

# Evidence of gastric cancer cases, year survival rate and frequent symptoms – A retrospective study at Vlora regional hospital, Albania

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## Abstract

The purpose of two stages study was to identify the frequency of distribution of stomach cancer in relation to gender, age and year survival rate after diagnosis as well the identification of common signs and symptoms of diseases for better management of them by nursing staff. The retrospective study was conducted in July-September 2018 at the Vlora Regional Hospital, Albania. The first phase included collecting data from patient records (n=30) in the Palliative Care Unit, and the second phase included data from card files (n=15). The majority of cases of gastric cancer were males (n=22). The average age of female and male patients was respectively 59.87 years, SD±16.63 and 64.27 years, SD±13.98. The average year survival rate (life expectancy) after the diagnosis of the disease was 1.86, SD±1.95. The most frequent signs and symptoms were lack of appetite, abdominal pain, body weakness and vomiting.

## Introduction

Stomach cancer is the fifth most common cancer overall, after cancers of the lung, breast, colorectum, and prostate. In 2012, worldwide, there are estimated to have been 952000 new cases of stomach cancer (6.8% of all incident cancer cases). More than 70% of stomach cancer cases occur in developing countries [1]. In Albania the deaths caused by stomach cancer account 15.9% in males and 13.6% in females of deaths caused by cancer [2].

In addition, stomach cancer is the third leading cause of cancer death in both sexes worldwide.

In 2012, stomach cancer were estimated to have affected a total of 951,594 individuals with a male/female ratio of 1.97, and caused 723,073 deaths worldwide [3].

Most of the cases are diagnosed at late stages when the treatment is largely ineffective. Screening for cancer and pre-cancerous lesions could be beneficial, but the currently available methods are not yet readily implementable in organized screening settings. Additional attention should now be paid to early diagnosis [4].

The incidence and mortality of stomach cancer have fallen dramatically over the past several decades. Nonetheless, gastric cancer remains a major public health issue as the fourth most common cancer and the second leading cause of cancer death worldwide. The main risk factors for distal gastric cancer include *Helicobacter pylori* (*H. pylori*) infection and dietary factors, whereas gastroesophageal reflux disease and obesity play important roles in the development of proximal stomach cancer [5].

The development of gastric cancer is a multifactorial process and many conditions influence the likelihood of occurrence. The effects of *H. pylori* infection on gastric cancer appear multifactorial, involving host and environmental factors as well as differing bacterial strains. Ethnic and geographic factors also play role. There is a higher

incidence of gastric cancer in non-Caucasian populations. In addition there are a variety of genes that increase the risk of stomach cancers as well there are many environmental and behavioral factors that affect the development of gastric carcinoma. Smoking is now considered a significant contributor. Alcohol, however, has been identified as a risk factor for disease progression. Diets with high amounts of fresh vegetables and fruit have been shown to have a protective association with stomach cancer. Consumption of high levels of salt and processed meat has been shown to be positively associated with gastric cancer [6].

Early-stage stomach cancer rarely causes symptoms. This is one of the reasons why stomach cancer is so hard to detect early. The signs and symptoms of stomach cancer can include: poor appetite, weight loss (without trying), abdominal (belly) pain, vague discomfort in the abdomen, usually above the navel, a sense of fullness in the upper abdomen after eating a small meal, heartburn or indigestion, nausea, vomiting, with or without blood, swelling or fluid build-up in the abdomen, blood in the stool and low red blood cell count (anemia). Most of these symptoms are more likely to be caused by things other than cancer, such as a stomach virus or an ulcer. Since symptoms of stomach cancer often do not appear until the disease is advanced, only about 1 in 5 stomach cancers is found at an early stage, before it has spread to other areas of the body [7]. The survival of patients with a stomach cancer diagnosis appears to be increasing. During the 1980s, statistically significant improvements were seen in the 2-month, 5-year, and 10-year relative survival of patients with stomach cancer, and in the subgroup with noncardiac cancer. Age at diagnosis was strongly and inversely related to relative survival. The reasons for this are probably

