

**PATTERNS OF UPPER GASTRO INTESTINAL DISEASE AMONG
PATIENTS REFERRED FOR UPPER GI ENDOSCOPIC
EVALUATION AT ENDOSCOPY UNITY OF JUMC, JIMMA, SOUTH
WEST OF ETHIOPIA**



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**A research paper to be submitted to the department of internal
medicine, JUMC for partial fulfillment of the requirements for the
specialty Certificate in Internal Medicine**

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JIMMA, ETHIOPIA

OCTOBER, 2017

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JIMMA ETHIOPIA

Abstract

Back ground.

Upper gastro intestinal (GI) symptoms are common health problem in communities at different parts of the world; responsible for 15-20% of general practitioner visits, hospital admissions and drug use. They considerably affect the quality of life and psychological wellbeing of patient, result in high healthcare resource utilization and significant costs due to lost work productivity, with symptomatic patients having an increased odd of work absenteeism.

In developing countries like Ethiopia, upper gastrointestinal endoscopy remains the investigation of choice in making diagnosis upper gastrointestinal pathologies.

All upper gastrointestinal symptoms are presumably prevalent in Ethiopia. However, the prevalence and impact are not clearly identified. Most data are obtained from selected samples derived from patients presenting to health care institutions with clinical symptoms. Hence, the study aims to analyze the upper gastrointestinal endoscopic examinations carried out in the endoscopy unit at JUMC from May 1, 2016 to May 1, 2017 and to identify common manifestation, indication as well as the prevalence of upper gastrointestinal diseases in the examined patients.

Objective

To assess the patterns of upper gastro intestinal disease among patients referred for upper GI endoscopic evaluation at the endoscopy unit of JUMC, Jimma, south west of Ethiopia.

METHODS

A descriptive retrospective study was conducted by reviewing the report form and charts available at the endoscopy unit of JUMC. All patients who underwent endoscopic evaluation at endoscopy unit, from May 1, 2016 to May 1, 2017 was included during study.

All Endoscopic procedures were conducted by Gastro-enter ology fellow. Olympus flexible fiber-optic endoscope model GIF-E 300 was used for the procedure during the study period. Informed consent was obtained from all patients before the procedure. The examination was performed using local anesthetic lidocaine or xylocaine sprays Oro-pharyngeal region in all cases. A procedure was conducted on empty stomach in the morning. The Gastroenterologist was document endoscopic findings of each patient in a prepared format.

Data registration forms, prepared to include the variables documented in the registration books and patients' charts was used for data collection. A pretested structured questionnaire which contains socio-demographic data, indications for upper gastrointestinal endoscopy and endoscopic findings was taken from upper gastro intestinal endoscopic examination report form. Data was collected by trained nurses, residents and intern s at respective wards. Data collectors were oriented on how to access and retrieve information from the records. The collected data was edited, entered and analyzed by SPSS version 16.0 statistical package for windows (SPSS Inc., Chicago).

Chi square test was conducted to compare proportions and a p-value < 0.05 was taken as statistically significant.

The study was conducted after obtaining ethical approval from the Institutional Review Board of the JUMC .A prior written permission was also obtain from Hospital Medical Director's office. All record reviews of the patients' records will be kept confidential. A total budget of 15,978.00 birr was used to conduct this study.

Results

A total of 304 upper gastrointestinal endoscopies were performed over one year period of the study. Patients age ranged from 18 to 75 years, with a mean of 39.82 years (SD +/- 14.705).Majority of patients (56.6 %) were aged between 18 - 45 years. The leading indication for upper gastro intestinal endoscopic examination was dyspepsia 38.1%, followed by Epigastric pain and difficulty of swallowing 20 %, 15.3 % respectively while from the total population underwent endoscopic evaluation 13 (4.3%) were found to be macroscopically normal. Of those who had positive endoscopic findings; duodenal ulcer seen in 40.5, gastritis in 24.4 % (hemorrhagic gastritis 10.2%, erosive gastritis 8.9% and atrophic gastritis 5.3%) followed by gastric ulcer and GERD each constitutes 15.1%.

Conclusion

Dyspepsia followed by Epigastric pain constitutes 58% of indication for UGIE and common manifestation of duodenal ulcer.

There was significant association between difficult of swallowing and esophageal mass (p-value-0.002) and also there was positive correlation between increased age and both esophageal and gastric cancer (p-0.001).Chest pain is the common presentation GERD. There was significant association between age < 45 years and duodenal ulcer (p-0.003) and strong male predominance of duodenal ulcer, Gastric ulcer, duodenitis, achalasia and GOO.

Acknowledgment

Next to GOD, I would like to thank my advisors Dr. Dagmawi T and Mr. Habtamu J for their constructive comments in the preparation of this paper. My thanks also go to all my colleagues and library workers who helped me in finding references for developing the proposal. I am also grateful to Jimma University for giving me the opportunity to undertake and fund my research.

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List of Abbreviations

- **APD –Acid peptic disease**
- **ACG –American college of gastro logy**
- **BSG-British society of gastroenterology**
- **DU-Duodenal ulcer**
- **EO-erosive esophagitis**
- **EGD-esophago gastro duodenoscopy**
- **ESG-European society of gastro enter ology**
- **FAP-Familial adenomatous polyp**
- **GC-Gregorian calendar**
- **GERD-Gastro esophageal reflux disease**
- **GI-Gastro intestinal**
- **GIT-Gastro intestinal tract**
- **GOO-Gastric outlet obstruction**
- **H.PYLORI-Helicobacter Pylori**
- **JUMC-Jimma university medical center**
- **JUSH-Jimma University Specialized Hospital**
- **KFCH-King Fahd central Hospital**
- **OGD- Esophago gastro duodenal**
- **PPI-proton pumping inhibitor**
- **UK-United kingdom**
- **UGID-upper gastro intestinal disease**
- **UGIE-upper gastro intestinal endoscopy**

- **Yr -year**

CHAPTER ONE

1-Introduction

1.1 Back ground information

Upper Gastrointestinal disorders (UGID) include disease of the alimentary canal from esophagus to first part of duodenum and its associated organs (liver, gallbladder, and pancreas) (1).

Upper gastro intestinal disorders (UGID) considerably affect the quality of life and psychological wellbeing of an individual and the family. It has been found to result in high healthcare resource utilization and significant costs due to lost work productivity, with symptomatic patients having an increased odd of work absenteeism. It is estimated that GI symptoms are responsible for 15-20% of general practitioner visits, hospital admissions and drug use (3).

Intestinal symptoms are related to the upper tract disorders, particularly the lower esophagus and stomach, involving damage to the lining of the mucosa. Damage may occur due to excessive exposure to digestive fluids (stomach acid, pepsin, and bile), long-term use of medications that irritate the digestive tract, *Helicobacter pylori* infection and unhealthy habits (heavy alcohol use, smoking). It is evident that clinical symptoms alone cannot reliably make the diagnosis of upper gastrointestinal pathologies and their complications (4)

In 2011 the Independent Practice Committee of the British society of gastroenterology (BSG) approved guidance on the indications for diagnostic endoscopy in case of Symptoms suggestive of upper gastrointestinal disease ; dysphagia, unexplained upper abdominal pain and weight loss, upper abdominal mass with or without dyspepsia, persistent vomiting & weight loss, unexplained weight loss, iron deficiency anemia ,unexplained worsening of dyspepsia, patients aged ≥ 55 years with unexplained & persistent recent-onset dyspepsia (after stopping treatment with PPIs), abnormal or suspicious findings on barium studies, CT or US scanning(5,6)

Other indications: patients with hematemesis and/or melena, to confirm healing of esophageal or gastric ulcer, persistent long term reflux, surveillance of Barrett's esophagus , odynophagia or dyspepsia unresponsive to 6 weeks treatment in primary care, surveillance for gastric dysplasia or in patients with a strong family history of gastric carcinoma surveillance or screening in patients with FAP because of the risk of duodenal polyps, surveillance for esophagus-gastric varices in patients with suspicion of portal hypertension (e.g. decompensated liver disease, cirrhosis on liver biopsy or equivalent non-invasive testing, presence of varices on abdominal imaging)(6,7,8,9).

