

Research Article

Profile Endoscopy Gastrointestinal Esophagogastroduodenoscopy (EGD) at Primaya Bekasi Timur Hospital Period October 2021 - October 2022

Bayu Aji Sismanto^{1,2,3*}, Achmad Fauji^{2,4}, Nur Miladiyah Rahmah^{2,4}

¹Endoscopy Nurse at Primaya Bekasi Timur Hospital, Indonesia

²Indonesian National Nurses Association, Bekasi City, Indonesia

³Indonesian Association of Gastrointestinal Endoscopy Nurses, Indonesia

⁴Indonesian Department of Nursing, Health Faculty of Bani Saleh University, Bekasi City, Indonesia

*Corresponding author: bayuajisismanto@gmail.com

ABSTRACT

Introduction: Esophagogastroduodenoscopy or gastroscopy is one of the types of endoscopies; the examination includes the esophagus, gastric, and duodenum. Endoscopy is a non-surgical attempt to visualize organs with abnormalities or disorders. It can also be used to obtain tissue (biopsy), remove foreign bodies in the gastrointestinal tract, and observe organs in the body. This study aims to determine the profile of gastrointestinal endoscopy in patients examined at the endoscopy unit of Primaya Hospital, East Bekasi. **Methods:** The type of research conducted was descriptive retrospective using secondary data in the Medical Record Installation of Primaya Hospital, East Bekasi, from October 2021 to October 2022, totaling 103 patients. **Results:** The results of this study showed that 51 patients (49.5%) were male, 52 patients (50.5%) were female, and the majority of the patients were aged 41-60 years as many as 44 patients, 42.7%). The most common pre-action diagnosis was dyspepsia (43 patients, 42%), and the most common post-action diagnosis (21 patients, 20.6%) was erosive gastroduodenitis. The most common location of findings in the corpus was 33 patients (32.1%), and the most common finding was mucosal erosion in 36 patients (35.0%). Biopsy was performed in 30 patients (29.1%), and anatomical pathology revealed *Helicobacter pylori* in 5 patients, chronic duodenitis in 4 patients, chronic gastritis in 19 patients, chronic gastroduodenitis in 1 patient, and polyp putz jeers in 1 patient. And with the most prolonged duration of action being 10-30 minutes, namely 91 patients (88.3%). **Conclusion:** The results of this study indicate that chronic gastritis accompanied by *H.pylori* infection is a diagnosis that is more commonly found through esophagogastroduodenoscopic examination and the results of anatomical pathology examination of biopsy tissue compared to other diagnoses.

Keywords: endoscopy, esophagogastroduodenoscopy, gastroscopy, profile

INTRODUCTION

The development of health technology positively impacts providing health services, especially in supporting disease diagnosis. Endoscopy is a medical device used to view the internal organs of the human body visually by looking directly through optical fibers, which are then displayed on a monitor screen to be able to see abnormalities or disorders that occur

in the human organs (1,2). Endoscopy can be divided into several types based on the organs of the human body to be seen. Esophagogastroduodenoscopy (EGD) is one of the types of endoscopic action where EGD is an endoscopic examination of the upper gastrointestinal tract, including the esophagus, stomach, and duodenum (3). Endoscopy, in addition to observing abnormalities and organ disorders, can also be used to obtain tissue (biopsy), remove foreign bodies in the gastrointestinal tract, and observe organs without performing surgery (4).

Endoscopy is currently a center of excellence service offered by many hospitals. Endoscopy is helpful and simplifies treatment because diagnoses can be made accurately (5). Esophagogastroduodenoscopy (EGD) is performed to evaluate the state of the mucosa in the upper gastrointestinal tract, and colonoscopy is performed to assess the state of the mucosa or lumen in the rectum, sigmoid colon, descending colon, transverse colon, ascending colon, cecum, and ileum (1,6). The endoscopic examination requires special preparation that must be performed by the patient before the action, both upper and lower gastrointestinal endoscopy (1,4). In addition to preparation, it is also necessary to convey to the patient the indications and contraindications of endoscopic action so that the patient and family can know exactly what will be done. Informed consent is needed before the procedure is carried out to ensure that the patient understands what will be done and the patient provides written consent about the action to be carried out (7,8).