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multifactorial and are likely to include improvements in surgical and anesthesiologic management [8]. In addition, the favorable trends may be due to changes in environmental exposure and lifestyle, including decreased *Helicobacter pylori* prevalence, increased intake of fresh fruits and vegetables, the availability of refrigeration and decreased intake of salted and preserved food and smoking prevalence [9]. In the cases diagnosed in late stage the nurse's role is very important in the management of symptoms. The nurse's role in caring for patients with stomach cancer includes knowledge of the pathophysiology, risk factors, detection methods, signs and symptoms, treatments, conventional and integrative holistic nursing interventions, and community resources. In addition, they provide quality care and contribute to improved outcomes for cancer patients [10].

## Materials and methods

### Study design, area and population

The two stages retrospective study was conducted in July-September 2018 at the Vlore Regional Hospital, Albania. The first phase included the collection of data from patient records (n=30) in the Palliative Care Unit for the time period 2013- 2018. In the first stage the objective was the identification of the frequency of distribution of stomach cancer in relation to gender, age and year survival rate after diagnosis. In the second stage the objective was the identification of common signs and symptoms of the patients affected by stomach cancer through the analysis of 15 patients medical record files. Any data written in the patients card and related to the objectives of the study was documented.

### Purpose of the study

The purpose of two stages study was to identify the frequency of distribution of stomach cancer in relation to gender, age and years of survival after diagnosis as well the identification of common signs and symptoms of diseases for better management of them by nursing staff.

### Ethical considerations

An approval to conduct the study was obtained from the ethical committee of the research unit at Faculty of Public Health. For data collection were informed the relevant structures of the hospital which gave its approval. In the processing of each patients card, anonymity and ethics for scientific research were respected.

### Data analysis

Statistical analysis included the calculation of frequencies, percentages, cumulative frequency and 95% confidence intervals, upper and lower. Also, means and standard deviation were calculated. In addition to the descriptive statistical analysis, the categorization of cases with stomach cancer was performed based on gender, age, year survival rate, signs and symptoms. Values of  $p \leq 0,05$  was considered statistically significant. Data were analyzed using EpiInfo™ 7 software version 7.1.3.10.

## Results

### First study phase

In the first phase of the study, the final analysis included the data of 30 patients cards with stomach cancer for the time period 2013 to 2018. The average age of patients was 63.1 years,  $SD \pm 14:57$ , age interval [26-90]. The most affected age was 75 years old.

Refer to the results of Table 1 we see that the majority of cases of gastric cancer were males (n=22).

By categorizing patients according to gender and age it was found that the average age of female patients was 59.87 years,  $SD \pm 16.63$  while the average age of male patients affected with gastric cancer was 64.27 years,  $SD \pm 13.98$ .

The analysis of the data of the first phase of the study showed that the average year survival rate (life expectancy) after diagnosis of the disease was 1.86 years,  $SD \pm 1.95$ , Table 2.

Meanwhile age and gender categorization of year survival rate after stomach cancer diagnosis showed that life expectancy after diagnosis was higher in females (2.12 years) compared with males (1.77 years).

The ANOVA test (*a Parametric Test for Inequality of Population Means*) did not show statistical correlation between age, gender and year survival rate after cancer diagnosis,  $p=0.4852$ .

The distribution of patients by year of diagnosis with stomach cancer, time period 2013-2018 evidenced that most cases belonged to 2016, respectively 12, Table 3.

While the distribution of patients by year of death showed that 11 cases continue to live or be treated, Table 4.

**Table 1.** The distribution of cases by gender, n=30

Gender	Frequency	Percent %	Cum. Percent %	Exact 95% [LCL- UCL]
Female	8	26.67	26.67	[12.28-45.89]
Male	22	73.33	100.00	[54.11-87.72]
<b>TOTAL</b>	<b>30</b>	<b>100.00</b>	<b>100.00</b>	

**Table 2.** Year survival rate of patients after being diagnosed with stomach cancer, n=30

Variable	Obs	Total	Mean	Var	Std Dev	Min	25%	Median	75%	Max	Mode
Year survival rate	30	56	1.8667	1.4299	1.1958	0	1	2	2	5	2