During the last few decades, a change has been observed in the incidence of many gastrointestinal diseases, such as gastric cancer, acid-peptic disease including peptic ulcer, varices, esophagitis and gastro esophageal reflux disease [10]. Gastro esophageal reflux disease (GERD) was previously thought to be a rare disease in the East, but several recent reviews have also brought up the possibility of an increase in the prevalence of GERD. Esophagitis prevalence is reported to be 14.5% to 16.1% in patients for whom upper gastrointestinal endoscopy is performed due to dyspepsia and reflux [11]. Over the past three to four decades a decline in the prevalence of peptic ulcer disease in the West has been reported [12]. Similar observations have been made in the Asian-Pacific region as well [13]. The epidemiology of esophageal cancer has changed substantially over the last 50 years. It is a development that will certainly give rise to great concern. While the burden of gastric cancer remains high in the Asian Pacific region, age-standardized incidence rates have started to decline. This keeps up with observed trends in Western countries where gastric cancer has been observed to have declined since the 1940s [12, 13].

Upper gastrointestinal endoscopy (UGIE) has become a corner stone in the diagnosis and treatment of many of gastrointestinal disorders. The direct visualization of the entire esophagus, stomach and duodenum with the Ability to obtain specimen for analysis and to perform various therapeutic measures, makes endoscopy examination superior to other diagnostic procedures .The upper gastrointestinal flexible fiber optic endoscope was first used in 1968 and proved to be a major breakthrough in the diagnosis of gastrointestinal tract (GIT) lesions.

Upper GIT endoscopy that visualizes the upper part of the GIT up to duodenum is an established mode of investigation and treatment of wide range of upper GIT conditions. It also offers the opportunity for biopsy of neoplastic and non-neoplastic lesions. It is a simple safe and well tolerated procedure with direct visualization of the pathologic site and biopsy leading to early detection of pathologic changes and therefore helps to start appropriate treatment. Endoscopic biopsy examination followed by histopathology assessment is a convenient procedure for objective assessment of patients with symptoms of upper GIT (1, 2).

1-2 Statement of the Problem

Upper gastro intestinal (GI) symptoms are common health problem in communities at different parts of the world. They considerably affect the quality of life and psychological wellbeing of the community. It has been found to result in high healthcare resource utilization and significant costs due to lost work productivity, with symptomatic patients having an increased odd of work absenteeism. It is estimated that GI symptoms are responsible for 15-20% of general practitioner visits, hospital admissions and drug use (3).

Marked epidemiological changes in upper gastrointestinal diseases and *Helicobacter pylori* infection have taken place in the Asian Pacific region. In particular, differences with respect to race in the multiracial Asian population in Malaysia have been important. A steady decline in prevalence of duodenal ulcer (DU) and gastric ulcer (GU) from 21.1% to 9.5% to 5.0% and from 11.9% to 9.4% to 9.9% while an increase in erosive esophagitis (EO) from 2.0% to 8.4%. The overall prevalence of *H. pylori* had also decreased from 51.7% to 30.3% to 11.1% for the same periods of time. The proportion of *H. pylori* positive ulcers had also decreased: DU (90.1%–69.8%–28.9%) and GU (86.6–56.8%–18.9%). This was observed in Malays, Chinese and Indians but the difference over time was most marked in Malays. There was a steady decline in the proportion of patients with gastric and esophageal cancers (10)

There was a decreasing trend in the prevalence of GU and DU in Philippines, (20.05 vs 14.34%, and 15.83 vs. 7.02%, respectively) (14)

The trend of upper GI Disease is not similar in Africa e.g. in Tanzania the pattern was Gastritis (57.2%), esophagitis (10.2%) followed by gastric tumors (6.5%) (22), while in Ethiopia Esophagogastro-duodenal pathology was detected in (83.4%) patients and Duodenal ulcer was the commonest finding (25.4%) (24).

Gastrointestinal symptoms and complaints are common among the general population. About one in six admissions to hospital are for a primary diagnosis of gastrointestinal disease, and about one in six of the main surgical procedures in general Hospitals are performed on the digestive tract (4)

Reported data from a house hold survey in the United States on the prevalence of 20 functional gastro intestinal disorders, based on the fulfillment of multinational diagnostic

(Rome) criteria shown that, the symptoms were attributed to four major anatomic regions; with considerable overlap intestinal 44%, esophageal 42%, Gastro-duodenal 26%. In female dysphagia, irritable bowel syndrome, constipation, abdominal pain, and biliary pain reported than males. Males reported higher frequencies of bloating than females (15)

In Africa the common indication for upper GI endoscopy varies ;in Tanzania reasons for referral were Epigastric pain (57%), vomiting of blood (23%) and followed by difficult in swallowing (20%) but in Gondar dyspepsia account 54.4%(22,24).

Since there is no study done in our Hospital on patterns of upper gastro intestinal disease and indication for upper GI endoscopy, this study will help as a baseline data for further studies. Most importantly there is high prevalence H. Pylori in Ethiopia which is the most common associated factor for recurrence of ulcer and bleeding as reviewed from different literature, hence identifying such group of population will help in designing a new preventive strategy.

CHAPTER TWO

2. Literature Review

Upper gastro intestinal (GI) symptoms are common health problem in communities at different parts of the world. They considerably affect the quality of life and psychological wellbeing of that affected. It has been found to result in high healthcare resource utilization and significant costs due to lost work productivity, with symptomatic patients having an increased odd of work absenteeism(1).

It is estimated that GI symptoms are responsible for 15-20% of general practitioner visits, hospital admissions and drug use (13).

Pattern of Socio-demographic, indication and endoscopy finding of upper GI disease

Upper endoscopy is currently one of the most frequently performed procedures. The most common indications for diagnostic EGD include dyspepsia unresponsive to medical therapy or associated with systemic signs, dysphagia or odynophagia, persistent gastro esophageal reflux symptoms, occult gastrointestinal bleeding, and surveillance for malignancy. It appears that the benefits of therapeutic upper endoscopy for such conditions as acute gastrointestinal bleeding, foreign-body removal, and stricture dilatation are better defined (16).

The DIGEST study, examined the prevalence of upper GI symptoms, psychosocial as well as economic impact among 1036 Canadian population shown that ,28.6% have substantial symptoms in the preceding 3 months, the majority (111/153 subjects) for >1 yr. The most bothersome symptoms were primarily related to dysmotility- like symptoms in 54.9% of those with chronic symptoms, ulcer-like symptoms in 12.4%, and related to heartburn in 42.5%. Chronic upper GI symptoms were associated with a highly significant ($p < 0.001$) decrease in all facets of the Psychological General Well Being Index (13).

A 2years (2014-2016) retrospective study done in South Indian to assess the trends of diagnosis in upper GI disease among 3271 consecutive patients who underwent upper GI endoscopy shown that Positive yield 80.6%;Gastritis (51%), duodenitis (22%) and hiatus hernia (9%) were the leading endoscopy diagnoses. Esophageal growth was 3 times more common in females. Growth in stomach was reported in 2.3% patients. Carcinoma stomach was significantly higher in age above 40 years .There was a positive correlation between stomach cancer and increasing age.

The cumulative frequencies of gastric cancer by age group were as follows: 7 of 1000 OGDs in Patients less than 40 years of age and 40 of 1000 OGDs in patients greater than 40 years of age. Common Complaints were; Epigastric pain 49.8%,Dyspepsia23.8%,dysphagia13.8,vomitting7.3%,hematemesis4.2%,abdominal lump 0.8%,melena 0.6%(17).

