

ORIGINAL ARTICLE

**Assessment of Upper Digestive Tract Visualization with
Gastroscopy in Patients at Drs. H. Amri Tambunan Regional
General Hospital 2020-2021**

Asri Ludin Tambunan

Department of Internal Medicine, Faculty of Medicine, Universitas Muhammadiyah Sumatera
Utara, Indonesia

Correspondence email: tambunanaci@gmail.com

Abstract: Gastrointestinal diseases are one of the health problems included in the global burden of disease. Examination to see the mucosa and lumen of the upper digestive tract directly ranging from the oropharynx, esophagus, stomach to proximal duodenum using an endoscope device called Gastroscopy (Gastrointestinal Endoscopy (GIE)/Esophagogastroduodenoscopy (EGD)). The purpose of this study was to find out the characteristics of patients who conducted gastroscopic examinations at RSUD Drs. H. Amri Tambunan period 2020-2021. This study is a descriptive study that used cross sectional design and total sampling method which is as many as 510 patients who meet the criteria for inclusion of gastroscopy examination. The results of this study showed that gastroscopic examinations were most commonly performed in male patients (52.4%), with the most age range of 41 - 60 years (49.6%), the most indications are epigastric pain (28%), and the most gastroscopic examination results are gastritis (22%). Patients with complaints of epigastric pain are often found at the diagnosis of gastritis. Epigastric pain is the chief complaint of patients most in gastrointestinal diseases, especially the upper gastrointestinal tract. This corresponds to the gastric organ which is the location of the main lesion on the examination of gastroscopy.

Keywords: gastrointestinal tract, gastroscopy, characteristics

INTRODUCTION

Gastrointestinal disease is one of the health problems that is included in the global burden of disease because it causes 8 million deaths per year worldwide. This is due to the increasing incidence, severity and duration of disease treatment.¹

Globally reported by the University of Gothenburg through a study conducted in 33 countries with a sample of 73,000 people, that for

every ten adults, four of them suffer from digestive tract diseases.² In the United States, chronic gastrointestinal diseases are recorded at around 11% with a case prevalence of 35%, especially in the elderly.³

In Indonesia, the global prevalence of cases of gastrointestinal disease is still not clearly recorded. However, the prevalence of upper gastrointestinal

disorders, such as Functional Gastrointestinal Disorders (FGID) is reported to be around 25-40% annually.⁵ FGID has symptoms similar to functional dyspepsia and irritable bowel syndrome (IBS), including acute and chronic upper gastrointestinal symptoms. In general, FGID is not accompanied by structural and biochemical abnormalities of the digestive tract organs.^{3,4}

Symptoms of FGID that patients often complain about include heartburn, abdominal pain, flatulence, nausea, vomiting, feeling full quickly, heartburn, and belching.^{6,7} These symptoms can be experienced repeatedly so they are generally chronic and reduce the patient's quality of life.^{5,8}

In addition, these symptoms can also be accompanied by danger signs or the so-called alarm symptoms, namely anemia which is characterized by a pale condition in the patient, gastrointestinal bleeding such as vomiting blood (hematemesis), and black stools (melena), persistent nausea and vomiting, decreased weight more than 10%, pain and difficulty swallowing.^{7,9,10}

The signs and symptoms mentioned above are an indication of the patient for further examination. Supportive examination to see the mucosa and lumen of the upper digestive tract directly from the oropharynx, esophagus, stomach, to the proximal duodenum using an endoscope is called a Gastroscopy examination (Gastrointestinal Endoscopy)/ Esophagogastro-duodenoscopy).^{11,12}

Along with the development of science and technology, gastroscopy tools can be used as diagnostic and therapeutic tools, which are currently quite widely available and used by hospitals throughout Indonesia. Drs. H. Amri Tambunan Regional General Hospital is one of the government hospitals that provides gastroscopy examination facilities, so researchers are interested in conducting research on the characteristics of patients undergoing gastroscopy examinations from January 2020 to December 2021.

METHOD

This study is a descriptive study using a cross-sectional research design. The data in this study is secondary data using medical record data at the Medical Record Installation of RSUD Drs. H. Amri Tambunan for the period 2020 to 2021.