**Table 3.** Distribution of cases with stomach cancer by year of diagnosis (2013-2018)

Year of diagnosis	Frequency (%)	Cum. Percent (%)	Exact 95% [LCL- UCL]
2013	2 (6.67)	6.67	[0.82-22.07]
2014	5 (16.67)	23.33	[5.64-34.72]
2015	4 (13.33)	36.67	[3.76-30.72]
2016	12 (40.00)	76.67	[22.66-59.40]
2017	6 (20.00)	96.67	[7.71-38.57]
2018	1 (3.33)	100.00	[0.08-17.22]
<b>TOTAL</b>	<b>30 (100.0)</b>	<b>100.00</b>	

**Table 4.** The distribution of cases with stomach cancer by year of death, n=30

Year of death	Frequency (%)	Cum. Percent (%)	Exact 95% [LCL- UCL]
-	11 (36.67)	36.67	[19.93-56.14]
2016	5 (16.67)	53.33	[5.64-34.72]
2017	7 (23.33)	76.67	[9.93-42.28]
2018	7 (23.33)	100.00	[9.93-42.28]
<b>TOTAL</b>	<b>30 (100.00)</b>	<b>100.00</b>	

### Second study phase

The second phase of the study included the analysis of 15 patients cards with stomach cancer. From the data analysis it was noted that the average age of affected patients was 64.66 years old,  $SD \pm 10.07$ , age interval [52-86] years. Most affected were patients aged 55 years old.

It should be noted that data on patients with gastric cancer patients were very scarce.

Gender-based distribution of cases with stomach cancer evidenced that the most affected were males, while five patients had no family history of stomach cancer, three were unemployed, and two of them lived in the village, Table 5.

**Table 5.** Characteristics of patients with stomach cancer, (n=15)

Variables	Frequency (%)	Cum. Percent (%)	Exact 95% [LCL- UCL]
<b>Gender</b>			
Female	6 (40.0)	40.00	[16.34-67.71]
Male	9 (60.0)	100.00	[32.29-83.66]
<b>Family history</b>			
No	5 (100.0)	100.00	[47.82-100]
<b>Employment status</b>			
Unemployed	3 (100.0)	100.00	[29.24-100]
<b>Residence</b>			
Village	2 (100.0)	100.00	[15.81-100]

It was also shown that 6 patients with stomach cancer were suffering from chronic disease. 3 patients suffering from diabetes mellitus, 2 from high blood pressure, 1 from rheumatoid arthritis.

Symptoms of the patients are presented in Table 6. Most common symptoms were poor appetite, abdominal pain, body weakness and vomiting.

**Table 6.** Symptoms of patients with stomach cancer, n=15

Symptoms	Frequency (%)
Poor appetite	9 (0.6)
Abdominal (belly) pain	6 (0.4)
Body weakness	5 (0.3333333)
Vomiting	5 (0.3333333)
Anemia	4 (0.2666667)
Nausea	3 (0.2)
Weight loss	3 (0.2)
Blood in the stool	2 (0.13333333)
Profuse sweat	2 (0.13333333)
Numbness of the feet	1 (0.06666667)

Documentation on the risk factors was very limited. Only one male patient with stomach cancer was reported as a user of alcohol and two male patients as tobacco users.

## Discussion

The results of both phases of the study highlighted that men were more affected by stomach cancer, Table 1. Evidence shows that incidence rates of stomach cancer in males are higher than those observed in females. A similar picture was observed for mortality, with an estimated 63 600 stomach cancer deaths in men and 43 700 in women [11].

Some studies have hypothesized that lifestyle changes such as nutrition and smoking can be an explanation [6,12], but a recent study suggests that the gender differences in stomach cancer may have a biological basis [13]. This study showed that estrogen hormone is the one that protects women from stomach cancer especially those cases caused by chronic infection with *Helicobacter pylori*. But contrary to this fact a cohort study showed that female gender and *Helicobacter pylori* infection were the most important predisposition factors of stomach cancer [14].