A 2 years(April 2010 to December 2012) data of 100 patients who underwent upper GI endoscopy in Endoscopy Unit of Independent Medical College Pakistan, Faisalabad shown that , 35% were referred due to persistent vomiting, 28% due to Epigastric pain / discomfort, 18 % due to dyspepsia and 7% due to retrosternal burning and upper gastrointestinal bleeding. Common endoscopic diagnoses were gastritis (28%), duodenitis (14%), gastro esophageal reflux disease / esophagitis (6%), esophageal varices (5%) and esophageal growth (4%). 33(33%) were male and 67 (67%) were female. The mean age of the patients was 42.45 ± 16.52 years (18).

There were two research done in Turkey, Istanbul the first one was between 2010-2015 in among 6243 patients 59.15% were female. The mean age of the patients was 49.37 ± 16.90 years. The indications for endoscopy were dyspeptic symptoms 72.8% of females and 70.4% of males, Anemia 12.1%of females and 11.8% of males. Gastrointestinal bleeding, dysphagia, nausea and vomiting, gastro esophageal reflux disease symptoms and weight loss account the rest. Peptic ulcer was 55.7% of females and 50.6% of males. Gastric ulcer (15.2% of females and 16% of males), reflux esophagitis (8.1% of females and 10.1%of males), and duodenal ulcer (6.8% of females and 10.1% of males) were the other results. Malignancy was mostly observed in patients whose indications were anemia (22) and the second research was 40 years (1970-2010) study which shown changing trends of upper GI endoscopy finding in Department of Gastroenterology, Cerrahpasa Medical Faculty, Istanbul University. Of the 52816 cases who underwent esophagogastroduodenoscopy, the mean age was 48.17 ± 16.27 (mean \pm SD). Although overall more than half of the patients were male (54.3%), in 1995 and after a marked increase was seen in the proportion of female gender (51–55%). The presence of hiatal hernia, reflux esophagitis, and the number of Barrett's esophagus's significantly increased. Erosive gastritis showed gradual increase, while the number of gastric ulcers

decreased significantly. The presence of gastric and esophageal cancer significantly decreased. The number of duodenal ulcers significantly decreased (10).

There was a retrospective study carried out at KFCH over an 11 year period from 1994 to 2005 in Gizan town Southwest Saudi Arabia, of 3287 patients males patients comprised 70.1%. Indications for upper GI endoscopy included upper gastrointestinal (GI) bleeding (23.3%), Epigastric pain (15.7%), Acid Peptic Disease (APD) (14.4%), Dyspepsia (7.5%) and regular follow-up (6.5%). Among patients who underwent endoscopy (21.3%) had normal endoscopic findings. Three common findings were; esophageal Varices (15.2%), Gastritis (14.0%) and Esophagitis (10%) (20).

There was one cross section study done in south west Uganda among 184 Patients underwent upper endoscopy, the result shows that; the most common presenting complaints were Epigastric pain (51.6%), dysphagia (13.6%) and odynophagia (7.1%). The most common endoscopy finding was gastritis (40.2%), followed by normal examination (15.2%), esophageal Cancer (13.6%), gastric ulcer (7.6%) and gastric cancer (7.1%). Patients older than 40 years (n=110) had significant findings including gastritis (50.9%), esophageal cancer (22.7%) and gastric cancer (11.8%). However in younger patients, with the age range of 18-40 years (n=74), most examinations were normal (92.9%). Of the 176 patients able to undergo Helicobacter pylori testing 75.6% were positive. Helicobacter pylori infection was associated with statistically significant increase in Gastritis, esophageal cancer, gastric ulcer, gastric cancer, and duodenal ulcers (21).

There was study done in Tanzania (March 2010 to June 2011) and Kenya (December 2011 to August 2013) which shows patterns of upper GI Endoscopy. mean age 47.3 ± 17.4 years vs 44, the main reasons for referral were Epigastric pain 57% vs 45%, vomiting blood 23% vs 20%, difficult in swallowing 20% vs 5%, the most common endoscopic findings were Gastritis 57.2% vs normal findings 35%, esophagitis (10.2%) vs gastritis 26%, gastric tumors (6.5%) vs (DU, GERD, GU, Esophageal tumor- 10%, 2%, 5.3%) respectively. In Tanzanian study Gastritis, esophagitis, peptic ulcers, and GORD constituted 76% of those who were referred due to Epigastric pain while 14% had normal endoscopy findings. Esophageal varices and gastritis were the commonest endoscopic findings among the referred patients due to history of vomiting of blood. Esophageal cancer was the commonest reason among patients referred due to history of difficult in swallowing. (22, 23).

A cross-sectional descriptive study was conducted in Sudan during the period from March to September 2013, at endoscopy unit in Omdurman Teaching Hospital. From 390 subjects enrolled in 56.4% were females. The most common endoscopic findings in the study group was Gastritis 54.9% followed by esophagitis 42%, peptic ulcer diseases 21%, esophageal varices 13.8% and upper gastrointestinal tumors (esophageal and gastric) 13.2%. Normal findings were found in 3% of all patients in the study group (25).

A 8 years (2005-2013) descriptive study was conducted in Gondar teaching hospital in total of 1,310 patients after they underwent endoscopy, the finding showed that the sex distribution was nearly comparable which was male constitutes 50.9% with 49% were in between 20-70 years. Positive endoscopic finding were detected more in male than female. The most common indication during the study was dyspepsia 54.4% which was common in patients between 15-50 years, followed by Epigastric pain 21%, vomiting 18.5%. duodenal ulcer (25.4%) is the most common endoscopic finding, predominantly affect male than female in the ratio of 1.7:1, followed by normal finding 16.6%, Gastric outlet obstruction 15.6%, atrophic gastritis 15.2% which is slightly common in female than male in the ratio of 1.12:1, GERD 5.9%, esophageal mass 4.3%, gastric cancer 3.6%, esophageal varices 2.9% and gastric ulcer seen in 1.9%. in about 50% gastric and esophageal cancer identified in age below 50 years. (24).

2.2 Significance of the study

Upper gastro intestinal (GI) symptoms are common health problem in communities at different parts of the world. They considerably affect the quality of life and psychological wellbeing of that affected. It has been found to result in high healthcare resource utilization and significant costs due to lost work productivity, with symptomatic patients having an increased odd of work absenteeism. It is estimated that GI symptoms are responsible for 15-20% of general practitioner visits, hospital admissions and drug use (13).

Despite advancements in endoscopy and pharmacology in the treatment of UGID, the most frequent cause of bleeding, ulcer, Dysmotility, heart burn symptoms has remained constant or increasing in low income area for the past four Decades (27,28).

This is due to an increase in the proportion of elderly patients, use of NSAIDS, increased prevalence of H.Pylori, Anti-coagulant developing complications of peptic ulcer disease, emotional stress, lack of occupation (13,27,28).

Such associated factors especially H.Pylori infection is expected to higher in societies with low socioeconomic status, scarcity of better diagnostic and interventional tools also compounded the problem. More importantly identifying associated factors will help in reducing the subsequent health cost, lost from work, recurrence and morbidity from UGID .Practically, there was no study done in Ethiopia and in our Hospital that identify patterns, relative contribution of this different associated factor for the development of UGID where disease burden is expected to high. The study result will play important role in filling knowledge gap in this area by suggesting interventional strategies to modify the modifiable risk factors. After publication the result of this study will be used as base (reference) or will give insight for the next researcher.

