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ANALYSIS OF THE MEDICAL ASSISTANCE ORGANIZATION FOR PATIENTS WITH ONCOLOGICAL AND PRECANCEROUS DISEASES OF THE STOMACH

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Cancer prevention is a rather difficult task for the oncology service and the state. Prevention in oncology is a complex system of measures aimed at preventing the occurrence of malignant tumors and their progression. But at the same time, the experience of economically developed countries, in particular Japan, where the incidence rate is one of the highest in the world, shows that modern medical technologies make it possible to diagnose malignant neoplasms of the stomach (MNS) in the early stages, using screening programs.

***The purpose of the study** – to identify shortcomings in the organization of prevention and medical care, in particular regarding early detection and prevention of malignancy of precancerous diseases in gastric cancer (PCDG).*

***Materials and methods.** Analytical retrospective epidemiological medico-sociological study of a representative number of patients with malignant neoplasms of the stomach – 130 patients of the main group and 50 people with precancerous diseases of the stomach of the comparison group was conducted with the aim of in-depth study of the organization of medical care for patients.*

***Results.** It was found that the complete coverage of patients with gastric cancer by dispensary observation in 2016-2020 increased both in Ukraine (up to 84.0%) and in the Chernivtsi region (92.1%), but the specific weight of those who was registered for more than five years, although it also increased somewhat, remained significantly lower (59.5% and 69.8%, respectively).*

It has been proven that the absence of dispensary monitoring for precancerous diseases of the stomach significantly increases the chances of their malignancy (OR=29.18; 95%CI=11.60-73.40), but only 18.2% of such patients were registered. Respondents with precancerous diseases of the stomach also showed insufficient adherence to the medical treatment, mainly due to financial motives (21.00; 2.51-175.70) and the prescribed diet, non-compliance of which also contributes to malignancy (4.73; 2.15-10,40).

***Conclusions.** The main risk factors for the transformation of precancerous diseases of the stomach directly into cancer are failure to consult doctors, primarily PMD, both about the disease and screenings, and especially – about dynamic monitoring, as well as low adherence to recommendations for drug treatment and diet.*

Ключові слова:
профілактика, динамічне спостереження, скринінг, передракові захворювання шлунка, рак шлунка.

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АНАЛІЗ ОРГАНІЗАЦІЇ МЕДИЧНОЇ ДОПОМОГИ ХВОРИМ НА ОНКОЛОГІЧНІ ТА ПЕРЕДРАКОВІ ЗАХВОРЮВАННЯ ШЛУНКА

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Профілактика раку є досить складною задачею онкологічної служби і держави. Профілактика в онкології – це комплексна система заходів, спрямованих на запобігання виникнення злоякісних пухлин та їх прогресування. Водночас досвід економічно розвинених країн, зокрема Японії, де один із найвищих рівнів захворюваності у світі, засвідчує, що сучасні медичні технології дозволяють діагностувати злоякісні новоутворення шлунка (ЗНШ) на ранніх стадіях, використовуючи скринінгові програми.

***Мета –** виявити недоліки в організації профілактики та медичної допомоги при передракових захворюваннях, зокрема у питаннях раннього виявлення і запобігання малігнізації новоутворень шлунка.*

***Матеріали та методи.** Проведено аналітичне ретроспективне епідеміологічне медико-соціологічне дослідження репрезентативної кількості хворих на злоякісні новоутворення шлунка – 130 хворих основної групи та 50 осіб із передпухлинними захворюваннями шлунка групи порівняння з метою поглибленого вивчення організації медичної допомоги хворим.*

***Результати.** З'ясовано, що повнота охоплення хворих на ЗНШ диспансерним спостереженням за 2016-2020 рр. зросла і в Україні (до 84,0%), і в Чернівецькій області (до 92,1%), однак незважаючи на те, що питома вага тих, хто знаходився на обліку понад п'ять років також дещо збільшилась, вона залишалась значно нижчою (59,5% та 69,8% відповідно).*

Доведено, що відсутність диспансерного спостереження при передракових захворюваннях шлунка значно збільшує шанси їх малігнізації (OR=29,18; 95%CI=11,60-73,40), проте всього 18,2% таких хворих знаходились на обліку. Респонденти з передраковими захворюваннями шлунка демонстрували недостатню прихильність до медикаментозного лікування (головним чином, через фінансові мотиви (21,00; 2,51-175,70)) та до призначеної дієти, недотримання якої також сприяє малігнізації (4,73; 2,15-10,40).

