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## Analysis of the News Items in Newspapers on Colorectal Cancer



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### ABSTRACT

**Background:** Colorectal cancer ranks second in women and fourth in men among the most common cancers in Turkey. The society must be informed about protection against an early diagnosis of colorectal cancer. Besides the health professions, the fact that newspapers are being distributed quicker and are reaching more people plays an important role in dealing with these issues. This study aimed to analyze the news items published in the newspapers on colorectal cancer.

**Methods:** The news published about colorectal cancer in ten newspapers with the highest net sales between 1995 and 2015 (*Sabah, Posta, Akşam, Hürriyet, Milliyet, Takvim, Zaman, Vatan, Habertürk, and Radikal*) form the setting of the descriptive research (N=478). The news items about colorectal cancer that were published in the selected newspapers form the sample of the study (n=200). The researchers between March and May 2015 examined the newspapers. **Findings:** When the distribution of news items on colorectal cancer was examined by years, it was observed that there was an increase in the number of news items about colorectal cancer in 2015. The differences that emerged in the news items by years were found to be statistically significant in the Chi-square analysis ( $\chi^2=13.124$   $p<0.05$ ). It was determined that the definition of colorectal cancer was made in 76.5% of the news items, the symptoms were mentioned in 74%, treatment methods were discussed in 54.5%, prevention methods were discussed in 56.0% and the innovations were mentioned in 12% of the news items. **Conclusions:** Although the news items about colorectal cancer had increased in the newspapers by years, it was found that newspapers did not provide enough space for these news items. It was found that the symptoms of colorectal cancer were mentioned in most of the news items, treatment and prevention methods were included and the contents of more than half of the news items were found to be scientifically appropriate and had informative features.

## INTRODUCTION

Cancer is a major burden worldwide and a leading cause of mortality [1]. Worldwide, colorectal cancer (CRC) is the third most frequently diagnosed cancer in males and the second in females [2]. According to data from the Turkish Ministry of Health, colorectal cancer ranks second in women and fourth in men among the most common cancers in Turkey. CRC ranks seventh with an incidence of 7.24/100,000 for the most common 10 cancer grading, approximately 5,000 new cases were observed annually, and approximately 3,200 CRC-related deaths occurred [3]. Epidemiological studies have demonstrated that some risk factors and interactions between genetic and environmental factors may play important roles in the pathogenesis of this cancer [4]. Otherwise, age is an important risk factor. All women and men over 50 years of age carry risks for CRC. Patients with colorectal cancer, 90% were over 40 years of age and the risk doubles every 10 years after this age. The risk groups genetically are formed of those who have a family member, especially first or second degree relatives with a CRC history or those with an adenomatous history or those with ulcerative colitis, Crohn's disease, chronic illness, such as a history of inflammatory bowel disease and those with familial-hereditary polyposis or non-polyposis disease [3,5].

If there are some common signs and symptoms of colorectal cancer, then one should consult a physician for protection against cancer. The importance of acquiring anti-cancer dietary habits should be understood. Sigmoidoscopy examinations should be made at fifty years of age. If an individual is at risk, then the sigmoidoscopy examination should be done every five years [6]. Novel treatment interventions for CRC that involve surgery, chemotherapy and/or radiotherapy have increased the overall survival rates in the early stages. Unfortunately, tumor recurrence is still frequent, especially in lymph-node metastatic cancers [7].

Since early-stage cancers are less deadly and can be treated better than late-stage cancers, if cancer awareness is created, then early diagnosis increases the chances of a cure and improves the quality of life in cancer patients. Therefore, health professionals', particularly nurses' (colorectal) cancer-related risk awareness should be increased during their professional training and they should be informed about early diagnosis and screening programs for cancer [8]. There are roles for nurses in the prevention of cancer. Health education and taking the necessary precautions are a part of primary protection. This education includes the risks of smoking, alcohol consumption, occupational exposure, radiation, sunlight, nutrition, sexual health and personal hygiene. Secondary protection

includes implementation of scanning programs (tests, examinations and cytological examinations, blood and urine tests) for the entire society and high-risk groups. Education and rehabilitation of patients, control of symptoms, early diagnosis of complications and follow-up after the diagnosis of cancer are the tertiary prevention tasks of nurses [9-11].