2.1-conceptual frame work

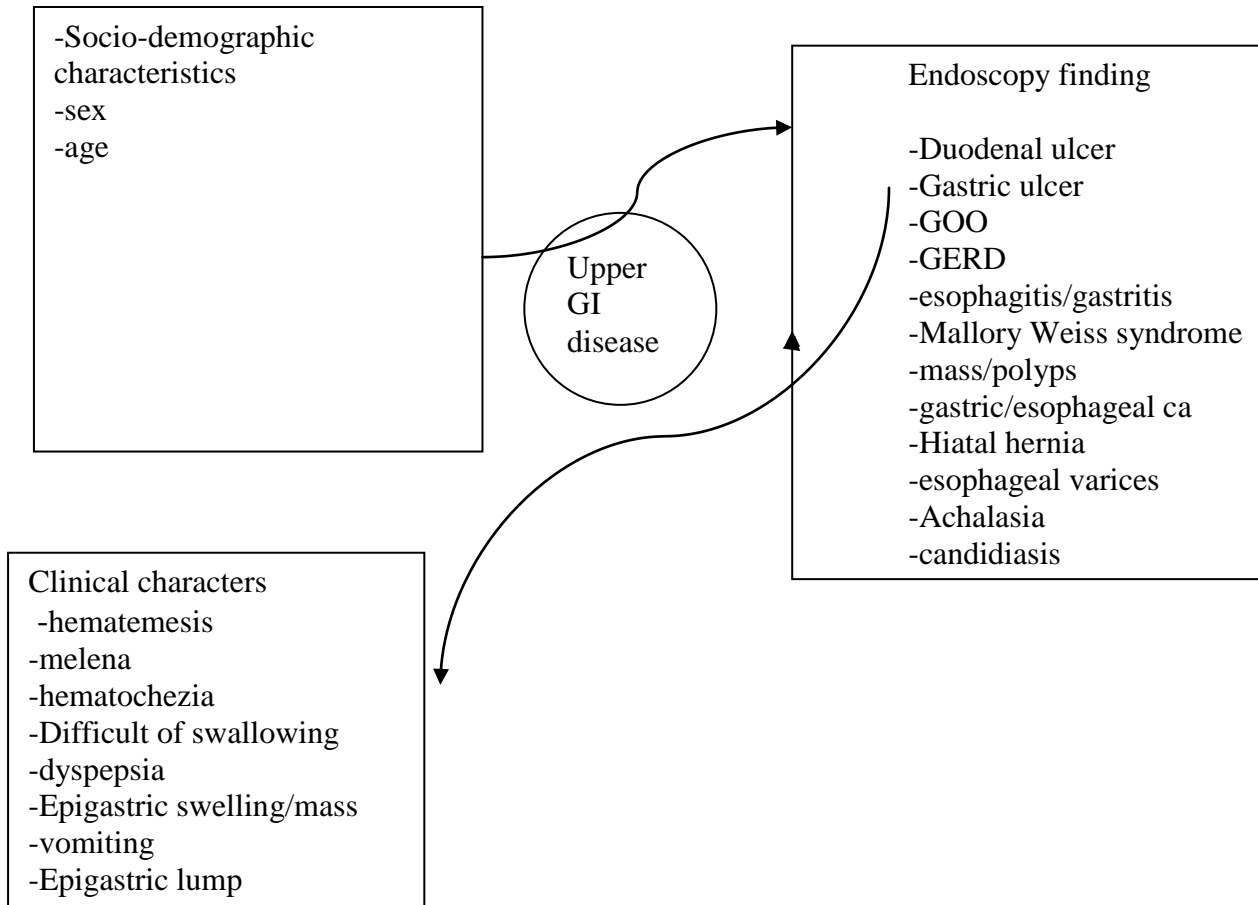


Fig.2.1-conceptual frame work

CHAPTER THREE

3. Objectives

3.1. General Objective

To assess the patterns of upper gastro intestinal disease among patients referred for upper GI endoscopy at endoscopy unit JUMC, Jimma, South west of Ethiopia from may1, 2016-May 1, 2017 GC.

3.2. Specific objectives

- To assess socio-demographic characteristics of the patients
- To assess patterns of upper GI disease.
- To assess correlation between clinical diagnosis and endoscopic diagnosis
- To assess the most frequent disease

CHAPTER FOUR

4. Method and Materials

4.1 Study area and period

The study was conducted at JUMC, Jimma university, which is located in Oromia region 354 km from the capital, Addis Ababa, south west of Ethiopia. JUMC is one of the teaching hospitals in the country which serve as a referral hospital for south western Ethiopia including Jimma zone which has total population of 2,773,730 according to figures from Central static Agency in 2005. Endoscopy service was started in May, 2016 GC. For the last 8 months around 450 patients underwent endoscopy service.

The study was conducted from May1, 2016- May1, 2017.

4.2 Study design

A retrospective descriptive study design was employed.

4.3 Source population

The source population for the study was all adult patients visit JUMC, during study period (2016/2017)

4.4 Study population

The study population was all adult patients complaining of upper GI disease and who underwent endoscopy evaluation during the period of 2016/2017 GC

INCLUSION CRITERIA-The medical records of individuals and participants whose

1-age >18 years

2-who present with sign &symptom suggestive of Upper GI disease

3-Patient who underwent endoscopy after criteria on no 2 full filled

4-both sexes

Exclusion criteria- The medical records of individuals and participants whose

1-whose medical record not complete

2-both hepatitis B and C positive patient.

4-5 Sampling

No sampling method was used for this study since all patients with upper GI disease who underwent endoscopy were included in the study.

4-6-Variables

4.6.1-Dependent Variables

- Upper GI disease

Independent variables

- Sex
- Age

4.6.2 Data collection process

Data was collected by record review using Checklist. The checklist includes the socio-demographic characteristics of the patients, indication for endoscopy. Data was collected by four Physicians by reviewing each patients register chart and charts of all UGID Patient were selected from the patient's medical record log book, then the chart was revised.

4-8 Data analysis

Collected data was entered, cleared and analyzed using SPSS windows version 16. Descriptive analysis was carried out using frequency distributions, central tendency and dispersion measures. Presence of statistical association between dependent and independent variables was assessed using chi-square and logistic regression. Association with p- value of < 0.05 will be considered to be statistically significant. A result was presented in writing, tabulation and a figurative presentation from which conclusions and recommendations was made. In addition, results was also be compared with other studies and discussed.

4.9 Data quality control

The measures that was undertaken to ensure quality of data include Pre-testing of the data collection instrument on 10 charts, Training on data collection for data collectors before data collection for the study was started supervision of the data collection process, checking filled check list, data storage and management.

4-10 Ethical consideration

Ethical clearance was obtained from JUMC and medical sciences Ethical review committee. An official letter was obtained from department of internal medicine and was submitted to responsible body at endoscopy unit .Information obtained from the records is kept confidential by not recording participants name and their phone number on questionnaires besides the check list was kept in closed cabinet in the internal medicine department till publication of the study.

4.11 Limitations

The anticipated limitations of this study were lack of representative ness of the general population of UGID ,pathologic diagnosis is not include for correlating with endoscopy and the study being a retrospective review study, the information needed might be incomplete.

4-12 Dissemination plan

After research completion and finalizing report, it will be submitted to department of internal medicine, JU MC, the ministry of health and other concerned institutions and stake holders for possible application and publication of the study.

4-13 Operational definitions

UGID- disease of upper gastrointestinal tract comprises of the oropharynx, hypopharynx, the esophagus, the Stomach and the duodenum, presented with symptoms of heartburns, acid brush, dysphagia, belching, dyspepsia, abdominal pain etc.(ESG)

Hematemesis

- is vomiting of coffee-ground matter (black material which is assumed to be bloody) (30).

Melena- is the passage of black tarry stools.

Hematochezia -is the passage of fresh or altered blood per rectum (30).

Varices -are abnormal distended veins usually in the esophagus (esophageal varices) or in the stomach (30).

Dyspepsia -is a chronic or recurrent pain or discomfort centered in the upper abdomen, ch/x as recurrent upper abdominal discomfort, abdominal fullness and bloating, early satiety ,nausea and vomiting , loss of appetite(28).