Research conducted by M. Sayuti in 2020 at the Cut Meutia General Hospital in North Aceh for the period January 2017 - December 2017 obtained data on 27 patients who had undergone EGD examination; based on pre-action diagnoses, the most common diagnosis was dyspepsia as many as five patients (20.8%) and the most common post-action diagnosis was peptic ulcer with six patients (25%). Biopsy was performed in 17 patients (70.8%), and antrumpyloricum findings were in 11 patients (45.8%), with ulcer findings in 5 patients (20.8%) (9). Giovanni A. Kaminang et al. (2016) conducted a study at Prof. Dr. R. D. Kandou Hospital Manado in the period June 2013 - June 2015, obtained data on 139 cases of bleeding in the upper gastrointestinal tract, with 105 non-varicose cases (75.5%) and 34 varicose cases (24.5%). The most frequent incidence was in the age group of 56-65 years and male sex (10).

At the gastrointestinal endoscopy service center of Cipto Mangunkusumo Hospital, the results showed that in 2021-2022, 67.7% of patients were male and 32.3% were female, with the age group of 60 years and above dominating (55.38%) (11). The most common bleeding manifestations were melena (44.6%) and hematemesis (35.4%). Endoscopic examination revealed that 40% of the cases were caused by varices, 22.98% by peptic ulcers, and 22.98% by mucosal erosions. Most patients (64.6%) experienced SCBA bleeding (10,12). This study aimed to determine the profile of gastrointestinal endoscopy in patients examined at the endoscopy unit of Primaya Hospital Bekasi Timur between October 2021 and October 2022.

METHODS

This descriptive retrospective study used secondary data from the Medical Record Installation of Primaya Hospital, East Bekasi, from October 2021 to October 2022. The research method passed the ethical test of the Bani Saleh University Health Research Ethics Committee Number EC.319/KEPK/STKBS/XI/2023.

The variables of this study were age, sex, preoperative diagnosis, postoperative diagnosis, findings and distance of findings, biopsy, and duration of action. The sample size of this study was 103 patients. The sampling technique used in this study was total sampling, in which any medical record data from the population could be sampled by fulfilling the research criteria. Univariate analysis was used to describe the frequency distribution of the dependent variable. Data obtained from questionnaires and observations were recorded and collected, then presented as frequency distribution tables (10,13).

RESULTS

The sex distribution of the patients who underwent esophagogastroduodenoscopy at Primaya Hospital East Bekasi showed that 52 (50.5%) were female and 51 (49.5%) were male. Based on the table above, the age group of patients who underwent esophagogastroduodenoscopy was female, namely age <20 years in one patient (0.9%), age 21-40 years in 29 patients (28.2%), age 41-60 years in 44 patients (42.7%), and the remaining age >60 years in 29 patients (28.2%).

Table 1. Gender distribution

Age	f	(%)
Male	51	49.5
Female	51	50.5
Total	103	100

Table 2. Age group distribution

Age	f	(%)
< 20 years	1	0.9
21 - 40 years	29	28.2
41 - 60 years	44	42.7
> 60 years	29	28.2
Total	103	100

The distribution of diagnoses before action in patients who underwent esophagogastroduodenoscopy in the period October 2021 - October 2022 at Primaya Hospital, East Bekasi showed that the diagnosis of abdominal pain was one patient (0.9%), anemia as many as three patients (2.9%), dyspepsia as many as 43 patients (42%), gastritis chronic as many as ten patients (9.7%), GERD as many as 20 patients (19.4%), hematochezia. Three patients (2.9%) had hematochezia and hepatic cirrhosis in 2 patients (1.9%), hematochezia and esophageal varices in 1 patient (0.9%), melena in 12 patients (11.7%), SCBA bleeding in 1 patient (0.9%), and esophageal varices in 7 patients (6.8%).

Table 3. Distribution of diagnoses before action

Pre Action Diagnosis	f	(%)
Abdominal pain	1	0.9
Anemia	3	2.9
Dyspepsia	43	42
Gastritis chronicles	10	9.7

Pre Action Diagnosis	f	(%)
GERD	20	19.4
Hematochezia	3	2.9
Hematochezia dd Hepatic cirrhosis	2	1.9
Hematochezia dd Varices esophagus	1	0.9
Melena	12	11.7
SCBA bleeding	1	0.9
Esophagus varices	7	6.8
Total	103	100

