

Stomach Cancer: A Retrospective Analysis Of Age Distribution, Gender, Comorbidities, And Treatment Regimen

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ABSTRACT:

Background: Stomach cancer is a serious global health issue since it greatly increases the morbidity and mortality linked to the disease.

Objective: This retrospective study examined the age distribution, gender, comorbidities and treatment regimen of patients with stomach cancer.

Methods: Medical data of 16 stomach cancer patients treated at a private hospital between 2022 to 2024 were reviewed.

Results: Our study found that patients in the age groups of 61–70 were more prevalent and more likely to be male. Diabetes mellitus and hypertension were the most common comorbidities. Chemotherapy was the primary treatment approach, and 5-fluorouracil was the most regularly prescribed chemotherapeutic drug.

Conclusion: Important new data regarding the clinical and demographic traits of people with stomach cancer are provided by this study. The findings of this study can direct the development of tailored treatment regimens and effective management strategies.

Keywords: stomach cancer, gastric cancer, age distribution, gender, comorbidities, treatment regimen, chemotherapy.

I. INTRODUCTION:

Stomach cancer, also known as gastric cancer, is the fifth most frequent type of cancer and the third-leading cause of cancer-related death worldwide, responsible for over 1,000,000 new cases and an estimated 783,000 deaths in 2018¹, with an estimated 952,000 new cases (7% of total cancer incidence) and 723,000 deaths (9% of total cancer mortality) in 2012².

Advanced age, sex, ethnicity, and genetic factors may contribute to the development of

stomach cancer. However, nutritional factors and behavioral factors such as cigarette smoking and drinking alcohol, as well as Helicobacter pylori infection, also contribute to the development of stomach cancer. These factors are largely modifiable and preventable, and therefore can be considered when designing effective prevention program¹.

Although there have been improvements in methods for diagnosing and treating GI cancers, the chances of survival for these types of cancers are still extremely low. According to the World Cancer Research International Fund's most recent figures, stomach cancer was responsible for roughly one million deaths worldwide in 2020.

The Global Cancer Observatory (GLOBOCAN) 2020 report shed light on the alarming incidence and mortality rates associated with GI cancers worldwide. The data revealed a significant global burden, with approximately 5.3 million new cases and 3.5 million deaths attributed to GI cancers in the year 2020³.

II. METHODS AND MATERIALS:

Study Design: This retrospective study investigated the medical records of stomach cancer patients treated at private hospitals between 2022-2024.

Patient Selection: We selected individuals between the ages of 31 - 90 who had been diagnosed with stomach cancer. Patients with missing information or incomplete medical records were excluded.

Data Collection: Age, gender, comorbidities, treatment regimen, and the usage of chemotherapeutic medications were among the demographic and clinical information we gathered.

Age Distribution Analysis: Seven age categories were used to group the patients: 31–40, 41–50, 51–60, 61–70, 71–80, 81–82, and 83–90.

Comorbidity Analysis: Among the patients, we found concomitant conditions such as hypothyroidism, diabetes mellitus, and hypertension.

Treatment Analysis:

We examined how individuals responded to various forms of treatment, such as chemotherapy, medication use, and surgery.

Materials

- Patients' medical records
- Chemotherapy regimens and drug usage patterns

III. RESULTS AND DISCUSSION:

The present study's findings indicate that stomach cancer is most prevalent among women aged 61-70 years, accounting for 37.5% of all cases. which have reported a higher incidence of stomach cancer in this age group. The study found

that 44.44% of patients with stomach cancer had diabetes mellitus

The treatment patterns observed in this study, with chemotherapy being the most frequently selected treatment option (68.75%), are consistent with current clinical practice guidelines.