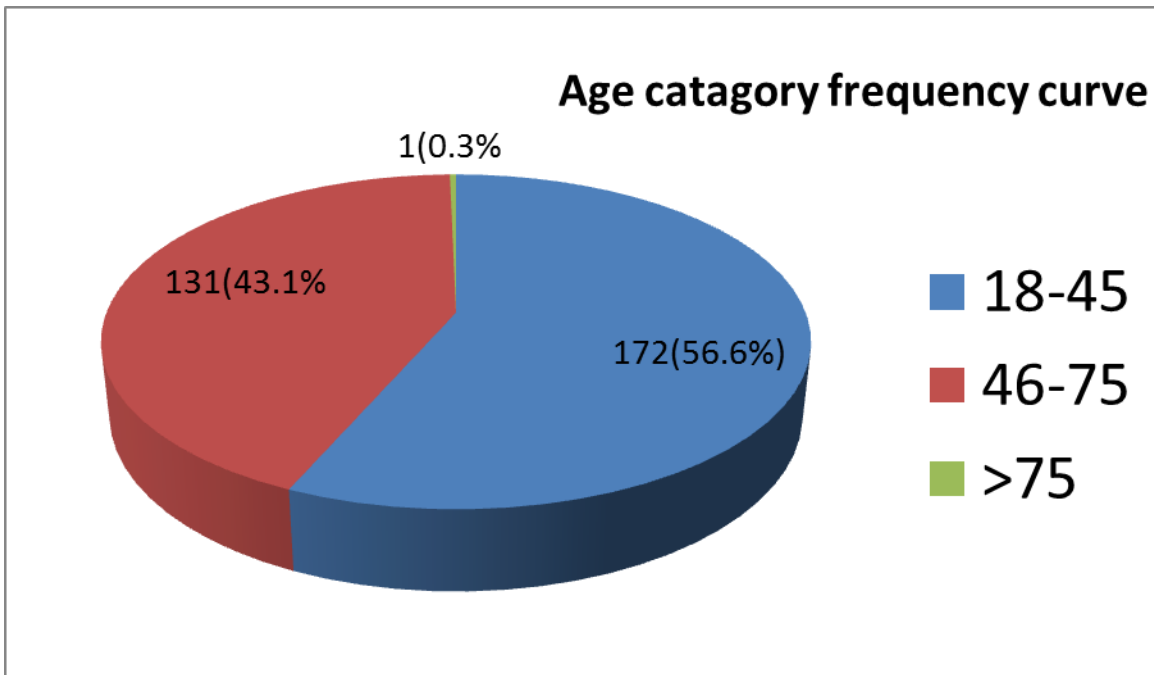
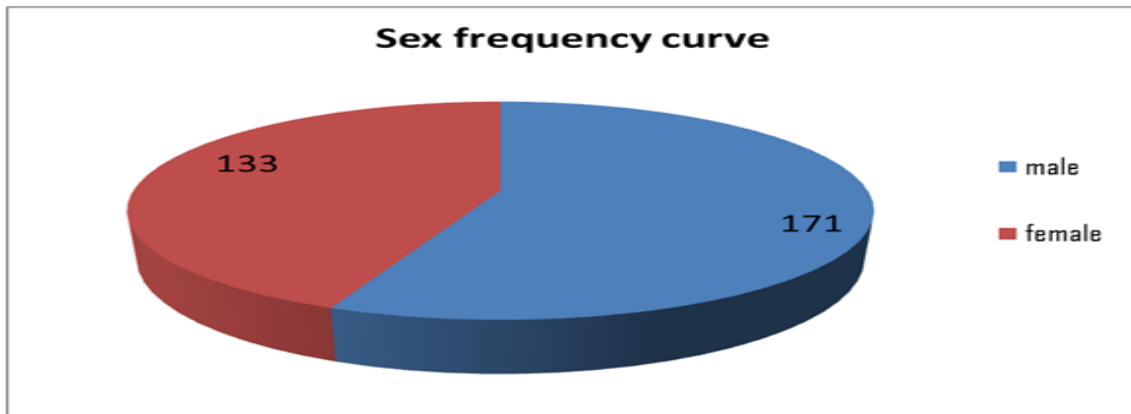
Upper gastrointestinal endoscopy- A thin, flexible fibro optic tool that allows to see inside lining of esophagus , stomach, and the first part of small intestine (duodenum),used for diagnostic and therapeutic (29).

CHAPTER FIVE

Results

A total of 304 upper gastrointestinal endoscopies were performed over one year period of the study. Patients age were ranged from 18 to 75 years, with a mean of 39.82 years (SD +/- 14.705). Majority of patients(56.6 %) were aged between 18 - 45 years . Only One patient was above 75 years of age. There was slightly male predominance (56.3%). (pie chart 1& 2).

Pie chart 1: socio demography of the study population (n=304)



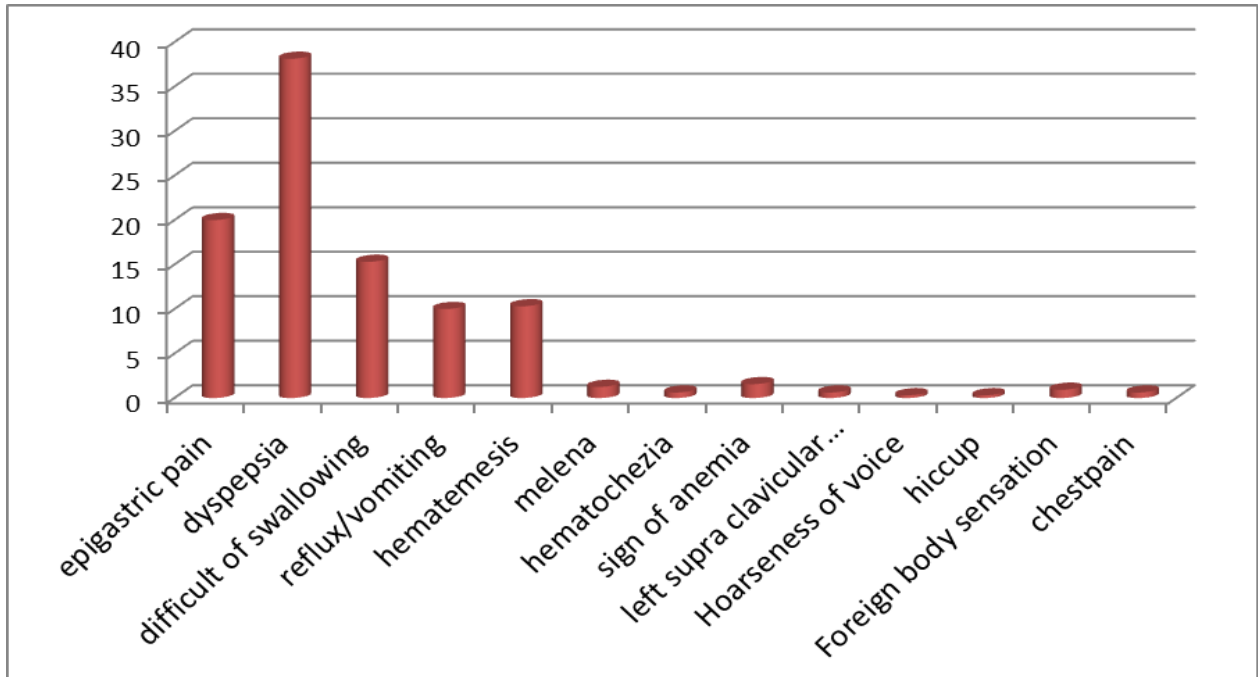
| Age | Frequency | Percentage | Sex | Frequency | Percentage |
|-------|-----------|------------|---------------|------------|-------------|
| 18-45 | 172 | 56.6 | Male | 171 | 56.3 |
| 45-75 | 131 | 43.1 | Female | 133 | 43.8 |
| >75 | 1 | 0.3 | | | |

