

## PATIENTS' AWARENESS OF THE PREVENTION AND TREATMENT OF COLORECTAL CANCER\*

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**The aim of the study** was to assess patients' awareness of the prevention and treatment of colorectal cancer.

**Material and methods.** Patients diagnosed with colorectal cancer, hospitalised at the Department of General and Colorectal Surgery of the Medical University in Łódź during the period from January 2015 to April 2015, were asked to complete a questionnaire concerning their families' medical case record, factors predisposing them to the development of colorectal cancer, the tests applied in diagnostics, and the treatment process. The questionnaire comprised 42 closed-ended questions with one correct answer. A statistical analysis of all answers was carried out.

**Results.** The study group consisted of 30 men and 20 women aged 27–94 years old. A strong, statistically significant negative correlation between a patient's age and his/her awareness of the prevention and treatment of colorectal cancer was noted ( $p < 0.001$ ;  $r = -0.51$ ). The study demonstrated a statistically significant relationship between the occurrence of neoplasms in a patient's family ( $p = 0.009$ ) or, more specifically, the occurrence of colorectal cancer ( $p = 0.008$ ), and the awareness of the prevention programme. The women's group was characterised by statistically significantly greater awareness of colonoscopy as a screening examination ( $p = 0.004$ ).

**Conclusions.** Patients need more information on colorectal cancer, its risk factors, prevention, the treatment process, and postoperative care. Lack of awareness of the colorectal cancer issue can be one of the major factors contributing to the high incidence of this disease.

**Key words:** colorectal cancer, patients' awareness, prevention

According to the National Register of Neoplasms (KRN), colorectal cancer (CRC) is, in terms of incidence, the second most common malignant neoplasm in women, and third in men. It accounts for 8% cancer deaths, which gives it the fourth position in the ranking of cancer deaths – 694,000 deaths in 2012 according to WHO. In 2010 in Poland, a total of 15,800 cases of this neoplasm were noted, 8,685 in men and 7,115 in women, as well as 10,820 deaths – 5,959 in men and 4,861 in women. Statistics on mortality among men in Poland differ significantly from average European values, while those concerning women remain at almost the same level. On the other hand, the incidence in 2010 in Poland was

lower than the average European value for both sexes – for men, 30/105 in Poland in relation to 40/105 in the European Union; for women, 18/105 in Poland in relation to 25/105 in the European Union. The risk of developing CRC increases with age. Most cases of the disease occur in people older than 50 years, and 75% cases are people aged over 60 years. The sustained upward trend in the incidence of colorectal cancer is an alarming fact.

Based on the research to date, a significant number of factors increasing the risk of developing CRC have already been identified. They can be categorised into two groups – modifiable and non-modifiable. The factors beyond our control include age, inflammatory conditions

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of the colon, the occurrence of polyps in the colon, previous history of colorectal cancer, including in relatives, previous occurrence of other malignant neoplasms, and genetic factors (Hereditary Familial Polyposis and Lynch Syndrome). The factors we can modify include the diet, tobacco smoking, the presence of metabolic syndrome, and excessive alcohol intake (1, 2).

Colonoscopy is a diagnostic and procedural examination which allows the detection and removal of colorectal polyps as well as the collection of tissue samples for histopathological examination. Both the sensitivity and specificity of this examination for CRC are high, and contribute to early diagnosis of the disease. In turn, early detection of the presence of CRC in an endoscopic examination provides significantly higher probability of recovery. According to the U.S. National Cancer Institute, diagnosing the disease in the first stage equals 92% probability of 5-year survival, while for the fourth stage, this probability is only at a level of 11%.

CRC originates in the epithelial cells lining the colon, due to the cell replication uncontrolled by the body. CRC symptoms depend on the size and location of the tumour, and on the stage of neoplastic process. The most commonly observed symptoms include altered bowel habits, pain, unintentional weight loss, weakness, iron deficiency, and anaemia (3). However, patients often ignore these symptoms, which may be due to the lack of awareness of CRC.

The aim of the study was to assess patients' current awareness of the prevention and treatment of colorectal cancer.

## MATERIAL AND METHODS

Fifty patients diagnosed with CRC, hospitalised at the Department of General and Colorectal Surgery of the Medical University in Łódź during the period from January 2015 to April 2015, were asked to complete an original questionnaire which comprised 42 closed-ended questions concerning their families' medical case record, factors predisposing them to the development of CRC, the tests applied in diagnostics, and the treatment process. Only one correct answer was possible to each question. Having read the conditions of

the study and signed the consent form, respondents were asked to select the answer being the best in their opinion, based on their current level of knowledge.

A condition for the inclusion in the study was being at least eighteen years of age, and providing coherent verbal response. The questionnaires were completed in the presence of medical students who made sure that the process was performed correctly. The identity of each patient remained anonymous.