Nowadays, health communications cover a wider area, not only patient-physician-nurse relationships. Therefore, medical science remains incapable when there is a solitary approach to health issues. This situation has brought up the concept of interdisciplinary communications. The concept of health communications also comes into play at this point. When public relations, media consumption devices, and techniques are applied, then it contributes to medical science [12].

Generally, health communications are a sub-system of communications and are concerned with how health-related issues affect people and how people deal with this subject. Health-related news items and the level that this news affects public opinion create the most important points for health communications. The US Centers for Disease Control and Prevention (CDC), the leading healthcare provider in the United States, define health communications as “investigation and use of communication strategies in terms of improving health, acting on the decisions of individuals and society and enlightening them” [13]. Health communications are a key strategy used to enlighten the society about their concerns and to keep important health issues on the agenda [14].

Health journalism is a presentation of health information to the press and electronic media. The news and publications on health and medical sciences and the content of them draw the attention of readers. Curiosity and willingness is a basic impulse to learn because life and health are extremely important for people. Therefore, people watch and read health and medical news and broadcasts carefully and transform their communities. It should be considered a duty for people working in this field to express the points that should be considered in news and broadcasts [15].

In addition, the society has to be enlightened on protection against colorectal cancer and on early diagnosis. Besides the health professions, newspapers reaching more people and rapidly have an important role in dealing with these issues. Effective and adequate presentation or inaccurate and inadequate presentation of the news on colorectal cancer can affect the understanding of society positively or negatively [16]. For example, it is reported that

patients with cancer get information from the media about complementary and alternative therapies based on self-care [17].

This study aimed to analyze the news items in the newspapers on colorectal cancer.

## **METHODS**

The news items about colorectal cancer in ten newspapers with the highest net sales between 1995 and 2015 (*Sabah, Posta, Akşam, Hürriyet, Milliyet, Takvim, Zaman, Vatan, Habertürk, and Radikal*) form the setting of this descriptive study (n=478). The news about colorectal cancer that appeared in the selected newspapers forms the sample of the study (n=200). The researchers between March and May 2015 studied the newspapers.

### **Questionnaire**

A questionnaire form created by reviewing the literature was used for gathering data in the study. There were 13 questions on the questionnaire form that reviewed the definition, symptoms, and diagnosis and prevention methods of colorectal cancer, innovations for colorectal cancer, the source, content, and acquisitions of the news.

### **Statistical Analysis**

The data were evaluated with the SPSS 21.0 (Statistical Package for the Social Sciences) program. The descriptive statistics, number and percentage distributions were made within the data analysis. In addition, the Chi-square analysis was made for determining the relationships between independent variables.