Висновки. *Основними факторами ризику переростання передракових захворювань шлунка безпосередньо в рак є несвоєчасне звертання до лікарів як з приводу захворювання, так і з приводу скринінгів, і особливо – з приводу динамічного спостереження, а також низьке дотримання рекомендацій щодо медикаментозного лікування та дієти.*

Introduction

The fight against malignant neoplasms is one of the most important problems of health care in Ukraine [1], the relevance of which is determined by the constant increase in the morbidity of the population, the difficulties of timely diagnosis, the high cost and complexity of treatment, and the high level of disability and mortality of patients. According to prognostic estimates, as of 2020, up to 180,000 new cases of cancer are registered annually in Ukraine, and the number of cancer patients exceeds 1 million people [2,3]. Cancer of the lung, stomach, skin, prostate gland, and colon, lymphoid and hematopoietic tissues will play a leading role in the structure of oncological pathology in men, and cancer of the breast, skin, stomach, uterine body, cervix, and colon in women [4].

Modern medicine is able to cure malignant tumors of almost all localizations, if they are diagnosed in the early stages. The difficulties of such diagnosis, which were in the past the main reason for the neglect of the disease [5], are now overcome by modern methods of researching cancer patients. Existing successes in the development of early diagnosis methods (cytological, endoscopic, ultrasound, computer and magnetic resonance imaging) allow us to raise the issue of the complete elimination of «disease neglect» [6]. Regular preventive examinations allow timely detection of visual localizations of cancer [7] – skin, oral cavity, larynx, mammary gland, and cervix. The introduction of modern endoscopic diagnostic methods into widespread practice makes it possible to recognize tumors of the gastrointestinal tract and bronchi in the initial stages of the disease. However, despite this, the percentage of the neglected cases continues to be very high: almost every fifth patient is diagnosed in the neglected stage. The highest frequency of patients with malignant neoplasms of the IV clinical group (not amenable to radical treatment) [8] among the first detected is observed with cancer of the stomach, colon cancer, cancer of the trachea, bronchi, and lungs. The lowest frequency of neglect in visual localizations: lips, skin, cervix, mammary gland. When analyzing cases of neglect of the malignant tumors, two main reasons were identified [9,10]:

1) late referral of patients to the doctor due to the small symptoms of the initial stages of cancer and due to ignorance of it;

2) lack of belief in the curability of cancer, fear of diagnosis.

Gastric cancer occupies an important place among malignant neoplasms [11]. As a non-visual form, malignant neoplasms of this localization are often detected at the late stages, which lead to high mortality of patients already in the first year after detection. All this allows us to put forward a hypothesis about the shortcomings in the organization of prevention and medical care of oncology [12], in particular, regarding early detection and prevention of malignancy of precancerous diseases in gastric cancer.

The purpose of the study

To identify shortcomings in the organization of prevention and medical care, in particular regarding early detection and prevention of malignancy of precancerous diseases in gastric cancer (PCDG).

Research materials and methods

The performance indicators of oncological health care institutions (on the example of Chernivtsi region) were studied according to the data of the state system for collecting medical statistical information (the National Cancer Register [13, 14, 15] for 2006-2020; «Reports on the network and activity of medical institutions for the year 20__», form № 47-health and «Reports on patients with malignant neoplasms», form No. 35-health for 2016 and 2020), as well as according to the data of the survey of respondents: 130 patients with gastric cancer (the main group) and 50 people with precancerous diseases of the stomach (comparison group).

Research results and their discussion

Most of the respondents of the main group, i.e., patients with MNS, were diagnosed within a year at the time of the survey (65.1%), while among the respondents of the control group (with MNS), there were almost twice as many of them – 38.8% ($p<0.05$). On the contrary, those who have been diagnosed for more than five years were 19.8% among the patients with PCDG, and 32.7% in the comparison group.

The overwhelming majority of the respondents of the main group (90.7%) indicated that they are on dispensary registration and only 9.3% denied this fact. Along with this, it is alarming that only every fifth respondent (18.2%) of the comparison group, and therefore with one or another precancerous disease of the stomach, was under dispensary observation. While using the method of calculating the odds ratio in our study, it was proved that the absence of such observation increases the probability of malignancy by almost 30 times (OR=29.18; 95%CI=11.60-73.40; $p<0.001$).