Chemotherapeutic drugs like 5-fluorouracil are utilized 41.86% of the time. Of them, 5-fluorouracil(1000mg) was used more frequently for treatment (750mg-4 patients, 1000mg-6 patients, 1250mg-2patients, 1500mg-3and 2000mg-2 patients individuals). Total 10 patients treated with multiple drug regimen, the chemotherapy regimen used in this study including, 4 patients received docetaxel+5-fluorouracil+cisplatin, 2 patients received 5-fluorouracil+ cisplatin+ paclitaxel, 2 patients received cisplatin,5-fluorouracil, 1 patient received 5-fluorouracil+ docetaxel, 1 patient received oxaliplatin +5-fluorouracil. while 6 patients received it as a single drug regimen, 3 patients received oxaliplatin, 2 patients received 5-fluorouracil, and 1 patient received docetaxel.

TABLE:1-Analysis of stomach cancer

Variables	No.of patients(n)	Percentage(%)
Age group(year)		
31-40	1	6.25%
41-50	4	25%
51-60	5	31.25%
61-70	6	37.5%
71-80	0	0%
81-90	0	0%
Total	16	
Gender		
Female	3	18.75%
Male	13	81.25%
Co-morbid		
Hypertension	3	33.33%
Diabetes mellitus	4	44.44%
Hypothyroidism	0	0%
Others	2	22.22%
Cancer therapy		
Surgical therapy	0	0%
Radiation therapy	0	0%
Chemotherapy	11	68.75%
surgical chemotherapy	0	0%
Palliative chemotherapy	1	6.25%
Adjuvant chemotherapy	4	25%
Neoadjuvant chemotherapy	0	0%
Palliative surgery	0	0%
Surgical adjuvant chemotherapy	0	0%

Surgical neoadjuvant chemotherapy	0	0%
Drug		
Docetaxel	6	13.95%
Doxorubicin	0	0%
Cyclophosphamide	0	0%
5-fluorouracil	18	41.86%
Carboplatin	0	0%
Cisplatin	11	25.58%
Paclitaxel	2	4.65%
Oxaliplatin	6	13.95%
Gemcitabine	0	0%