The distribution of diagnoses after action in patients who underwent esophagogastroduodenoscopy in the period October 2021–October 2022 at Primaya Hospital, East Bekasi, showed that the diagnoses of bulboduodenitis were two patients (1.9%), erosive bulboduodenitis was one patient (0.9%), and duodenitis was one patient (0.9%). Patients (0.9%), antral gastritis in one patient (0.9%), gastritis in 11 patients (10.8%), erosive gastritis in 12 patients (11.8%), chronic gastritis in three patients (2.9%), gastritis with multiple polyps in one patient (0.9%), gastroduodenitis in seven patients (6.9%), erosive gastroduodenitis in 21 patients (20.6%), gastropathy in three patients (2.9%), distal esophageal mass in one patient (0.9%), and gastric mass in two patients (0.9%). Patients (1.9%), pangastritis in as many as one patient (0.9%), and pangastritis erosiva in as many as two patients (0.9%). Patients (1.9%), multiple gastric polyps in 1 patient (0.9%), gastric ulcers in 19 patients (18.5%), esophageal varices in 1 patient (0.9%), fundus varices in 1 patient (0.9%), and post-ligation esophageal varices in 12 patients (11.8%).

Table 4. Distribution of diagnoses after action

Diagnoses After Action	Frequencies	(%)
Bulboduodenitis	2	1.9
Bulboduodenitis erosive	1	0.9
Duodenitis	1	0.9
Antral gastritis	1	0.9
Gastritis	11	10.8
Erosive Gastritis	12	11.8
Chronic Gastritis	3	2.9
Gastritis dd multiple polyps	1	0.9
Gastroduodenitis	7	6.9
Gastroduodenitis erosive	21	20.6
Gastropathy	3	2.9
Massa esophagus distal	1	0.9
Massa gaster	2	1.9
Pangastritis	1	0.9
Erosive pangastritis	2	1.9
Multiple polyps	1	0.9
Gastric ulcer	19	18.5
Esophagus varices	1	0.9
Fundus varices	1	0.9
Esophagus varices post ligation	12	11.8
Total	103	100

The distribution of diagnoses after action in patients who underwent esophagogastroduodenoscopy (EGD) in the period October 2021 - October 2022 at Primaya Hospital East Bekasi was showed that the diagnoses of bulbodyodenitis were 2 patients (1.9%), erosive bulbodyodenitis was 1 patient (0.9%), duodenitis was 1 patient (0.9%), antral gastritis as many as 1 patient (0.9%), gastritis as many as 11 patients (10.8%), erosive gastritis as many as 12 patients (11.8%), chronic gastritis as many as 3 patients (2.9%), gastritis dd multiple polyps as many as 1 patient (0.9%), gastroduodenitis as many as 7 patients (6.9%), erosive gastroduodenitis as many as 21 patients (20.6%), gastropathy as many as 3 patient (2.9%), distal oesophageal mass in 1 patient (0.9%), gastric mass in 2 patients (0.9%), patients (1.9%), pan-gastritis as many as 1 patient (0.9%), pangastritis erosiva as many as 2 patients (0.9%), patient (1.9%), multiple gastric polyps as many as 1 patient (0.9%), gastric ulcers as many as 19 patient (18.5%), oesophageal varices in 1 patient (0.9%), fundus varices in 1 patient (0.9%), post-ligation oesophageal varices in 12 patients (11.8%).

Table 5. Distribution of findings

Findings	f	(%)
Gastric ulcer	19	18.5
LES loose	3	2.9
Gastric dilatation	3	2.9
Erosive Mucosa	36	35.0
Edema Mucosa dan hyperemic	14	13.6
Gastric narrowing	9	8.8
Esophagus Varices	1	0.9
Fundus Varices	1	0.9
Tumor/massa gaster	3	2.9
Polyps Gastric	2	1.9
Esophagus Varices	12	11.7
Total	103	100

The distribution of findings in patients who have undergone esophagogastroduodenoscopy between October 2011 and October 2022 at Primaya Hospital Bekasi Timur is as follows: 19 patients (18.5%) with gastric ulcer, three patients (2.9%) with loose LES, three patients (2.9%) with gastric dilatation, 36 patients (35%) with mucosal erosion, 14 patients (13.6%) with edematous and hyperemic mucosa, nine patients (8.8%) with stricture, one patient (0.9%) with newly found esophageal varices, one patient (0.9%) with newly found fundus varices, three patients (2.9%) with gastric tumor/mass, two patients (1.9%) with gastric polyp, and 12 patients (11.7%) with old-case esophageal varices.