The research sample was patients who underwent gastroscopy examination at Drs. H. Amri Tambunan Regional General Hospital for the period 2020 to 2021, totaling 510 patients. The research variables studied included age, gender, indications of gastroscopy examination, and results of gastroscopy examination. The sampling technique in this study used total sampling, in which the data obtained from the population was adjusted to the inclusion and exclusion criteria so that the research sample was obtained. Inclusion criteria included patients with FGID symptoms with or without alarm symptoms who were willing to take a gastroscopy examination in 2020 to 2021. While the exclusion criteria

were incomplete patient medical record data.

The data that has been obtained will be analyzed by univariate and the research results will be presented in the form of text and tables. The flow of this research can be seen more clearly in Figure 1.

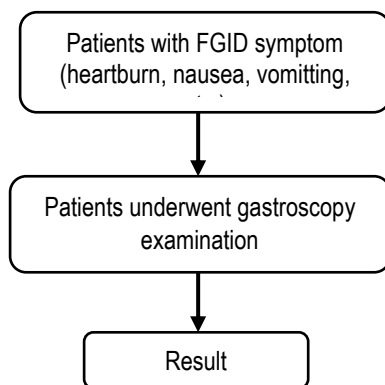


Figure 1. Research Flow.

RESULT

This research was conducted on 510 medical record data of patients who underwent gastroscopy examination at Drs. H. Amri Tambunan Regional General Hospital. From the 510 patients, it was reported that the frequency distribution of gastroscopy patients by gender can be seen in Table 1. Based on the data in Table 1, the most gender who took part in the gastroscopy examination was male (52.4%).

Table 1. Frequency Distribution of Gastroscopy Patients by Gender

Gender	Frequency (n)	Percentage (%)
Female	243	47,6
Male	267	52,4
Total	510	100%

The results of this study regarding the age frequency distribution of patients who took a gastroscopy examination can be seen in table 2. In table 2 it can be seen that the highest frequency distribution in patients who underwent gastroscopy was at the age of 41-60 years as many as 253 patients (49.6%). With the youngest patient being 7 years old and the oldest being 83 years old, the average age of patients undergoing gastroscopy examination was 45 years.

Table 2. Frequency Distribution of Gastroscopy Patients by Age

Group of Age (year)	Frequency (n)	Percentage (%)
≤ 20	19	3,7
21-40	99	19,4
41-60	253	49,6
≥ 60	139	27,3
Total	510	100%

Gastroscopic examination is generally carried out based on the condition and complaints experienced by the patient. The following is the result of the frequency distribution of patient indications for gastroscopy which can be seen in table 3. The data in table 3 describes the indications of the most patients who underwent a gastroscopy examination were heartburn (28%), then the next most common were melena (24%) and abdominal pain (21%).

The result of further research is the frequency distribution of gastroscopy examination results which can be seen in table 4.

Table 3. Frequency Distribution of Gastroscopy Patients by Indication

Indication	Frequency (n)	Percentage (%)
Anemia	3	0,5
Dysphagia	18	4
Heartburn	10	2
Hematemesis	25	5
Melena	123	24
Nausea	56	11
Vomiting	3	0,5
Heartburn	144	28
Abdominal Pain	107	21
Bloated	21	4
Total	510	100%

Table 4. Frequency Distribution of Gastroscopy Patients by Result of Gastroscopy examination

Result of Gastroscopy examination	Frequency (n)	Percentage (%)
Bulbitis	11	2
Duodenitis	1	0,2
Esofagitis	89	17,6
Gastritis	112	22
Gastropathy	47	9,2
GERD*	1	0,2
Giant ulcer	6	1,2
GIST**	2	0,4
Hiatal Hernia	102	20
Oesofagus Malignancy	6	1,2
Multiple ulcer gaster	21	4,2
Normal	2	0,4
Polip	2	0,4
Stricture of esofagus	3	0,6
Gastric Ulcer	38	7,6
Esophageal Ulcer	1	0,2
Esophageal Varicess	53	10,4
Gastric Varicess	4	0,8
Total	510	100%

*Gastroesophageal Reflux Disease

**Gastrointestinal Stromal Tumor

Table 4 shows the variation of gastroscopy results found in patients, with the most gastroscopy results being gastritis 112 patients (22%), hiatal hernia oesophageal 102 patients (20%), and esophagitis (17.6%) respectively.