## **RESULTS**

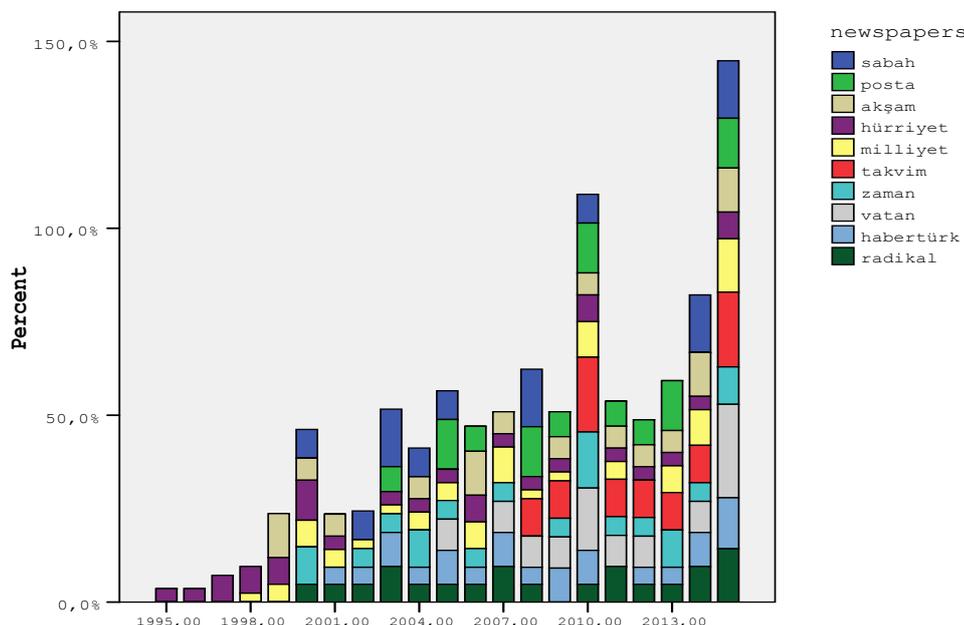
In this section, the news items on colorectal cancer in newspapers have been reviewed according to years, names of the newspapers, the presence of information about colorectal cancer, the definition, symptoms, diagnosis and prevention methods of colorectal cancer, innovations for colorectal cancer, the source, content, and acquisitions of the news.

**Table 1. The analysis of the news items in the newspapers on colorectal cancer**

		<b>Number</b>	<b>Percentage</b>
<b>Names of the newspapers</b>	<i>Sabah</i>	13	6.5
	<i>Posta</i>	15	7.5
	<i>Akşam</i>	17	8.5
	<i>Hürriyet</i>	28	14.0
	<i>Milliyet</i>	42	21.0
	<i>Takvim</i>	10	5.0
	<i>Zaman</i>	20	10.0
	<i>Vatan</i>	12	6.0
	<i>Habertürk</i>	22	11.0
	<i>Radikal</i>	21	10.5
<b>Years</b>	1995	1	0.5
	1996	1	0.5
	1997	2	1.0
	1998	3	1.5
	1999	6	3.0
	2000	11	5.5
	2001	6	3.0
	2002	5	2.5
	2003	10	5.0
	2004	9	4.5
	2005	11	5.5
	2006	11	5.5
	2007	12	6.0
	2008	10	5.0
	2009	9	4.5
	2010	20	10.0
2011	10	5.0	
2012	8	4.0	
2013	12	6.0	
2014	16	8.0	
2015	27	13.5	
<b>Information on colorectal cancer</b>	Yes	200	100.0
	No	-	-
<b>Definition of colorectal cancer</b>	Yes	153	76.5
	No	47	23.5
<b>Symptoms of colorectal cancer</b>	Yes	148	74.0
	No	52	26.0
<b>Diagnostic methods</b>	Yes	109	54.5
	No	91	45.5
<b>Preventive methods</b>	Yes	112	56.0
	No	88	44.0
<b>Innovations</b>	Yes	24	12.0
	No	176	88.0
<b>TOTAL</b>		<b>200</b>	<b>100.0</b>

Of the news items analyzed on colorectal cancer in newspapers, 6.5% were in *Sabah*, 7.5% in *Posta*, 8.5% in *Akşam*, 14.0% in *Hürriyet*, 21.0% in *Milliyet*, 5.0% in *Takvim*, 10% in *Zaman*,

6.0% in *Vatan*, 11.0% in *Habertürk* and 10.5% in *Radikal*. It was determined that a majority of the news items on colorectal cancer was in *Milliyet* newspaper (Table 1).



**Graph 1. Distribution according to years of the news items published in the newspapers on colorectal cancer**

When the distribution according to years of the news items in the newspapers was considered, there has been an increase in the number of news items on colorectal cancer in 2015 (Table 1, Graph 1). The differences that emerged according to years in the news items were found to be statistically significant for the Chi-square analysis ( $\chi^2=13.124$ ,  $p<0.05$ ).