The statistical analysis was carried out using the STATISTICA 12.5 program (StatSoft Inc., USA). The range of applied tools included the elements of descriptive and non-parametric statistics (Spearman's rank correlation) as well as a chi-squared test. Given the large number of planned comparisons, the level of statistical significance ( $\alpha$ ) was set at 0.01.

## RESULTS

The applied methodology allowed the inclusion of all questionnaires into the analysis. The study group consisted of 30 men and 20 women aged 27–94 years old. The mean age was  $62.3 \pm 13.7$  years. For 62% patients, neoplastic diseases occurred in their families in the past. In 26% of them, colorectal cancer occurred among their relatives, and in 24%, polyps of the gastrointestinal track.

A statistically significant, strong negative correlation between a patient's age and his/her awareness of the prevention and treatment of colorectal cancer was found ( $p < 0.001$ ;  $r = -0.51$ ) (fig. 1). The older patients' awareness was decidedly poorer. The chi-squared test demonstrated a statistically significant relationship between the occurrence of neoplasms in a patient's family ( $p = 0.009$ ) or, more specifically, the occurrence of colorectal cancer ( $p = 0.008$ ), and the awareness of the prevention programme covering persons aged above 50 years. The chi-squared test also demonstrated that the women's group was characterised by statistically significantly greater awareness of colonoscopy as a screening examination ( $p = 0.004$ ).

The degree of patients' awareness concerning selected issues of the prevention and treatment is presented as percentages in fig. 2. It shows that patients are insufficiently informed, particularly as regards the following issues:

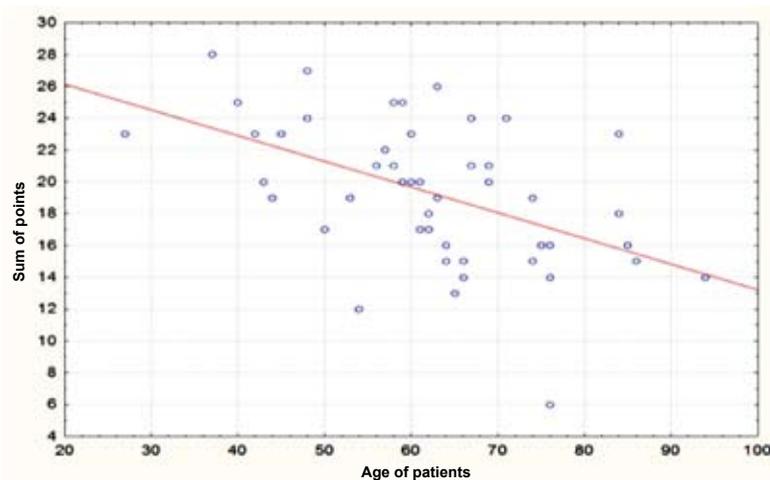


Fig. 1. The graph shows a strong negative correlation between a patient's age and his/her awareness of the prevention and treatment of colorectal cancer (p=0.000168; r= -0.51)

the recommended date of the next follow-up colonoscopy following the surgery; duration of the period during which they should remain under close medical supervision; the frequency of colonoscopy as a screening method; the target group of the prevention programme; the possibility for having colonoscopy performed without a referral; examinations applied as part of the prevention; and the relationship between the diet as well as the presence of polyps and colorectal cancer.

DISCUSSION

The degree of patients' awareness of the prevention and treatment of colorectal cancer is a widely recognised issue worldwide. This is due to the fact that it is a result of the effectiveness of prevention, screening, and early implementation of therapies being key to the

reduction in the mortality of this disease (4). The validity of the analysed subject increases in the context of the above-presented epidemiology of colorectal cancer, and the persistent upward trend in incidence rate.

In 2015, Zubaidi et al. (5) conducted a similar survey among the population of Saudi Arabia. The authors demonstrated that fewer than 20% patients saw a link between the development of colorectal cancer and the co-existence of polyps, and that only a third of respondents perceived positive family history as being significant. In our study, respondents demonstrated greater awareness in this regard. Both the cited paper and the publication by Khayyat et al. (6) draw attention to the dependence of the degree of awareness on education. However, the authors noticed no differences determined by a patient's age, which are demonstrated in our paper. In our study, the occurrence of positive family his-