It is important not only to be registered at the dispensary, but also to follow the doctor's recommendations. The study on this issue showed that the most favorable respondents were to the prescribed medical treatment. All interviewees indicated that they had received appropriate

recommendations from doctors. In the main group, almost 100% (99.2%) performed them completely, and only one person (0.8%) – partially. At the same time, the surveyed patients with PCDG demonstrated worse compliance with drug treatment (p<0.001): 85.7% fully followed the relevant recommendations, 14.3% partially. It should be noted that there were no refusals from drug therapy in the comparison groups.

It is clear that neither operative (92.9%) nor radiological (94.3%) treatment was prescribed to the majority of respondents from the group of patients with PCDG. However, there were also such persons among the patients with MNG: almost every fifth (19.8%) was not prescribed operative treatment and the majority (80.4%) – radiological treatment. This coincides with the already shown high rates of late diagnosis of this cancer location, when only symptomatic treatment is usually prescribed, as well as with the low coverage of patients with MNS with combined treatment.

Among the respondents of the main group were also those who refused operative (6.3%) and radiological (8.9%) treatment, which almost corresponds to the data of official medical statistics. Moreover, men refused these types of treatment more often, compared to women (8.5% vs. 2.3% and 12.7% vs. 2.4%, respectively, p<0.05), which once again demonstrates greater discipline and attention to women's own health.

As a result, two-thirds of patients with MNS (73.8%) underwent surgical intervention and only one in ten (10.7%) underwent radiological intervention. Similar results were obtained in the study of V. Lazyrskyi, 2017 [16].

Only two people out of all those interviewed said that they did not receive any instructions from doctors regarding a proper diet. It should be noted that, in general, patients with MNS followed the dietary recommendations much better than patients with PCDG (p<0.001): 86.8% of them against 61.2% indicated that they followed them completely, 11.6% against 30, 6% – partly and 0% against 8.2% – do not pay attention to the diet at all. This is dangerous, because non-compliance with the nutritional recommendations of doctors increases the chances of malignancy of precancerous stomach diseases (OR=4.73; 95%CI=2.15-10.40; p<0.001), as well as low compliance with medical treatment (OR=21.00; 95% CI=2.51-175.70; p<0.001).

No less important for the timely detection and positive results of the treatment of PCDGs and MNSs is the referral of patients to doctors both about the disease and about medical examinations and control visits within the scope of dispensary observation. Survey data of respondents regarding the frequency of visits to various doctors for the specified reasons are presented in the table.1, from which it follows that the medical activity of the respondents of both comparison groups was characterized by unevenness.

Table 1

Frequency of different types of visits by respondents to doctors during the year up to the time of the interview (per 100 respondents)

Doctor	Reason for visit	Comparison group	Number of visits over the last year			Total	p
			0 times	1 time	2 times and more often		
Primary medical care	disease	main	50,0	48,4	1,6	100,0	<0,001
		control	12,8	76,6	10,6	100,0	
	basic preventive examination	main	83,2	16,8	0,0	100,0	<0,001
		control	56,8	38,6	4,5	100,0	
	basic dispensary observation	main	88,4	11,6	0,0	100,0	>0,05
		control	83,3	16,7	0,0	100,0	
Oncologist disease	disease	main	21,0	76,6	2,4	100,0	<0,001
		control	94,3	5,7	0,0	100,0	
	basic preventive examination	main	95,0	5,0	0,0	100,0	>0,05
		control	93,9	6,1	0,0	100,0	
	basic dispensary observation	main	14,8	84,4	0,8	100,0	<0,001
		control	97,0	3,0	0,0	100,0	
Another disease	disease	main	76,7	23,3	0,0	100,0	<0,05
		control	94,1	5,9	0,0	100,0	
	basic preventive examination	main	94,3	5,7	0,0	100,0	>0,05
		control	100,0	0,0	0,0	100,0	
	basic dispensary observation	main	93,4	6,6	0,0	100,0	>0,05
		control	87,5	9,4	3,1	100,0	

As can be seen in Fig. 1, which presents the number of cases of at least one visit to a doctor during the year before the time of the survey per 100 respondents, the respondents mainly, visited doctors for illness. It is logical that in this case, patients with MNS mainly used the services of oncologists (79.0%), although they often turned to primary care doctors (50.0%) or doctors of other specializations (23.3%). At the same time, patients with PCDG most often turned to PMD doctors about the disease (87.2%, including 10.6% – 2 times a year or more often) and much less often – to an oncologist (5, 7%) or another specialist (5.9%).