The results of the next study are the frequency distribution of gastroscopy examination results based on examination indications, for more details can be seen in table 5.

Based on the data in table 5, it is known that the complaint of heartburn is most often found in the diagnosis of gastritis based on the results of the gastroscopy examination.

DISCUSSION

This descriptive study showed that patients who underwent gastroscopy examination at Drs. H. Amri Tambunan Regional General Hospital from January 2020 to December 2021 was mostly performed on male patients (52.4%). The results of this study are in accordance with the research of Agyei-Nkansah et al. in 2019 in Ghana, gastroscopy examinations were mostly carried out on male patients (42.9%).⁴ The results of this study are also in line with research conducted by Gunawan et al. in 2019 at RSUP Prof. Dr. R. D. Kandou, that is, endoscopic examination is mostly performed on male patients (59.8%).¹³

The most age range of patients who underwent the gastroscopy examination in this study was 41-60 years (49.6%) with an average age of

45 years. These results are in accordance with a study conducted by Sayuti in 2020 at the Cut Meutia General Hospital, North Aceh, namely the majority of patients who underwent a gastroscopy examination (upper endoscopy) were aged 41-60 years (54.21%). Putri et al. in 2020 at RSUP Dr. M. Djamil Padang also reported that the age of the patient with the most gastroscopy examination was 41-50 years (25.93%).¹⁰ The number of patients aged over 40 years who underwent gastroscopy examination was due to the aging process which included an increase in aggressive factors and a decrease in defensive factors in the gastrointestinal tract which then causes the appearance of various digestive tract symptoms in patients.^{10,13,15}

Patients undergoing gastroscopy examinations are generally based on certain indications related to FGID complaints with or without alarm symptoms. This study showed that the most common indications for gastroscopy were heartburn (28%), melena (24%), and abdominal pain (21%). The results of this study are slightly different from those of Agyei-Nkansah et al. in 2019 in Ghana, the main indications for a gastroscopy examination were dyspepsia (76%), upper gastrointestinal bleeding such as hematemesis and melena (18.9%), and repeated vomiting (1.4%).⁴ In a study conducted by Tunc et al. in 2016 stated that the main indications for performing a gastroscopy examination were dyspepsia (70.4%

in women and 72.8% in men), anemia (12.1% in women and 11.8%) upper gastrointestinal bleeding (6.6% in women and 8.3% in men).¹⁶ From the results of the above studies, heartburn is one of the main complaints of dyspepsia syndrome which is the most frequently complained by patients because it causes activity disorders and can reduce the patient's quality of life.¹⁴

The results of the gastroscopy examination in this study that found the most gastritis were 112 patients (22%), hiatal hernia oesophageal 102 patients (20%), and esophagitis (17.6%). Gastritis is also the result of the most gastroscopy examinations in Sayuti's research at the Cut Meutia General Hospital, North Aceh in 2020 and research conducted by Serra et al. in Brazil in 2021.^{14,17} Research Tunc et al. reported the most different results of gastroscopy examination, namely peptic ulcer (55.7% in women and 50.6% in men).¹⁶

This study also reported that complaints of heartburn were most often found in the diagnosis of gastritis based on the results of gastroscopy examination. Similar research results were also found in Sayuti and Sugiarta et al.^{12,14} Research Tunc et al. reported different results, namely dyspepsia complaints were often found in peptic ulcer disease (55.2%).¹⁶ Based on the results of Sayuti's study, it was stated that patients with dyspepsia complaints had the most common lesion location in the

stomach (stomach). This is in accordance with the results of research which states that heartburn is often found in disorders involving the stomach.^{7,14}

CONCLUSION

This study is a descriptive study that aims to assess the upper gastrointestinal tract with gastroscopy examination at Drs. H. Amri Tambunan Regional General Hospital for the 2020-2021 period. The assessments carried out in this study include the variables of gender, age, indications for examination, and results of gastroscopy examinations.

The results of this study found that the most frequent gastroscopy examination was performed on male patients, with the highest age range being 41-60 years and the average age being 45 years, the most indication was heartburn, the most gastroscopy results were gastritis, and patients with complaints of pain. Heartburn is often found in the diagnosis of gastritis.

