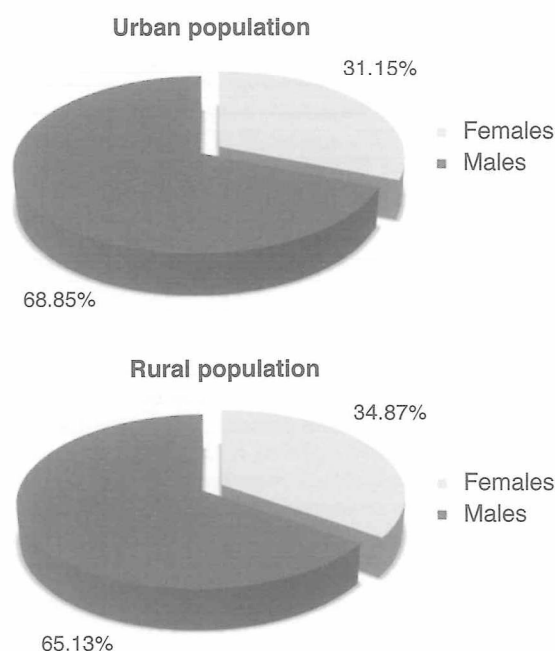


Figure 1. Distribution of SC patients for gender among urban and rural people.

Table 1. Distribution of patients depending on cancer localization in different anatomical regions of the stomach.

Cancer localization	Urban people		Rural people	
	Number	%	Number	%
Proximal parts	59	12.1	84	20.3
Corpus ventriculi	58	11.9	61	14.8
Distal parts	257	52.7	170	41.2
Total involvement	114	23.4	98	23.7

Among urban patients during first visit to physician I and II stages of SC were diagnosed in 172 (35.3%) cases, III stage in 132 (27.0%) cases and IV stage in 184 (37.7%) cases. Whereas among rural patients late stages SC was diagnosed more frequently. So, patient distribution by stages at the first visit was 95 (23.0%), 141 (34.1%), 177 (42.9%) correspondingly

Quantitative proportion of patients depending on cancer localization in the different parts of stomach is shown in Table 1.

Among urban living patients cancer was located in distal parts of the stomach more often. While among rural patients it was located in proximal parts of the stomach relatively often and in difference from urban patients 1.7 times more frequent. We consider that such kind of distribution is related with higher contamination of urban people by *Helicobacter pylori*.

Study of intensive rate in age-gender aspect revealed rising of morbidity by increasing of the age (Figure 2). Comparative analysis of this rate showed it's higher level in males of both urban and rural people. Whereas it is noted significant (about 4 times) rising of intensive morbidity rate for SC among both males and females of rural population whose age 60-69 and ≥ 70 years relative to younger people. But among urban population both males and females showed sloping rise of morbidity by rise of age. The highest rate of morbidity is registered in oldest age subgroup - ≥ 70 years.

We have done calculation and comparative characteristics of standardized rate for patients subgroups. Increasing of this rate by age rising was established. This tendency was marked among both urban and rural population. The rate achieved it's maximal value in males in earlier age than in females in both groups. Among urban population the peak of standardized morbidity rate was noted in age category 50-59 years for males and 60-69 years in females. Among rural population this fact was noted in older subgroups: 60-69 years and ≥ 70 years old correspondingly. Gained results are shown in Table 2 and 3.

CONCLUSIONS

1. Among SC patients males amount was higher in both urban and rural population, in proportion 2.21/1 and 1.87/1 accordingly,
2. Value of intensive morbidity rate was higher in urban population (11.2/100.000) than in rural population (10.1/100.000),