When the knowledge level about colorectal cancer was reviewed, it was determined that there was information in all of the newspapers. It was determined that the definition of colorectal cancer was made in 76.5% and was not made in 23.5% of the news items and the symptoms of colorectal cancer were mentioned in 74.0% and were not mentioned in 26.0% of the news items. When the colorectal cancer news items were reviewed, methods of diagnosis were included in 54.5% and were not included in 45.5% of the news items, methods of prevention against colorectal cancer were included in 56.0% and were not included in 44.0% of the news items. Innovations for colorectal cancer were included in 12% and were not included in 88.0% of the news items (Table 1).

When the methods of prevention against colorectal cancer were reviewed, it was determined that besides the early diagnostic tests (e.g., colonoscopy, fecal occult blood, sigmoidoscopy),

reducing exposure to carcinogens (e.g., avoid smoking), dietary changes, reducing body weight and increasing physical activity were also effective in preventing colorectal cancer. Within the latest innovations in colorectal cancer, it was determined that studies related to genes, new treatments, diagnostic tests and the etiology of cancer were made. The innovations have continued increasingly in recent years (Table 2).

**Table 2. Preventive methods against colorectal cancer and the recent innovations/investigations**

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**Preventive Methods**

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Colonoscopic check-ups should be made and the formations called cancer precursors (pre-cancerous) colorectal polyps should be removed.

Diets that include high animal fat or red meat increase the risk of colorectal cancer.

A diet high in fibers will decrease the incidence of colorectal cancer.

Colon cancer is less common in people who drink green tea.

Colorectal cancer is less common in people who exercise regularly.

Calcium has a role in preventing the formation of polyps.

It has been shown that the occurrence of colorectal cancer decreased in people consuming fish oil.

Folic acid decreases the occurrence of colon cancer.

People with a high risk of colorectal polyps and cancer should have a colonoscopy.

Early scanning tests should be made, such as tests for fecal occult blood, sigmoidoscopy, and colonoscopy.

Overweight increases the occurrence of colorectal cancer. Therefore, ideal weight should be maintained.

People should quit smoking.

Alcohol increases the occurrence of colorectal cancer. Therefore, excessive alcohol should be avoided.

Consumption of 6 cloves of garlic per week reduces the risk of cancer by 30 percent.

Corn reduces the risk of colon cancer.

Buffalo yoghurt reduces the risk of colorectal cancer.

Drinking the 4-5 cup of coffee per day protects against colorectal cancer.

Consumption of fast foods increases the risk of colorectal cancer.

Black cumin seeds protect against colorectal cancer.

It has been determined that colon cancer was less common in people who consumed foods

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with abundant lutein, such as broccoli, spinach, and lettuce.

Red wine reduces the risk of colorectal cancer.

Rosehips protect against colorectal cancer.

### **Recent Innovations / Investigations**

A test, which will easily find out whether or not a person is in the high-risk group for colorectal cancer is being explored.

The structure of colorectal cancer is being investigated through RNA examinations.

Patient-specific chemotherapeutic agents are being explored for patients with colorectal cancer.

The mutation in the protein called "KRAS" reduces the success of treatment. A normal tumor suppressor method without this mutation reduces the recurrence of the disease and also extends life during metastasis

Three separate genes that increase the risk of colorectal cancer in patients with colitis have been determined.

According to a recent investigation, very important small changes not inside, but outside of the MLH1 genes can be enough for these genes to move cancer to new generations.

The most recent test is a method, which scans the genetic changes in colon cancer by taking blood from the arm.

The colorectal cancer screening called the Tumor M2-PK test has also started to be implemented in Turkey.

The Ministry of Health has increased the number of Cancer Early Diagnosis, Screening, and Education Centers (CEDEC) to 134 and is preparing to launch a "Mobile (CEDEC)" application to combat cancer, especially in rural areas.