The leading indication for upper gastro intestinal endoscopic examination was dyspepsia 38.1%, followed by Epigastric pain and difficulty of swallowing 20 %, 15.3 % respectively. The other reason for endoscopic evaluation were; hematemesis 10.3%, reflux/vomiting 10 %, anemia 1.6%, melena 1.25%, foreign body sensation 0.94%, bleeding per rectum , chest pain and left supra clavicular lymphadenopathy each accounts 0.63%, while hoarseness of voice and hiccup each indicated in about 0.31% of patients.(table 3)

3-Pattern of complaints of patient before endoscopy

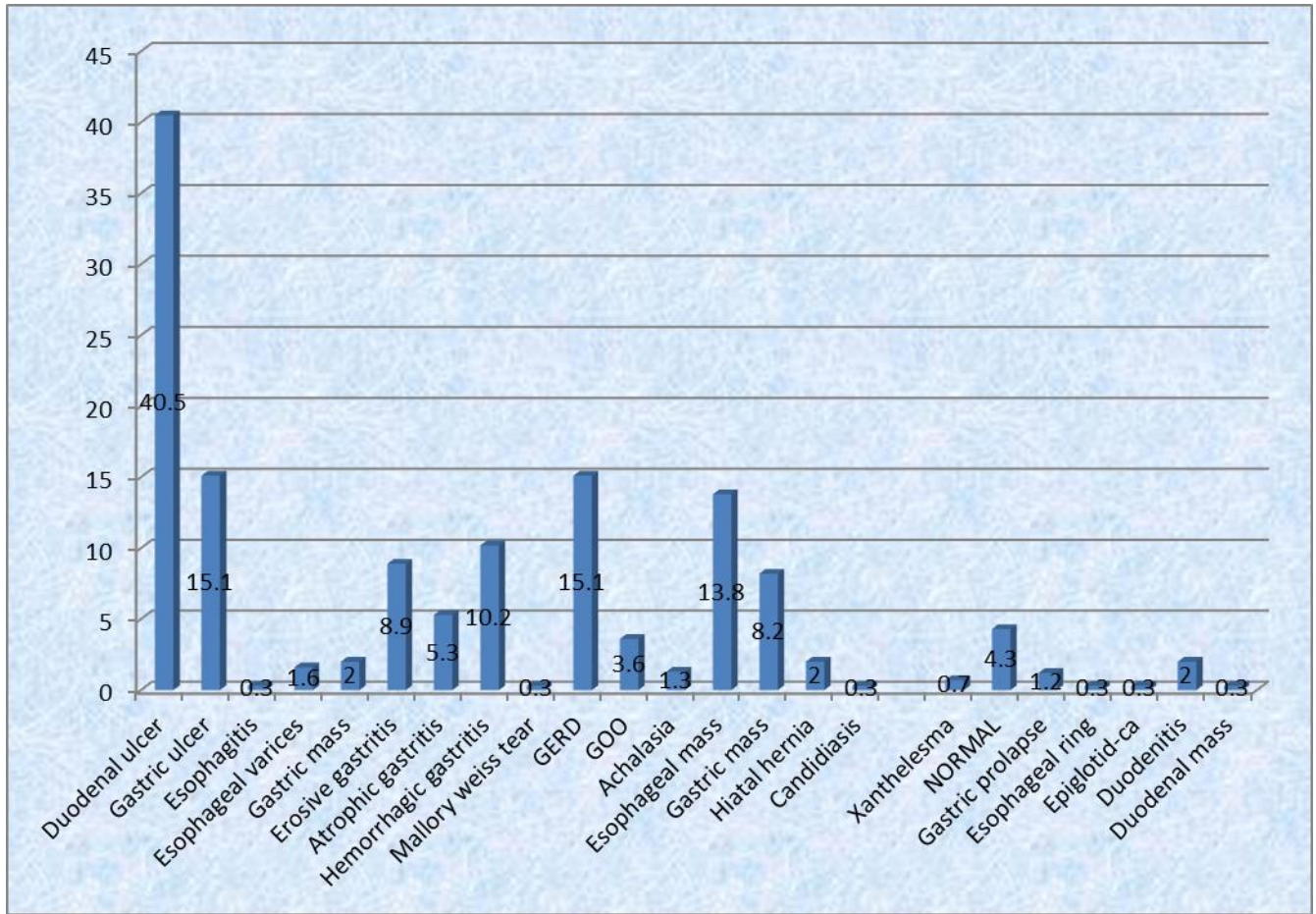
| Indications | Frequency | Percentage |
|------------------------------------|-----------|------------|
| Epigastric pain | 64 | 20 |
| dyspepsia | 122 | 38.125 |
| Difficult of swallowing | 49 | 15.3125 |
| Reflux/ vomiting | 32 | 10 |
| Hematemesis | 33 | 10.3125 |
| Melena | 4 | 1.25 |
| bleeding per rectum (hematochezia) | 2 | 0.625 |
| signs of anemia | 5 | 1.5625 |
| Left supraclavicular LAP | 2 | 0.625 |
| Hoarseness of voice | 1 | 0.3125 |
| Hiccup | 1 | 0.3125 |

| | | |
|------------------------|-----|--------|
| Foreign body sensation | 3 | 0.9375 |
| Chest pain | 2 | 0.625 |
| Total | 320 | 100 |



From the total population underwent endoscopic evaluation 13 (4.3%) were found to be macroscopically normal. Of those who had positive endoscopic findings; duodenal ulcer seen in 40.5, gastritis in 24.4 % (hemorrhagic gastritis 10.2%, erosive gastritis 8.9% and atrophic gastritis 5.3%) followed by gastric ulcer and GERD each constitutes 15.1%. Mass of the esophagus was diagnosed in 13.8% of cases while cancer of the stomach identified in 8.2 %.The least commonly identified endoscopic finding were GOO seen in 3.6%,gastric polyps, duodenitis and hiatal hernia each account 2%,esophageal varices 1.6%,gastric prolapse and achalasia each 1.3%,xanthelesma 0.7% ,while esophageal ring, epiglottis cancer ,candidiasis ,Mallory Weiss tear, duodenal mass and esophagitis each constitutes 0.3%.(table 4)

Table4-Pattern s of endoscopic findings



| Current diagnosis | Frequency | Percentage |
|-----------------------|-----------|------------|
| Duodenal ulcer | 123 | 40.5 |
| Gastric ulcer | 46 | 15.1 |
| Esophagitis | 1 | 0.3 |
| Esophageal varices | 5 | 1.6 |
| Gastric mass/polyps | 6 | 2 |
| Erosive gastritis | 27 | 8.9 |
| Atrophic gastritis | 16 | 5.3 |
| Hemorrhagic gastritis | 31 | 10.2 |
| Mallory Weiss tear | 1 | 0.3 |
| GERD | 46 | 15.1 |

| | | |
|------------------|----|------|
| GOO | 15 | 3.6 |
| Achalasia | 4 | 1.3 |
| Esophageal ca | 42 | 13.8 |
| Gastric ca | 25 | 8.2 |
| Hiatal hernia | 6 | 2 |
| Candidiasis | 1 | 0.3 |
| Xanthelesma | 2 | 0.7 |
| Normal | 13 | 4.3 |
| Gastric prolapse | 4 | 1.3 |
| Esophageal ring | 1 | 0.3 |
| Epiglottid-ca | 1 | 0.3 |
| Duodenitis | 6 | 2 |
| Duodenal mass | 1 | 0.3 |

Epigastric pain and dyspepsia were more common in age less than 40 years with (p-0.174, 0.483) respectively and male more affected than female sex in both cases. Difficult of swallowing, left supra clavicular lymphadenopathy common in age greater than 40 years with significant ant p- value in case of difficult of swallowing (p-.002) and male affected than female in both groups. Chest pain was common presentation in age less than 40 years in GERD patients. Foreign body sensation was predominantly seen in male than female, however chest pain slightly higher in female than male counterpart.