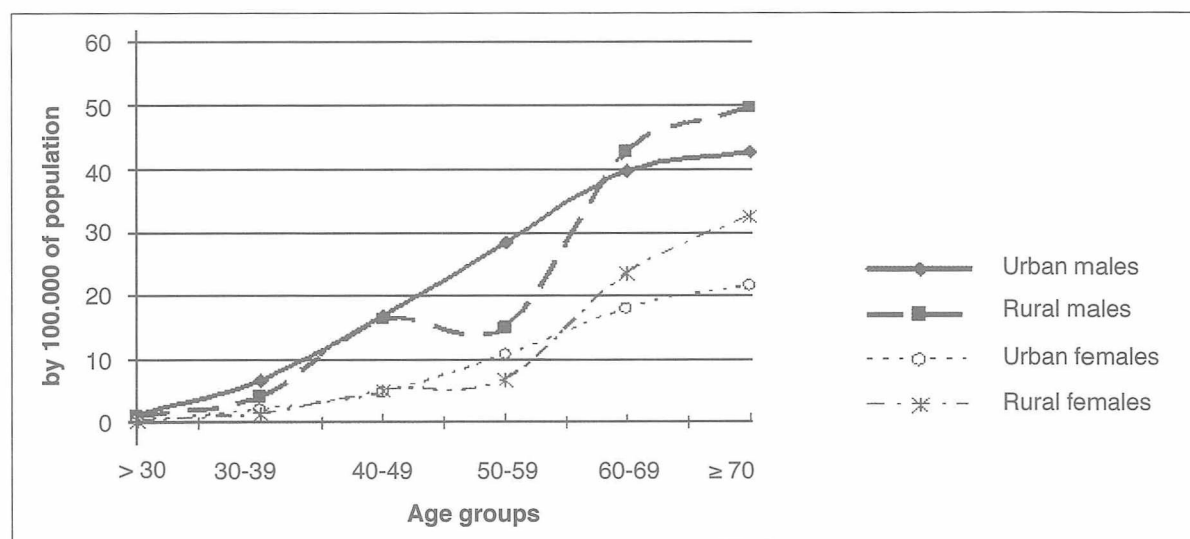


Figure 2. Dynamics of intensive morbidity rate for SC depending on gender and age of urban and rural population.

Table 2. Standardized morbidity rate of SC among urban population.

Age	Number of population		Number of SC patients		Intensive rate		Total population	Median standard	Standardized rate	
	Males	Females	Males	Females	Males	Females			Males	Females
< 30	647340	649725	9	2	1.4	0.3	1297065	29853.7	0.4	0.1
30-39	423821	446927	28	9	6.6	2.0	870748	20041.4	1.3	0.4
40-49	339619	350701	57	16	16.8	4.6	690320	15888.6	2.7	0.7
50-59	318069	347380	91	37	28.6	10.7	665449	15316.2	4.4	1.6
60-69	220571	262538	88	47	39.9	17.9	483109	11119.4	4.4	2.0
≥ 70	147548	190504	63	41	42.7	21.5	338052	7780.7	3.3	1.8
Total	2164551	2180192	336	152	15.5	7.0	4344743	100000	16.5	6.4

Table 3. Standardized morbidity rate of SC among rural population.

Age	Number of population		Number of SC patients		Intensive rate		Total population	Median standard	Standardized rate	
	Males	Females	Males	Females	Males	Females			Males	Females
< 30	566281	612112	6	1	1.1	0.2	1178393	28799.9	0.3	0.1
30-39	511020	541600	21	7	4.1	1.3	1052620	25726.1	1.1	0.3
40-49	231380	243397	38	12	16.4	4.9	474777	11603.6	1.9	0.6
50-59	343480	347207	51	23	14.8	6.6	690687	16880.4	2.5	1.1
60-69	186490	189770	80	45	42.9	23.7	376260	9195.8	3.9	2.2
≥ 70	147325	171588	73	56	49.6	32.6	318913	7794.2	3.9	2.5
Total	1987724	2103926	269	144	13.5	6.8	4091650	100000	13.6	6.8

- Rise of intensive morbidity rate by rise of age was noted: among urban people it was sloping, while in rural people it grows sharply after 50 years old more than three times,
- Common mortality rate in urban people was higher than in rural ones: 8.91 versus 7.07 by 100.000 population
- Lethality coefficient was higher in rural patients 48.16%) versus 39.74% in urban patients. This fact is related with more proportion of patients in late stages SC (III-IV) among rural people: 77.0% versus 64.7% correspondingly,
- Proximal localization of SC was diagnosed 1.7 times frequent in rural patients, whereas localization of SC in distal parts was opposite,
- Peak of standardized morbidity rate among urban patients was in 50-69 years old for males and 60-69 years old for females; this peak was noted in older patients subgroups for rural people: 60-69 and ≥ 70 years old correspondingly.

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