The average age of patients affected with stomach cancer for the first phase was 63.1 years, SD±14:57, age interval [26-90] and for the second phase was 64.66 years, SD±10:07, age interval [52-86] years. The results of our study do not differ from global trends about the age of those affected with stomach cancer. Stomach cancer mainly affects older people. The average age of people diagnosed with gastric cancer is 68 years. About six out of 10 people diagnosed with stomach cancer each year are aged 65 years and older. The risk that a man develop in his life a stomach cancer is 1 in 95. For women the chances are 1 in 154 [15].

The analysis of the data of the first phase of the study showed that the average year survival rate (life expectancy) after diagnosis of the disease was 1.86 years, SD±1.95, Table 2.

If we refer to global statistics about survival from stomach cancer after diagnosis, the results of our study show that the survival of our patients is low. If stomach cancer is detected before it spreads, the highest survival rate is 5 years, but it also depends on the stage of cancer at the time of surgical intervention. If cancer is diagnosed and treated early, before it is spread out of the stomach, survival rate for 5 years is about 67% [16].

Distribution of cases with stomach cancer by year of diagnosis found that 2016 (Table 3) has the largest number of cases of gastric cancer while for the other years the trend of diagnosed cases is the same. While trend mortality rate (Table 4) is the same as for the year 2017 and 2018 (respectively 7 cases).

The results of the second study phase, found that only five patients had no family history of stomach cancer. For the rest of patients (n=10) among the 15 medical patients records analyzed we do not have any documentary evidence regarding this fact. A study about gastric cancer and family history association found that among individuals with a family history, current or past *Helicobacter pylori* infection, having two or more first-degree affected relatives or female gender was associated with an increased risk of developing stomach cancer [17].

From the data of medical records of the patients analyzed in the second phase of the study, it was found that 6 patients were suffering from chronic illness. Diabetes mellitus was the most common chronic disease. While for other patients there were no documented data for chronic illness or use of tobacco or alcohol. A study suggests that chronic disease is an overlooked risk factor for cancer, as important as five major lifestyle factors combined. In this study, chronic diseases contributed to more than one fifth of the risk for incident cancer and more than one third of the risk for cancer death [18].

The symptoms of the patients with stomach cancer presented in Table 6 suggest that the patients in the study have almost the same clinical framework, what suggests the literature [7].

A study found that symptoms play a role in diagnosis and outcome of stomach cancer. Moreover, symptoms of early stage cancer may be indistinguishable from those of benign dyspepsia, while the presence of alarm symptoms may imply an advanced and often inoperable disease. Alarm symptoms in gastric cancer are independently related to survival and an increased number, as well as specific alarm symptoms, are closely correlated to the risk of death. Dysphagia, weight loss and a palpable abdominal mass appear to be major independent prognostic factors in gastric cancer, while gastro-intestinal bleeding, vomiting and also duration of symptoms, do not seem to have a relevant prognostic impact on survival in stomach cancer [19].

In addition a clinical review on the diagnosis and management of gastric cancer suggests patients present with weight loss, abdominal pain and in some cases may present with dysphagia. This study highlights that treatment is multidisciplinary. Early gastric cancer is treated with surgery alone, whereas advanced disease is usually managed with chemotherapy before and after surgery [20].

Management of symptoms in patients with stomach cancer depends on the stages of the disease and the general condition of the patient. And in the multidisciplinary treatment of stomach cancer, nurses have a key role in the coordination and continuity of care provided to patients with stomach cancer as well as in providing information and psychosocial and emotional support to patients and family members [21].

## Conclusions and perspectives

Our study found that stomach cancer can be considered health problems in our city. The study showed that documentation of the stomach cancer cases is limited, especially in terms of risk factors associated with it. In addition cases are diagnosed in late stage and therefore year survival rate is very low compared with global trend. One implication for practice for this fact is the lack of screening and late diagnosis of the disease in our country. Perspective is related to the organization of health promotional campaigns focusing on the risk factors for stomach cancer, the role of regular health checks. To point out that people with a family history of gastric cancer are more likely to get cancer, mostly women. A very important role plays full documentation of cases of gastric cancer, because the data recorded will serve as a reference point for the development of effective strategies for the prevention, treatment and symptoms management of stomach cancer.

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