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When the sources of the news items on colorectal cancer were reviewed, it was determined that 65.5% were from specialist physicians, 5.5% from health professionals, 13.5% from agencies/reporters, 9.0% from uncertain foreign sources, 1.0% from patients and 5.5% from the Foundation for the Fight Against Cancer. It was determined by the Chi-square analysis that there was no statistically significant difference among the newspapers for the sources of news items ( $\chi^2=50.480$   $p>0.05$ ). When the content of the news was reviewed, it was determined that 70.0% were scientifically appropriate, 23.0% were correct but insufficient, 1.5% were exaggerated / sensational, 5.0% could not be assessed and 0.5% were unscientific. It was determined by the Chi-square analysis that there was a statistically significant

difference among the newspapers for news content ( $\chi^2=60.601$ ,  $p<0.05$ ). According to the acquisitions of the news items, it was determined that 66.5% were informative, 19.5% were misleading and 14.0% were uncertain. It was determined by the Chi-square analysis that there was a statistically significant difference among the newspapers for the acquisitions of the news items ( $\chi^2=43.120$ ,  $p<0.01$ ) (Table 3).

**Table 3. The sources, contents, and acquisitions of the news items on colorectal cancer**

		Number	Percentage
<b>Sources of the news</b>	Specialist physicians	131	65.5
	Health professionals	11	5.5
	Agencies/reporters	27	13.5
	Uncertain foreign sources	18	9.0
	Patients	2	1.0
	Foundation for the Fight Against Cancer	11	5.5
	<b>Contents of the news</b>	Scientifically appropriate	140
Correct, but insufficient		46	23.0
Exaggerated/sensational, could not be assessed		3	1.5
Unscientific		10	5.0
1		0.5	
<b>Acquisitions of the news</b>	Informative	133	66.5
	Misleading	39	19.5
	Uncertain	28	14.0
<b>TOTAL</b>		<b>200</b>	<b>100.0</b>

## DISCUSSION

478 news items were reviewed related to cancer in the newspapers, which have the highest circulation, during the research period and 200 of the news items were determined to be related to colorectal cancer. The maximum number of news items related to colorectal cancer were published in the *Milliyet* newspaper, followed by the *Hürriyet* newspaper. There are some fluctuations according to years within the distribution of the news items related to colorectal cancer. The minimum news items were published in 1995 and 1996. The maximum news items were published in 2015, followed by 2010. Çınarlı (2008) stated, “there has been a complete explosion in the news media related to health, nutrition, and

disease over the last decade. Health news will occur at a slightly increasing rate in the media. It is an expected development that longer life expectancy, improved welfare and increased quality of life will cause an increase in the pages and time allocated to health" [12]. Thus, it can be observed that there is an increase according to years in the news items related to colorectal cancer. Developing technologies, increasing the possibility of access to information and awareness of people have caused an increase in the news.

In the study, the definition of colorectal cancer in *Milliyet*, *Hürriyet* and *Sabah* newspapers was as follows: "the cancers seen in the colon and the end of the colon, which is called the rectum, are colorectal cancers". The definition of colorectal cancer in *Posta*, *Takvim* and *Zaman* newspapers was, "It is the general name of the cancers seen in the colon and the end of the colon (rectum)". If it occurs in the rectum, then it is called rectal cancer; if it occurs in other parts of the colon, then it is called colon cancer. Çavdar (2014), Myers et al. (2004) and Dobrucali (2003) have defined colorectal cancer as follows: "the malignant formations seen in the colon and rectum [18-20]. Price (2002) made the definition of colorectal cancer as follows: "All tumors seen in the colon fall into the scope of colorectal cancer [21]. However, the most common of them is colorectal adenocarcinoma." As it can be observed, the definition in the news and the definition in the literature show a similarity.

According to the study, the symptoms of colorectal cancers were given in the *Hürriyet*, *Zaman* and *Posta* newspapers as abdominal pain, anemia, constipation, diarrhea, rectal bleeding and lumps, changes in bowel habits and not fully relaxing after defecation. The symptoms of colorectal cancers were defined in the *Radikal*, *Milliyet*, *Habertürk*, *Akşam* and *Vatan* newspapers as physical inactivity, obesity, anemia, blood in the stool for rectum cancers, impaired defecation pattern and recurrent diarrhea, frequent bowel movements and changes in the diameter of stool, gas, bad smell and weight loss for left colon cancers. Mahon (2009) and Salimzadeh et al. (2014) specified the symptoms of colorectal cancer as constipation, diarrhea, abdominal cramping, abdominal mass, melena, anemia, nausea, and vomiting and weight loss [22, 23]. The symptoms in the newspapers and the symptoms in the literature are consistent with each other.