Tabel 6. Distribution Distance/Location of Findings

Location of Distance/Findings	f	(%)
Pyloric antrum	11	10.6
Fundus	4	3.9
LES	7	6.8
Esophagus	13	12.6
Corpus	33	32.1
Duodenum	32	31.1

Location of Distance/Findings	f	(%)
Gastroesophageal junction	3	2.9
Total	103	100

The distribution of distance/location of findings in patients who have undergone esophagogastroduodenoscopy between October 2021 and October 2022 at Primaya Bekasi Timur Hospital is as follows: 11 patients (10.6%) were found in the pylori antrum, 4 patients (3.9%) in the fundus, 7 patients (6.8%) in the LES, 13 patients (12.6%) in the 1/3 media esophagus, 33 patients (32.1%) in the corpus, 32 patients (31.1%) in the duodenum, and 3 patients (2.9%) in the gastroesophageal junction (EGJ).

Tabel 7. Distribution of gastric biopsy

Gastric Biopsy	f	(%)
Performed	30	29.1
Not performed	73	70.9
Total	103	100

The distribution of the number of patients who have undergone biopsy in esophagogastroduodenoscopy in the period October 2021–October 2022 at Primaya Hospital, East Bekasi is as follows: 30 patients (29.1%) were obtained with biopsy, and the remaining 73 patients (70.9%) without biopsy.

Table 8. Distribution of biopsy tissue pathology results

Biopsy tissue pathology results	f	(%)
<i>Helicobacter pylori</i>	5	16.7
Duodenitis cronies	4	13.3
Gastritis cronies	19	63.4
Gastroduodenoscopy chronic	1	3.3
Polyp peutz jeghers	1	3.3
Total	30	100

The distribution of anatomical pathology examination results in patients who performed tissue biopsy as many as 30 patients and obtained results, namely five patients (16.7%) found *Helicobacter pylori*, four patients (13.3%) with chronic duodenitis results, 19 patients (63.4%). Chronic gastritis, one patient (3.3%) with chronic gastroduodenitis, and one patient (3.3%) with Peutz-Jeghers polyp.

Table 9. Distribution of duration of action

Duration of action	f	(%)
10 - 30 minute	91	88.3
31 - 60 minute	12	11.7
Total	30	100

The distribution of the duration of esophagogastroduodenoscopy in the period October 2021-October 2022 at Primaya Hospital Bekasi Timur found that 91 patients (88.3%) had an action

duration of around 10-30 minutes, and the remaining 12 patients (11.7%) had an action duration of 31-60 minutes.

DISCUSSION

From a retrospective descriptive study using data on patients who had undergone esophagogastroduodenoscopy between October 2021 and October 2022 at Primaya Hospital, East Bekasi, 103 patients who met the inclusion criteria were obtained. Based on the data collected, 52 patients were female, and there was not much difference compared to the 51 male patients. A similar study was also conducted by M. Sayuti at the Cut Meutia General Hospital in North Aceh in 2020 with the results of the number of male patients 13 patients, when compared to the number of female patients, namely 11 patients, with not much difference in patients only two patients (9,14).

Based on data on patients who have undergone esophagogastroduodenoscopy, an age group of 41-60 years has more numbers compared to other age groups. The same thing was also found in a study using data on patients who performed endoscopic examinations at the Cut Meutia General Hospital in North Aceh in 2020, where it was found that the largest age group who performed endoscopic examinations was 41-60 years old (9). In a study conducted by Ariefi any et al. in 2014, it was found that the highest incidence of chronic gastritis caused by *H.pylori* was 51-60 years (15). The incidence of gastritis caused by *H.pylori* or without bacteria in old age is higher than in young age. This suggests that as we age, the gastric mucosa tends to thin out, making it more susceptible to *H.pylori* infection and indigestion, as well as indications for endoscopic examination (16,17).

Data on patients who have undergone endoscopy based on the initial diagnosis show that there are a more significant number of patients with a diagnosis of dyspepsia (epigastric pain) than other diagnoses. This was also observed in a study by Teriaky et al. in 2016, which showed that the most common indication for esophagogastroduodenoscopy was an initial diagnosis of dyspepsia (18). In a survey conducted by Putri et al. in 2016, similar results were obtained: dyspepsia patients with complaints of pain in the epigastrium had the highest number (19). Heartburn (epigastric pain) is a common complaint in patients diagnosed with dyspepsia. It is most often experienced by patients and is the main reason for seeking treatment from gastroenterologists. Dyspepsia occurs due to various causative factors, including a strict, uncontrolled diet, and can also be due to the environment, perceptual threshold, excessive gastric acid secretion, and *H.pylori* infection (7,20). Dyspepsia is a temporary diagnosis before being enforced into a diagnosis of gastritis because gastritis can only be established after an esophagogastroduodenoscopic examination (4). In the data of patients who underwent endoscopic gastrointestinal tract examination at Gatot Soebroto Army Hospital, Jakarta, 2013, 31 out of 38 patients underwent esophagogastroduodenoscopic examination (21). Dyspepsia/epigastric pain is the most common symptom complained of by patients with gastrointestinal disorders, thus indicating an upper gastrointestinal endoscopic examination, namely esophagogastroduodenoscopy.