Table 5: Age distribution of upper GI indications

| Indications | | Age of the patient | | p-value |
|----------------------------------|-----|--------------------|------------|---------|
| | | ≤ 40 years | > 40 Years | |
| Epigastric pain | No | 131 | 109 | 0.174 |
| | Yes | 41 | 23 | |
| Heart burn/regurgitation | No | 100 | 82 | 0.483 |
| | Yes | 72 | 50 | |
| Difficult of swallowing | No | 154 | 101 | 0.002 |
| | Yes | 18 | 31 | |
| Reflux/ vomiting | No | 157 | 115 | 0.242 |
| | Yes | 15 | 17 | |
| Hematemesis | No | 151 | 120 | 0.386 |
| | Yes | 21 | 12 | |
| Melena | No | 170 | 130 | F*1.000 |
| | Yes | 2 | 2 | |
| Bleeding per rectum/hematochezia | No | 171 | 131 | F*1.000 |
| | Yes | 1 | 1 | |
| Sign of anemia | No | 171 | 128 | F*0.171 |
| | Yes | 1 | 4 | |
| Left supraclavicular LAP | No | 172 | 130 | F*0.188 |
| | Yes | 0 | 2 | |
| Hoarseness of voice | No | 171 | 132 | F*1.000 |
| | Yes | 1 | 0 | |
| Hiccup | No | 171 | 132 | F*1.000 |
| | Yes | 1 | 0 | |
| Foreign body sensation | No | 169 | 132 | F*0.261 |
| | Yes | 3 | 0 | |
| Chest pain | No | 170 | 132 | F*0.507 |
| | Yes | 2 | 0 | |

Table 6: Sex distribution of upper GI indications

| Indications | | sex of the patient | | p-value |
|----------------------------------|-----|--------------------|--------|---------|
| | | Male | Female | |
| Epigastric pain | No | 130 | 110 | 0.156 |
| | Yes | 41 | 23 | |
| Heart burn/regurgitation | No | 109 | 73 | 0.118 |
| | Yes | 62 | 60 | |
| Difficult of swallowing | No | 141 | 114 | 0.443 |
| | Yes | 30 | 19 | |
| Reflux/ vomiting | No | 150 | 122 | 0.242 |
| | Yes | 21 | 11 | |
| Hematemesis | No | 155 | 116 | 0.341 |
| | Yes | 16 | 17 | |
| Melena | No | 170 | 130 | F*0.322 |
| | Yes | 1 | 3 | |
| Bleeding per rectum/hematochezia | No | 170 | 132 | F*1.000 |
| | Yes | 1 | 1 | |
| Sign of anemia | No | 169 | 130 | F*0.657 |
| | Yes | 2 | 3 | |
| Left supraclavicular LAP | No | 169 | 133 | F*0.506 |
| | Yes | 2 | 0 | |
| Hoarseness of voice | No | 170 | 133 | F*1.000 |
| | Yes | 1 | 0 | |
| Hiccup | No | 170 | 133 | F*1.000 |
| | Yes | 1 | 0 | |
| Foreign body sensation | No | 169 | 132 | F*1.000 |
| | Yes | 2 | 1 | |
| Chest pain | No | 171 | 131 | F*0.191 |
| | Yes | 0 | 2 | |

*fisher exact test

**significant at $p < 0.05$

During upper GI endoscopic evaluation duodenal ulcer (36.7%), all the three gastritis 17.9(erosive 8%, atrophic 3.9%, hemorrhagic 8%),GERD (11.6%), gastric ulcer 10.7% ,normal endoscopic study (4%), GOO (3.9), duodenitis (2.2%),esophageal varices(1.7), achalasia (0.1%)were common in age less than 40 years except esophagitis , achalasia, duodenitis all the rest were common in male than female. Only individual affected by duodenal ulcer had significant p-value (p-.003).

Esophageal cancer (58%), Gastric cancer (36.6%), esophagitis, candidiasis and esophageal ring (each accounts 1.8%) were common in age above 40 years. Only gastric cancer and esophageal cancer groups had p-value (p=0.000). Esophagitis predominantly affect female sex group while others affect male predominantly.

Table 7: Distribution of endoscopic diagnosis in relation to age category

| Current diagnosis | | Age of the patient | | p-value |
|-----------------------|-----|--------------------|------------|---------|
| | | ≤ 40 years | > 40 Years | |
| Duodenal ulcer | No | 90 | 91 | 0.003 |
| | Yes | 82 | 41 | |
| Gastric ulcer | No | 148 | 110 | 0.513 |
| | Yes | 24 | 22 | |
| Esophagitis | No | 172 | 131 | 0.253 |
| | Yes | 0 | 1 | |
| Esophageal varices | No | 168 | 131 | F*0.393 |
| | Yes | 4 | 1 | |
| Mass/polyps | No | 168 | 130 | F*0.701 |
| | Yes | 4 | 2 | |
| Erosive gastritis | No | 154 | 123 | 0.268 |
| | Yes | 18 | 9 | |
| Atrophic gastritis | No | 164 | 124 | 0.585 |
| | Yes | 8 | 8 | |
| Hemorrhagic gastritis | No | 154 | 119 | 0.860 |
| | Yes | 18 | 13 | |
| Mallory Weiss tear | No | 171 | 132 | F*1.000 |

| | | | | |
|------|-----|-----|-----|-------|
| | Yes | 1 | 0 | |
| GERD | No | 146 | 112 | 0.993 |
| | Yes | 26 | 20 | |

*fisher exact test

**significant at $p < 0.05$

| Indications | | Age of the patient | | p-value |
|-------------------|-----|--------------------|------------|---------|
| | | ≤ 40 years | > 40 Years | |
| GOO | No | 164 | 129 | 0.271 |
| | Yes | 8 | 3 | |
| Achalasia | No | 169 | 131 | F*0.636 |
| | Yes | 3 | 1 | |
| Esophageal cancer | No | 161 | 101 | 0.000 |
| | Yes | 11 | 31 | |
| Gastric cancer | No | 167 | 112 | 0.000 |
| | Yes | 5 | 20 | |
| Hiatal hernia | No | 169 | 129 | F*1.000 |
| | Yes | 3 | 3 | |
| Candidiasis | No | 172 | 131 | F*0.434 |
| | Yes | 0 | 1 | |
| Xanthelesma | No | 171 | 131 | F*1.000 |
| | Yes | 1 | 1 | |
| Normal | No | 163 | 128 | 0.347 |
| | Yes | 9 | 4 | |
| Gastric prolapse | No | 170 | 130 | F*1.000 |
| | Yes | 2 | 2 | |

| | | | | |
|------------------|-----|-----|-----|---------|
| Esophageal ring | No | 172 | 131 | F*0.434 |
| | Yes | 0 | 1 | |
| epiglotid cancer | No | 172 | 131 | F*0.434 |
| | | | | |
| Duodenitis | Yes | 167 | 131 | F*0.239 |
| | | 5 | 1 | |
| Duodenal mass | | 171 | 132 | F*1.000 |
| | | 1 | 0 | |

*fisher exact test

**significant at $p < 0.05$

8: Distribution of endoscopic diagnosis in relation to sex

| Current diagnosis | | Age of the patient | | p-value |
|-----------------------|-----|--------------------|--------|---------|
| | | Male | Female | |
| Duodenal ulcer | No | 93 | 88 | 0.038 |
| | Yes | 78 | 45 | |
| Gastric ulcer | No | 142 | 116 | 0.313 |
| | Yes | 29 | 17 | |
| Esophagitis | No | 171 | 132 | F*0.437 |
| | Yes | 0 | 1 | |
| Esophageal varices | No | 167 | 132 | F*0.390 |
| | Yes | 4 | 1 | |
| Mass/polyps | N | 169 | 129 | F*0.410 |
| | | 2 | 4 | |
| Erosive gastritis | | 158 | 119 | 0.374 |
| | | 13 | 14 | |
| Atrophic gastritis | | 165 | 123 | 0.120 |
| | | 6 | 10 | |
| Hemorrhagic gastritis | | 158 | 115 | 0.090 |
| | | 13 | 18 | |

| | | | | |
|--------------------|--|-----|-----|-------|
| Mallory Weiss tear | | 171 | 132 | 0.256 |
| | | 0 | 1 | |
| GERD | | 143 | 115 | 0.493 |
| | | 28 | 18 | |