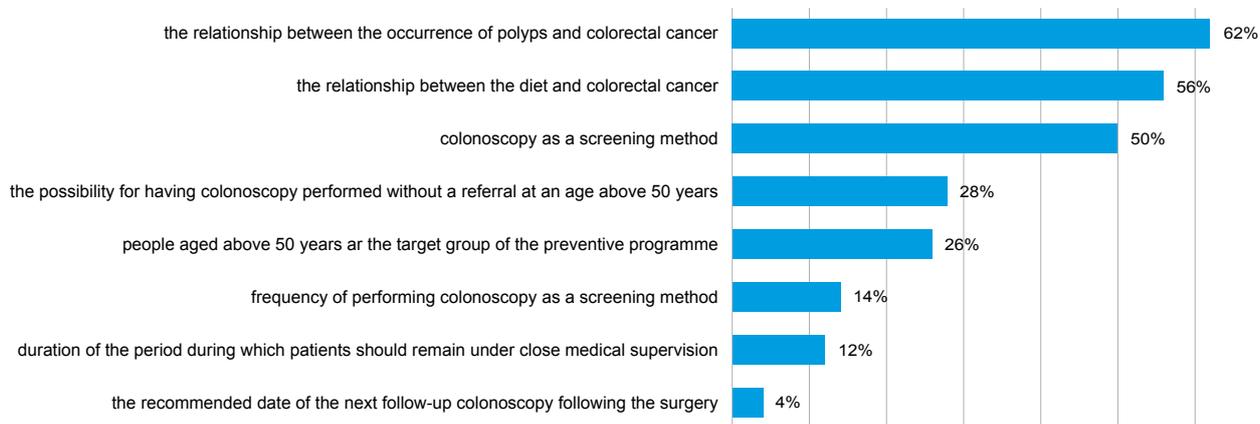


Fig. 2. The graph shows the selected percentage values of correct answers for particular issues

tory was associated with greater awareness of preventive programmes. This is consistent with the results obtained by Tam et al. (7) and Kwiatkowski et al. (8). This is because patients' own experiences are the most significant factor affecting the level of awareness of the prevention and treatment of colorectal cancer (9).

In addition to the significance of patients' level of education, authors of various publications draw attention to the fact that the effectiveness of preventive programmes also depends on a patient's lifestyle (alcoholism, cigarette smoking) and mental problems (depression, insomnia) (4). The complexity of the phenomenon is reflected by the fact that even the sex of a physician performing colonoscopy is significant to the patient (10). Moreover, attention is drawn to the significantly lower level of the implementation of prevention programmes in rural areas (11).

It follows from the above-presented picture that raising the level of awareness of the prevention of colorectal cancer should be the primary aim of measures at national level. In addition to health implications, early detection also results in economic benefits. Currently, methods allowing an effective increase in the implementation of prevention programmes are diligently searched for. Nawaz et al. (12) suggest that each hospitalisation period should be used as an opportunity to educate patients on the prevention of colorectal cancer. Other authors see the remedy in the widespread access to the internet (13). As it appears from a paper by Lee et al. (14), the internet has already become the major source of knowledge to most patients; however, a large volume of available materials often fail to provide substantive value (13). According to Hassinger et al. (15), the use of multimedia brings about the best effects. Another approach was attempted in 2012 by Levy et al. (16); however, the phone reminders they used did not improve the situation significantly.

However, regardless of other methods, the most important patient's source of information should remain his/her general practitioner or other specialist. Certainly, causes of problems are searched for in this area as well. Many researchers indicated that healthcare professionals lacked the sufficient knowledge in this regard but, in our opinion, their stud-

ies do not allow the situation to be judged clearly. For example, White et al. (17) demonstrated the substantial lack of physicians' knowledge on dealing with high-risk patients; on the other hand, Kelly et al. (18) demonstrated no such phenomenon, and only referred to the problem of limited availability of genetic tests. An interesting voice in the discussion can be provided by papers by Porosky et al. and Ziegler et al. (19, 20), which demonstrate significant differences not only in the manner of giving medical recommendations concerning colorectal cancer but also in the treatment algorithm. Another persistent problem is the deficiencies in medical records, resulting from errors in the physician-physician communication (21).

An important issue is the key role of a patient's family, described by Lobchuk et al. (22) as emotional support. This is a factor which cannot be obtained by the physician, yet it is significant in the context of following the preventive and therapeutic recommendations. More generally, citing a paper by Lawsin et al. (23), the patients with colorectal cancer themselves are important intermediaries in spreading knowledge on the prevention and treatment of the disease. This is consistent with the results that we obtained.

It should be emphasised that the issue of insufficient patients' awareness of the prevention and treatment is not only specific to colorectal cancer. This is a frequent phenomenon, also observed in case of other neoplasms such as e.g. kidney cancer (24).

The above study is a survey being subject to restrictions widely discussed in the literature (25).

## CONCLUSIONS

This paper presents the current assessment of the degree of colorectal cancer patients' awareness as regards the prevention and treatment, and discusses the possible causes and manners of improvement of the presented problems.

Physicians, during the health-promoting education of the patient, should pay special attention to both the preventive opportunities for patients aged above 50 years and the aspects of postoperative care. The obtained results demonstrated that the patients scheduled

for an oncological surgery usually are not aware of the postoperative care. They lack the

knowledge on the consequences of the procedure, and other therapeutic opportunities.

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