In our study, the methods of diagnosis were ranked in *Sabah*, *Hürriyet*, *Milliyet* and *Takvim* newspapers as follows: surgery, radiotherapy, and chemotherapy. The treatments were ranked in *Habertürk*, *Posta* and *Radikal* newspapers as follows: surgical treatment; chemotherapy and radiotherapy are added before or after the treatment according to the stage and

localization of tumor. Ertürk (2010) and Mahon (2009) ranked the treatments as follows: 1. Lower anterior resection, 2. Abdominoperineal resection, 3. Local excision, 4. Fulguration, 5. Laser photocoagulation and 6. Colostomy [24, 22]. Referring to this information, the treatment methods in the newspapers and the treatment methods in the literature show similarities to each other.

According to this study, the majority of the sources of the news items on colorectal cancer were found to be a specialist physician and the other sources were found to be health professionals, agencies/reporters, uncertain foreign resources, patients and the Foundation for the Fight against Cancer. In the study by Özşaker et al. (2007), it was observed that a majority of the news items in the newspapers on breast cancer originated from specialist physicians and reporters. The content of the news on colorectal cancer was generally found to be scientifically appropriate. According to the study by Özşaker et al. (2007), the content of the news on breast cancer was found to be scientifically appropriate. The acquisition of the news on colorectal cancer was found to be informative. According to the study by Özşaker et al. (2007), the acquisition of the society from the news on breast cancer has an informative nature [25]. When the studies were reviewed, it was pleasing to find the news items written by specialist physicians were scientifically appropriate and informative for the society. As mentioned in the literature, it is necessary to prevent information pollution and not to misinform society [15, 16].

When the news items in the newspapers on cancer were reviewed, it was determined that besides the early diagnostic tests, reducing exposure to carcinogens, dietary changes, reducing body weight and increasing physical activity were also effective in preventing colorectal cancer. According to the literature, regular exercise, a balanced and healthy diet, regular surveillance of early diagnostic tests and prevention of obesity appeared as the methods of prevention [6, 9]. The methods of prevention against colorectal cancer seen in the newspapers and the methods of prevention in the literature showed a similarity.

According to the study, when the news items in the newspapers were analyzed, it was determined that studies were made on genes, new treatment methods, diagnostic tests, stem cells, cancer etiology in the recent innovations related to colorectal cancer. The innovations have continued increasingly in recent years. It has been observed that the innovations were being made through the genes and stem cells. The studies, which were made for the development of the early diagnostic tests, came to the fore in the newspapers.

At the end of the study, while the news on colorectal cancer was increased according to years in the newspaper written media, enough space was not given to this news in the newspapers. It was determined that the symptoms of colorectal cancer were mentioned in the majority of the newspaper items, that methods of treatment and prevention were included, that more than half of the content was scientifically appropriate and had informative features. The duty of the media must be to give more place to the scientific news by considering the concept of quality news and by directing society to accurate information. Besides, the health professions should contribute to directing the media by giving correct and up-to-date information.

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**Contributions of authors:** Study concept and design: Melek Ardahan, Nilay Özkütük, Öznur Usta Yeşilbalkan, Merve Talay, Simge İnalak; analysis and interpretation of data: Merve Talay, Simge İnalak; drafting of the manuscript: Melek Ardahan, Nilay Özkütük, Öznur Usta Yeşilbalkan; critical revision of the manuscript for important intellectual content: Melek Ardahan, Nilay Özkütük, Öznur Usta Yeşilbalkan, Merve Talay, Simge İnalak; statistical analysis: Melek Ardahan, Nilay Özkütük, Öznur Usta Yeşilbalkan.

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