Research on patients who have undergone endoscopy based on the diagnosis found that chronic gastritis with *H. pylori* infection is a diagnosis more commonly found through esophagogastroduodenoscopy examination and biopsy tissue pathology examination results

compared to other diagnoses. Similarly, the prevalence of chronic gastritis in Indonesia caused by *H. pylori* infection, is more than 80% (21). This can be caused by excessive alcohol intake, smoking, use of NSAID drugs, foods that stimulate stomach acids, and stress (3,6).

CONCLUSION

The results based on the initial diagnosis before esophagogastroduodenoscopy showed that the most common diagnosis was dyspepsia in 43 patients (42%), and the final diagnosis after esophagogastroduodenoscopy was erosive gastroduodenitis in 21 patients (20.6%). Based on the findings and location, 33 patients (32.1%) had the most corpus findings, and 36 patients (35.0%) had the most mucosal erosions. The results based on biopsy actions performed in patients who underwent esophagogastroduodenoscopy, obtained data, namely biopsies performed in 30 patients (29.1%), and the results of anatomical pathology examination in 5 patients found *H.pylori* 4 patients with the results of chronic duodenitis, 19 patients with chronic gastritis, one patient with the results of chronic gastroduodenitis, and one patient with the results of polyp peutz jehgers. The duration of the most active action was 10-30 minutes, namely 91 patients (88.3%). The result of this study is that chronic gastritis with *H.pylori* infection is a diagnosis that is more commonly found through esophagogastroduodenoscopy and anatomical pathology examination of biopsy tissue compared to other diagnoses. The results of this study will inform all health workers at Primaya Hospital, East Bekasi, in providing better services, especially for endoscopy. Given the lack of data and information sources, future researchers should conduct further research on endoscopic examinations. The results of this study can be used as a reference for conducting related research.

ACKNOWLEDGMENTS

Thank you to Dr. Fransisca Kartikawati, MKK, and MARS as the director of Primaya Hospital Bekasi Timur, Ns. Fitriyanti, M.Kep. as Head of the Nursing Division of Primaya Hospital, Bekasi Timur, dr. Ahmar Abyadh Omar Ahmad, Sp.PD-KGEH, M.Kes, FINASIM as Head of the gastrointestinal endoscopy unit of Primaya Hospital Bekasi Timur, dr. Gerie Amarendra, Sp.PD-KGEH as gastrointestinal and hepatobiliary endoscopy operator doctor of Primaya Hospital Bekasi Timur, Ns. Mulyono, S.Kep. as the chairman of the Regional Executive Board (DPD) of the Indonesian National Nurses Association (PPNI), Bekasi City, Ns. Yustinawati S.Kep. M.Kep as Chairperson of the Central Board of the Indonesian Gastrointestinal Endoscopy Nurses Association (HIPEGI), and thanks colleagues in this study, Ns. Ahmad Fauji, M.Kep. Sp.KMB, Nur Miladiyah Rahmah, S. Kp. M.Kep. who have worked together so that this research can be completed, not to forget all the nurses of Primaya Hospital Bekasi Timur for their support during this research process.

CONFLICT OF INTEREST

The authors do not have a conflict of interest.