At the same time, the medical activity of the preventive direction was clearly insufficient, in particular with regard to the respondents' appeals to doctors regarding medical examinations. It is possible that the low frequency of screenings among the surveyed patients with MNS (16.8% of such visits to PMD doctors, 5.0% to oncologists and 5.7% to doctors of other specialties) can be explained by the high percentage of their control visits to oncologists within the limits of dispensary observation (85.2% and another 11.6% to PMD doctors and 6.6% to doctors of other specialties). However, less than half (43.2%) of the respondents of the comparison

group (and these are patients with precancerous diseases of the stomach) underwent preventive examinations by their PMD doctor (although this is precisely their duty – to ensure coverage of screenings of the population from risk groups), and at all a small share (6.1%) – they were referred by him for a consultation with an oncologist. At the same time, it has been proven that not undergoing preventive examinations by a PMD doctor is a significant risk factor for the PCDG (OR=3.76; 95%CI=1.75-8.09; p<0.001).

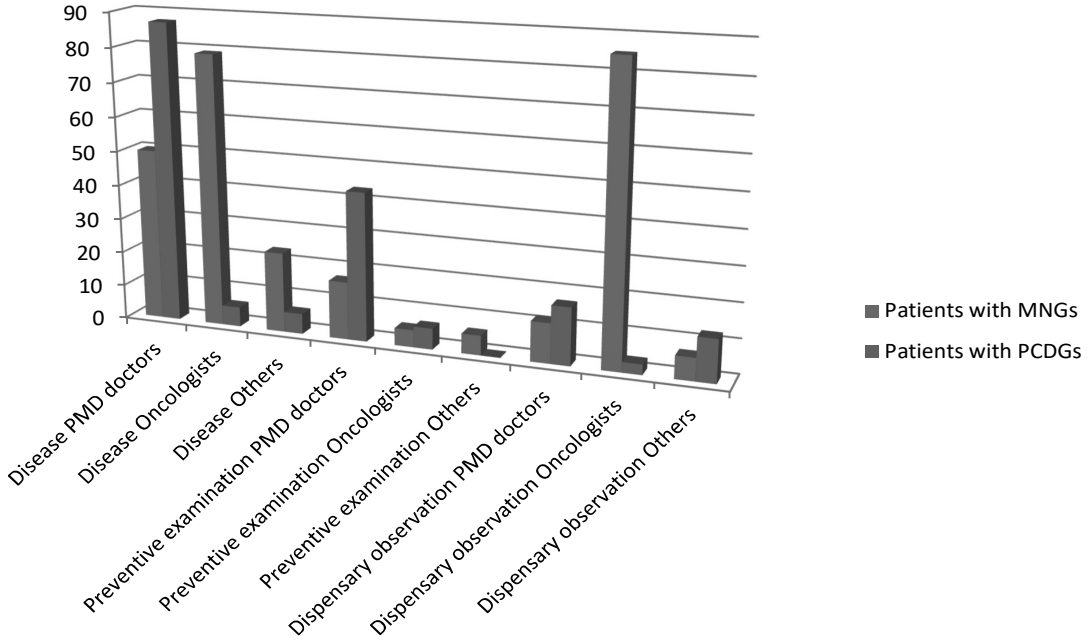

Fig. 1. The frequency of at least one visit during the year to doctors for various reasons among the respondents of the comparison groups.

The specific weight of patients with PCDG who visited doctors for dispensary follow-up turned out to be insignificant: PMD doctor – 16.7%, other specialist – 12.5%, oncologist – 3.0%.

Despite the PMD reform launched in 2018, the population still does not have an attitude towards disease prevention and prioritizing visits to PMD doctors. Indeed, after the appearance of the discomfort complaints from the gastrointestinal tract, two-thirds of the respondents of the main group (76.2%) and half (51.6%) of the comparison group consulted a gastroenterologist. Less than half of the interviewed patients with ENT (42.0%) admitted that they had visited their PMD doctor for these complaints, and almost 10% (9.5%) – doctors of other specialties. Only 16.1% of the respondents in the comparison group who consulted a PMD doctor after discomfort appeared were only 16.1% (p<0.001). Instead, a third of them (35.5%) admitted that they did not go to any doctor at all, but engaged in self-medication. The same answers, although twice as often (12.4%), were also found among the respondents of the main group.