FIGURE:1-Analysis of the percentage of stomach cancer based on age

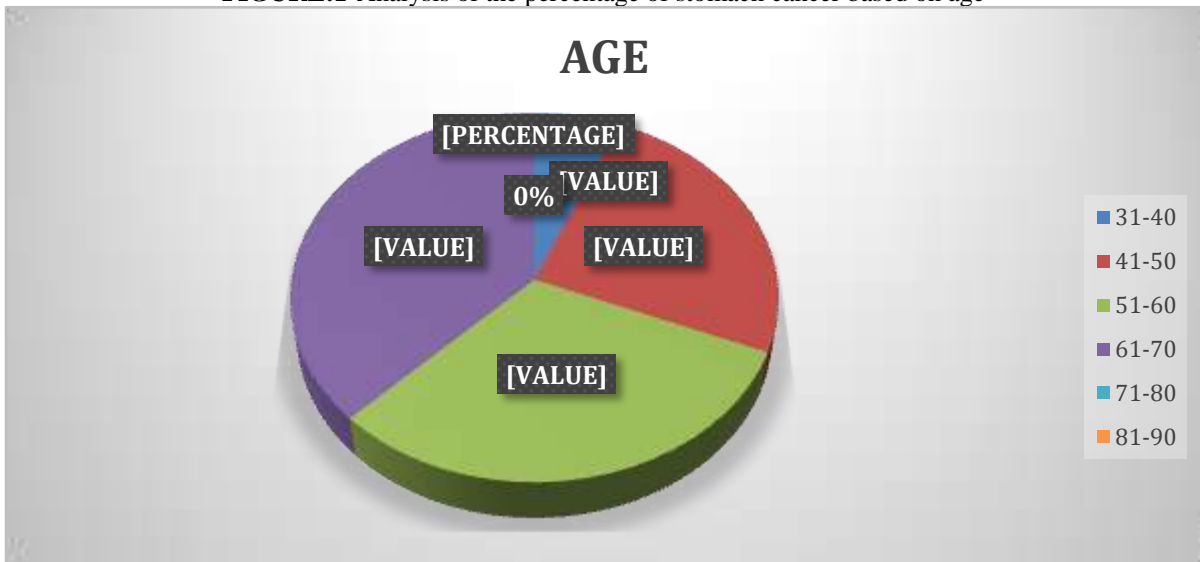


FIGURE:2-Analysis of the percentage of stomach cancer based on gender

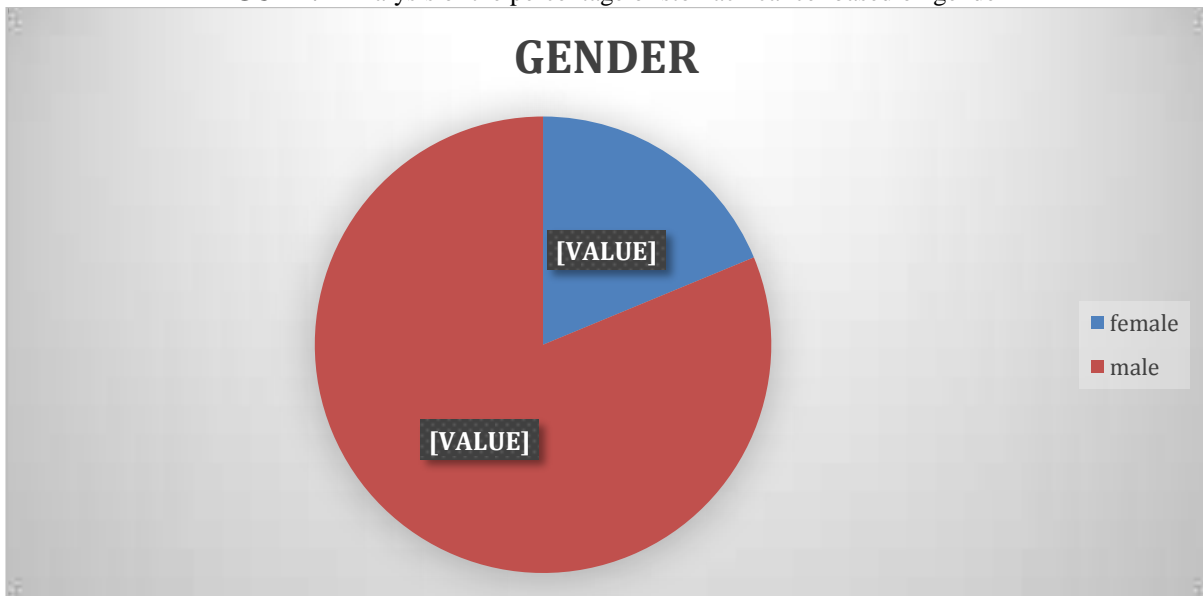