REFERENCE

- Milivojevic V, Milosavljevic T. Burden of Gastroduodenal Diseases from the Global Perspective. *Curr Treat Options Gastro*. 2020: 1-10.
- News-medical.net [homepage on the Internet]. University of Gothenburg: Study Shows Global Prevalence of Functional Gastrointestinal Disorders [update 2020 May 27; cited 2022 Jan 22]. Available from: <http://www.news-medical.net/news/20200527>.
- Avramidou M, Angst F, Angst J, Aeschlimann A, Rossler W, Schnyder U. Epidemiology of Gastrointestinal symptoms in young and middle-aged Swiss Adults: Prevalence and Comorbidities in a longitudinal population cohort over 28 years. *BMC Gastroenterology*. 2018; 18 (21): 1-10.
- Agyei-Nkansah A, Duah A, Alfonso M. Indications and findings of upper gastrointestinal endoscopy in patients presenting to a District Hospital, Ghana. *Pan African Medical Journal*. 2019; 34 (82): 1-8.
- Sperber A D, et al. Worldwide Prevalence and Burden of Functional Gastrointestinal Disorders, Results of Rome Foundation Global Study. *Gastroenterology*. 2020; 1-3.
- Abdeljawad K, Wehbeh A, Qayed E. Low Prevalence of Clinically Significant Endoscopic Findings in Outpatients with Dyspepsia. *Hindawi Gastroenterology Research and Practice*. 2017; 1-7.
- Yellapu R, Boda S. Upper Gastrointestinal Endoscopic Findings of Patients Presenting with Dyspepsia-A Tertiary Care Centre Experience. *International Journal of Contemporary Medical Research*. 2019; 6 (9): 1-4.
- Fikree A, Byrne P. Management of Functional Gastrointestinal

- Disorders. *Clinical Medicine*. 2021; 21 (1): 1-9.
9. Hu N, et al. Epidemiological and clinical features of functional dyspepsia region with a high incidence of esophageal cancer in China. *Chinese Medical Journal*. 2021; 134 (12): 1-9.
 10. Putri C Y, Arnelis, Asterina. Gambaran Klinis dan Endoskopi Saluran Cerna Bagian Atas Pasien Dispepsia di Bagian RSUP Dr. M. Djamil Padang. *Jurnal Kesehatan Andalas*. 2016; 5 (2): 1-6.
 11. Ahlawat R, Hoilat G J, Ross A B. Esophagogastroduodenoscopy. *NCBI Bookshelf*. [update 2021 Nov 7; cited 2022 Jan 22]. Available from: <http://www.ncbi.nlm.nih.gov/books/NBK532268/>.
 12. Sugiarta I G R M, Sumanti I K. The endoscopy profile of patients with Gastrointestinal Bleeding (GIB) at Klungkung Regional General Hospital, Bali, Indonesia during the 2014-2018 period. *Intisari Sains Medis*. 2020; 11 (1): 306-309.
 13. Gunawan D F, Waleleng B J, Polii E B I. Profil Pasien Endoskopi Gastrointestinal di RSUP Prof. Dr. R. D. Kandou periode Januari 2018-Agustus 2019. *Jurnal e-Clinic*. 2019; 7 (2): 1-7.
 14. Sayuti M. Profil *Upper Endoscopy Gastrointestinal* di Rumah Sakit Umum Cut Meutia Aceh Utara Periode Januari 2017-Desember 2018. 2020; 4 (4): 1-6.
 15. Agustian H, Makmun D, Soejono C H. Gambaran Endoskopi Saluran Cerna Bagian Atas pada Pasien Dispepsia Usia Lanjut di Rumah Sakit Cipto Mangunkusumo. *Jurnal Penyakit Dalam Indonesia*. 2015; 2(2):1-3.
 16. Tunc M, Boyuk B, Mavis O. Upper GIS Endoscopy Indications of Patients Consulted at Internal Medicine Outpatient Clinics and Data Obtained According to These Indications. *Open Journal of Gastroenterology*. 2016; 6: 111-116
 17. Serra M A A O, et al. Correlation between the symptoms of upper gastrointestinal disease and endoscopy findings: Implications for Clinical Practice. *Journal of Taibah University Medical Sciences*. 2021; 16 (3): 395-401.