Respondents' answers about which doctor they would like to be constantly monitored and treated by show that there is insufficient trust in PMD. The absolute majority of them answered that at a specialist doctor (90.6% of the main and 89.8% of the control group, p>0.05) and only about 10% (9.4% and 10.2%, respectively) at PMD doctor. At the same time, the study proved that improper visit to the PMD doctor is a risk factor for the PCDG (OR=6.83; 95%CI=2.71-17.25; p<0.001).

Obviously, it was financial motives that were reflected in the answers of the respondents regarding which type of ownership they would like to be observed and treated in a health care facility. The absolute majority of respondents of both groups (93.0% of the main and 95.9% of the control group, p>0.05) would choose a state or communal health care facility for this, and only 6.3% and 4.1% would choose a private one, another 3.1% of respondents only from the main group would like to be treated abroad.

The fact that the majority of respondents of both groups are dissatisfied with the results of treatment – 84.9% and 93.8% – speaks in favor of financial motives. A total of 15.1% of the respondents of the main and 6.3% of the control group (p>0.05) assessed the effects of treatment as positive.

At the same time, satisfaction with actual medical care was higher in the main group and practically did not change after the appearance of a chronic disease (Fig. 2).

In general, patients with MNS were more satisfied with the level of medical care than patients with PCDG (p<0.001), and their assessment almost did not change after detection of a malignant neoplasm. Half of them before and after the disease (53.1% and 55.0%) were completely satisfied with medical care, while only 14.6% and 20.4% of them were in the comparison group. Sporadic responses related to complete dissatisfaction with medical care before the onset of the disease (3.1% of the main and 6.3% of the control group). And after its detection, this share practically did not change in the group of patients with MNS (4.7%) and doubled (to 14.3%) among patients with PCDG. We also noted the tendency of the respondents of the main group against the background of such a severe disease as MNS to have a more positive attitude to life in general, which was obviously reflected in their better subjective assessments of their own health, life satisfaction and, as we can see, medical care.

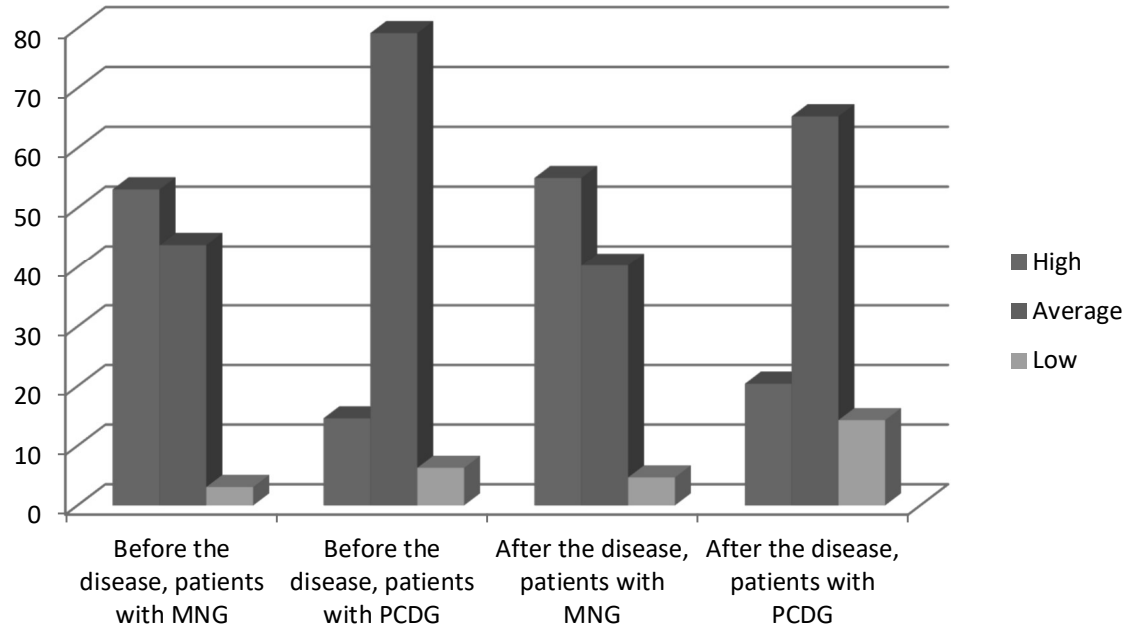

Fig. 2. Respondents' self-assessment of satisfaction with medical care before and after diagnosis of the disease.