FIGURE:3-Analysis of comorbid conditions among stomach cancer survivors

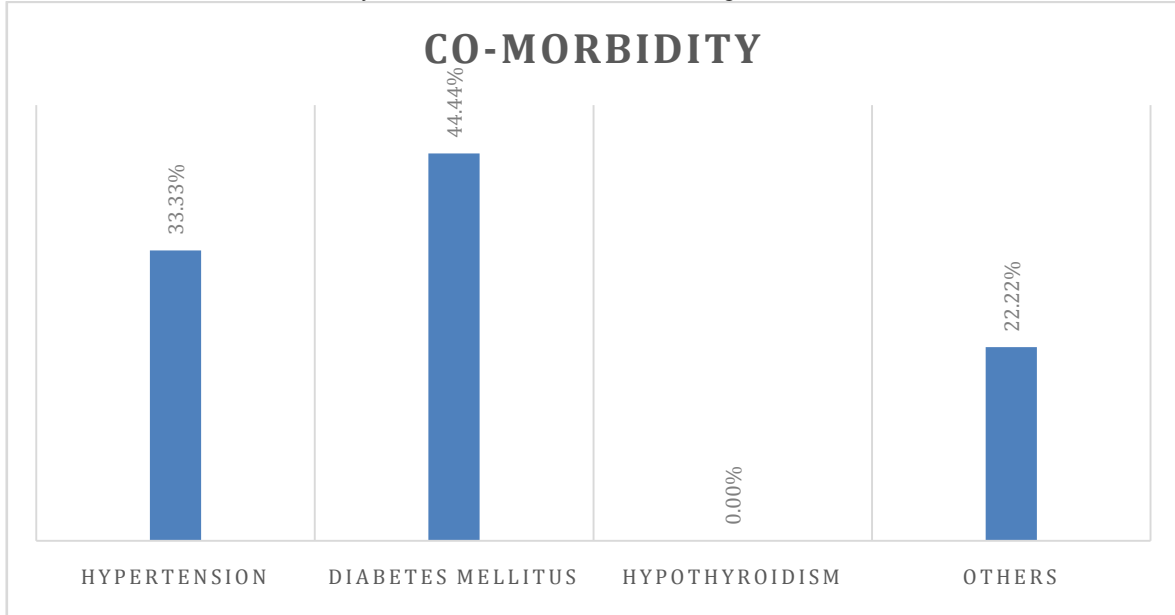


FIGURE:4-Analysis of cancer therapy in stomach cancer treatment

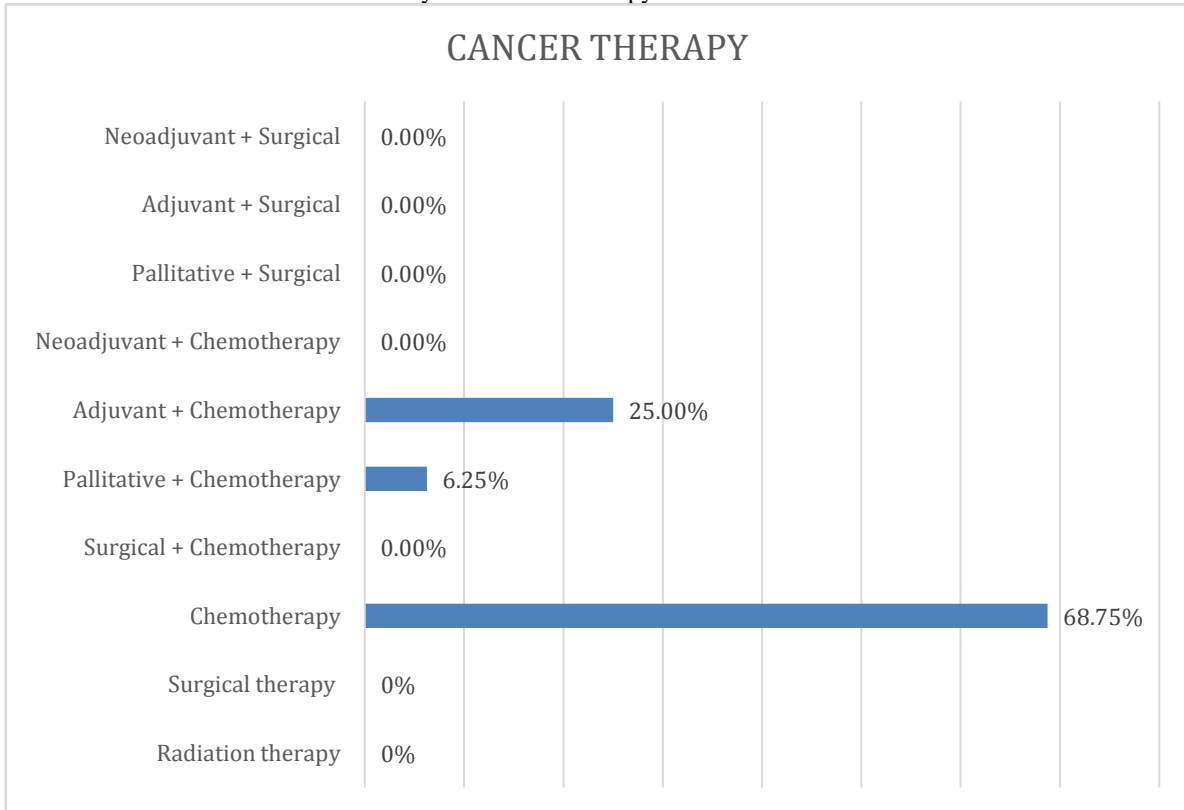
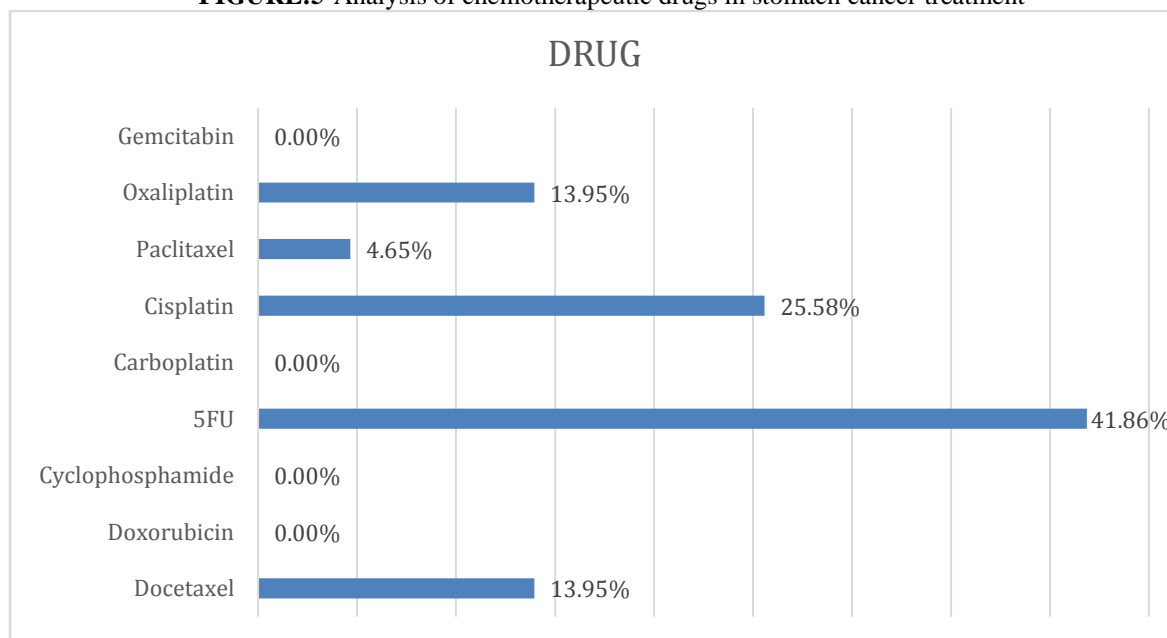