REFERENCES

1. Ponsky JL, Strong AT. A History of Flexible Gastrointestinal Endoscopy. Surg Clin North Am. 2020 Dec;100(6):971-92.

2. Stuttgart GTVK. Video Comment on Goto et al. *Endoscopy*. 2016 Oct 27;48(11):v29–v29.
3. Kim KO. Normal Upper GI Findings and Normal Variants. In: *Clinical Gastrointestinal Endoscopy*. Berlin, Heidelberg: Springer Berlin Heidelberg; 2014. p. 1–10.
4. Chmiela M, Kupcinskas J. Review: Pathogenesis of *Helicobacter pylori* infection. *Helicobacter*. 2019 Sep 4;24(S1).
5. Marliana L, Hidayah N, Sholeha U. Pengaruh Edukasi Berbasis Theory of Comfort terhadap Kenyamanan Penderitaendoskopi Gastrointestinal: A Systematic Review. *J Keperawatan*. 2023 Apr 11;15(2):913–26.
6. Priyanto A. *Endoskopi Gastrointestinal*. Penerbit Salemba; 2008.
7. Lichtenstein DR, Cash BD, Davila R, Baron TH, Adler DG, Anderson MA, et al. Role of endoscopy in the management of GERD. *Gastrointest Endosc*. 2007 Aug;66(2):219–24.
8. Kariri AM, Darraj MA, Wassly A, Arishi HA, Lughbi M, Kariri A, et al. Prevalence and Risk Factors of Gastroesophageal Reflux Disease in Southwestern Saudi Arabia. *Cureus*. 2020 Jan;12(1):e6626.
9. Sayuti M. Profile of Upper Endoscopy Gastrointestinal in Cut Meutia General Hospital North Aceh Period January 2017 - December 2018. *Lentera J Ilm Sains, Teknol Ekon Sos dan Budaya*. 2020 Dec 29;4(4 SE-Artikel Penelitian).
10. Kaminang GA, Waleleng BJ, Polii EB. Profil endoskopi gastrointestinal di RSUP Prof. Dr. R. D. Kandou Manado periode Januari 2016 - Agustus 2016. *e-CliniC*. 2016 Jul 12;4(2 SE-Articles).
11. Agustian H, Makmun D, Soejono CH. Gambaran Endoskopi Saluran Cerna Bagian Atas Pada Pasien Dispepsia Usia Lanjut di Rumah Sakit Cipto Mangunkusumo. *J Penyakit Dalam Indones*. 2017 Jan 27;2(2):87.
12. Sugiarta IGRM, Sumandi IK. 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 Apr 1;11(1):306–9.
13. Larete IJ, Kandou LFJ, Munayang H. Pola asuh pada anak gangguan spektrum autisme di sekolah autis, sekolah luar biasa dan tempat terapi anak berkebutuhan khusus di Kota Manado dan Tomohon. *e-CliniC*. 2016;4(2).
14. Syam AF, Sobur CS, Hapsari FCP, Abdullah M, Makmun D. Prevalence and Risk Factors of GERD in Indonesian Population—An Internet-Based Study. *Adv Sci Lett*. 2017 Jul 1;23(7):6734–8.
15. Ariefiany D, Hassan AH, Dewayani BM, Yantisetiasti A. Analisis Gambaran Histopatologi Gastritis Kronik dengan dan Tanpa Bakteri *Helicobacter Pylori* Menurut Sistem Sydney. *Maj Patol*. 2014;23(2):20–6.
16. Frandy F, Mondrowinduro P. First Year Gastrointestinal Endoscopy Profile in Singkawang West Borneo 2017 – 2018. *Indones J Gastroenterol Hepatol Dig Endosc*. 2020 Jul 21;19(2):83–90.
17. Stierschneider M, Franz S, Baumgartner W. Endoscopic examination of the upper respiratory tract and oesophagus in small ruminants: technique and normal appearance. *Vet J*. 2007 Jan;173(1):101–8.

18. Teriaky A, AlNasser A, McLean C, Gregor J, Yan B. The Utility of Endoscopic Biopsies in Patients with Normal Upper Endoscopy. *Can J Gastroenterol Hepatol*. 2016;2016:3026563.
19. Yuriana Putri C, Arnelis A, Asterina A. Gambaran Klinis dan Endoskopi Saluran Cerna Bagian Atas Pasien Dispepsia di Bagian RSUP Dr. M. Djamil Padang. *J Kesehat Andalas*. 2016 Aug 11;5(2):343–8.
20. Herrera Elizondo JL, Monreal Robles R, García Compean D, González Moreno EI, Borjas Almaguer OD, Maldonado Garza HJ, et al. Prevalence of Barrett’s esophagus: An observational study from a gastroenterology clinic. *Rev Gastroenterol Mex*. 2017;82(4):296–300.
21. Toulasik A, Maria R. Gambaran Tingkat Kecemasan Pasien yang Akan Menjalani Prosedur Endoskopi Saluran Cerna di Rumah Sakit Pusat Angkatan Darat Gatot Soebroto Jakarta. FIK UI. 2013.