The main reason for respondents' complaints about the level of medical care was economic. Before the onset of the disease, one in five (20.0%) of those who were not completely satisfied with medical care in the main group, and almost half (46.3%) of such respondents in the comparison group complained about the high cost of examination and treatment, in while other reasons were mentioned in the range of 0-5%. After the diagnosis of the disease, the percentage of those dissatisfied with the high cost of treatment doubled and reached 44.8% in the main group, and 74.4% in the control group. This may have been influenced by the better financing by the National Health Service (NHS) of oncology care packages, compared to the packages of therapeutic services, to which most of the PCDG belong.

It should be emphasized that in the main group with the onset of the disease, complaints about the lack of modern equipment (13.8% versus 2.6% in the control group), as well as the remoteness of the medical facility (12.1% versus 0%, respectively), which is quite it is understandable, because such patients have to travel from different parts of the region to the regional oncology center.

The remaining reasons remained insignificant (1.7-5.2%).

It should be noted as positive that the majority of respondents (96.9% of the main and 85.4% of the comparison group) named medical workers as the main source of information on medical topics and about their disease. However, as we see in fig. 3, other resources are more relevant for patients with MNS than among respondents with PCDG ($p<0.001$).

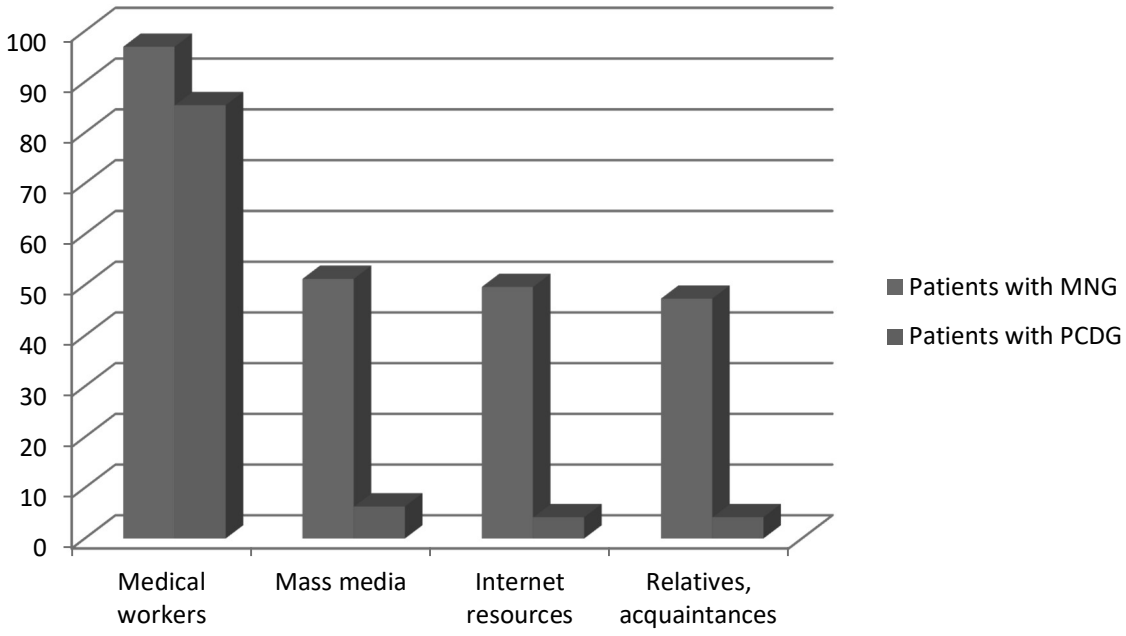

Fig. 3. Sources of receiving medical information by respondents.

Obviously, the appearance of such a dangerous disease as oncopathology prompts patients to seek answers to the questions of what happened to them, why and what to do about it, in various sources. In particular, half of the respondents of the main group receive medical information from newspapers, magazines, radio and television programs (51.2% versus 6.3% in the comparison group), from Internet resources (49.6% versus 4.2%, respectively), as well as from relatives or acquaintances (47.3% versus 4.2%).

Conclusions

Summing up, it should be emphasized that the main medical and organizational risk factors for the transformation of precancerous stomach diseases into oncological ones are that the population has not yet formed a sufficiently formed attitude to the priority of turning to PMD doctors in case of complaints, the consequence of which may be the inadequate coverage of patients with PCDG with preventive examinations at the level of primary medical care (16.8%). At the same time, it has been proven that the factor of risk of malignancy is the insufficient appeal to these doctors both for the disease and for screenings.

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