FIGURE:5-Analysis of chemotherapeutic drugs in stomach cancer treatment



IV. CONCLUSION:

Stomach cancer remains a worldwide public health issue, having a significant impact on morbidity and mortality. Our retrospective investigation looked at the age distribution, gender, comorbidities, and treatment regimen for patients with stomach cancer. Our study found that patients in the age groups of 61–70 were more prevalent and more likely to be male. Diabetes mellitus and hypertension were the most common comorbidities associated with stomach cancer. Chemotherapy was the primary treatment approach, and 5-fluorouracil was the most regularly prescribed chemotherapeutic drug. Frequent used combination drug regimen was docetaxel+5-fluorouracil+cisplatin

Among the study's shortcomings are its retrospective methodology and small sample size. Future studies should focus on larger sample numbers and an analysis of the long-term effects of stomach cancer patients. Future studies should explore the effectiveness and additional factors that influence stomach cancer treatment outcomes. We will look into cancer care in specific populations, such as children and pregnant people.

In conclusion, this study provides valuable new insights into the clinical and demographic features of stomach cancer patients. The findings of this study can direct the development of tailored

treatment regimens leading to better patient regimen.

REFERENCES:

- [1]. <file:///C:/Users/mmano/Downloads/epih-42-e2020004.pdf>.
- [2]. <https://www.sciencedirect.com/science/article/abs/pii/S1756231714000619>.
- [3]. <https://www.sciencedirect.com/science/article/abs/pii/S0344033824001274>.