*fisher exact test

**significant at $p < 0.05$

| Indications | | Age of the patient | | p-value |
|-------------------|-----|--------------------|--------|---------|
| | | Male | Female | |
| GOO | No | 161 | 132 | 0.018 |
| | Yes | 10 | 1 | |
| Achalasia | No | 169 | 131 | F*1.000 |
| | Yes | 2 | 2 | |
| Esophageal cancer | No | 147 | 115 | 0.900 |
| | Yes | 24 | 18 | |
| Gastric cancer | No | 158 | 121 | 0.655 |
| | Yes | 13 | 12 | |
| Hiatal hernia | N | 168 | 130 | F*1.000 |
| | | 3 | 3 | |
| Candidiasis | | 171 | 131 | 0.437 |
| | | 0 | 1 | |
| Xanthelesma | | 170 | 132 | F*1.000 |
| | | 1 | 1 | |
| Normal | | 166 | 125 | 0.186 |
| | | 5 | 8 | |
| Gastric prolapse | | 168 | 132 | 0.634 |

| | | | | |
|--------------------|--|-----|-----|---------|
| | | 3 | 1 | |
| Esophageal ring | | 170 | 133 | F*1.000 |
| | | 1 | 0 | |
| Epiglottis- cancer | | 170 | 133 | F*1.000 |
| | | 1 | 3 | |
| Duodenitis | | 168 | 130 | F*1.000 |
| | | 3 | 3 | |
| Duodenal mass | | 170 | 133 | F*1.000 |
| | | 1 | 0 | |

*fisher exact test

**significant at $p < 0.05$

Dyspepsia was mainly caused by duodenal ulcer(30%),followed by GERD (15%),gastric ulcer and hemorrhagic gastritis (10.7% each),erosive gastritis (7.8%),atrophic gastritis (7.1%),normal finding (5.6%),gastric mass/polyps (4.2%),GOO (2.1%) and achalasia, gastric prolapse, Mallory Weiss tear, esophagitis, esophageal varices constitutes the rest percentage. More than half of Epigastric was caused by PUD (60.1 %) of which duodenal ulcer and gastric ulcer accounts 44.6% , 15.5% respectively followed by erosive gastritis (9.7%),GERD(8.7 %),Hemorrhagic gastritis(4.8%) and the rest caused by atrophic gastritis, GOO, Achalasia, esophageal cancer, duodenitis, duodenal mass. 2(0.9%) clients with Epigastric pain had normal endoscopic study.

More than half (56%) of patients who come with complaint of difficulty of swallowing had esophageal tumor, followed by complicated duodenal ulcer ,gastric ulcer, GERD ,gastric ulcer, gastric prolapse, erosive gastritis each constitutes. Al most all patients with chest pain had GERD which was more in younger individual in age less than 40 years.

9: Reasons of referral and endoscopy examination findings

| Diagnosis | chest pain | Difficult of swallowing | Sign of anemia | Epigastric pain | Dyspepsia |
|-----------------------|------------|-------------------------|----------------|-----------------|-----------|
| Duodenal ulcer | | 14 | 2 | 46 | 42 |
| Gastric ulcer | | 2 | | 16 | 15 |
| Esophagitis | | | | | 1 |
| Esophageal varices | | | 1 | | |
| Gastric polyps | | | | | 6 |
| Erosive gastritis | | 2 | 1 | 10 | 10 |
| Atrophic gastritis | | 1 | | 2 | 11 |
| Hemorrhagic gastritis | | 3 | 2 | 5 | 15 |
| Mallory Weiss tear | | | | 9 | 1 |
| GERD | 2 | 3 | | | 1 |
| GOO | | 3 | | 1 | 3 |
| Achalasia | | | | 2 | 2 |
| Esophageal cancer | | 22 | | 2 | |
| Gastric ca | | 5 | | | 5 |
| Hiatal hernia | | | | | |
| Candidiasis | | | | | 1 |
| Xanthelesma | | | | 1 | |
| Normal | | 1 | | 2 | 7 |

| | | | | | |
|------------------|---|----|---|----|---|
| | | | | | |
| Gastric prolapse | | 2 | | | 2 |
| Esophageal ring | | 1 | | | |
| Epiglottid a | | 1 | | | |
| Duodenitis | | 1 | | 1 | 3 |
| Duodenal mass | | | | 1 | |
| Total | 2 | 49 | 5 | 64 | |

CHAPTER SIX

Discussion

A pattern of upper gastro intestinal disease has never been studied in JUMC, because upper gastro intestinal endoscopy unit was not established till April 2016.

Our study revealed that dyspepsia (38%) was the most common indication for EGD, followed by Epigastric pain (20%), difficulty of swallowing (15.3%), and hematemesis, reflux/vomiting each (10.3%) were the leading indication for upper gastro intestinal endoscopy. all were common compliant in male than female and except difficult of swallowing which has significant association with increased age (p-0.002), all are also common in age below 40 years.

It is somewhat comparable with the other study, except some variation with turkey and Sudanese study in which dyspepsia and sign of anemia were the leading indication for UGIE and were commonly seen in females. The variation may be due to geographical variation in the prevalence of schistosomiasis that result in portal hypertension and increased incidence of malignancy in turkey study. Although in our study chronic liver disease caused by viral hepatitis were not included. (22, 27).

From our study population which comprised of 304 patients;13 (4.3%) had normal findings, of which 9(69.2%) aged below 40 years and 7(53.8%) complains dyspeptic symptoms. Of the abnormal endoscopic diagnosis duodenal ulcer (40.5 %), followed by Gastritis 24.4% (hemorrhagic gastritis 10.2%,erosive gastritis 8.9%,atrophic gastritis 5.3%),gastric ulcer and GERD each constitutes 15.1%,esophageal and gastric cancer seen in 13.8%,8.2% respectively, GOO (3.6%),Gastric polyps, duodenitis ,hiatal hernia each constitutes 2% and esophagitis identified in (0.3%) of population.

Duodenal ulcer followed by gastritis, GERD, gastric ulcer, GOO, duodenitis, esophageal varices, achalasia were the leading endoscopy diagnoses in age < 40 years and except GERD, the rest were higher in males. There is significant association between age <40 years and duodenal ulcer (p-0.003).

Esophageal cancer on the top, followed by gastric cancer, esophagitis, candidiasis, esophageal ring was the leading endoscopic finding in age >40 years, except esophagitis all were higher in males. There is positive correlation between gastric cancer and esophageal cancer with increasing age (p-0.001).

Although, esophageal and gastric cancer consistently increased in incidence as age increased above 40 years in our study and other reports, report from Malaysia shown that a steady decline in prevalence of Duodenal and gastric ulcer as well as decreased in H.Pylori positive ulcer from 21.1% to 5%, 11.9 to 9.4% and 90.1 to 28.1% respectively with subsequent decreased over all prevalence of H.Pylori of 51.7% to 11%. The Malaysian report coincide with Philippians, china and Indian report, which was in contrary to our finding and Solomon et al report from Gondar (10, 15) .The difference may be result from high prevalence of H.Pylori infection, dietary and other Environmental related factor in our set up and need further investigation to elicit which associated factors promptly increase the incidence . Normal endoscopic finding is identified in age below 40 years and majority of patients were presented with dyspeptic symptom which is comparable with other research (10, 23, 24).

In contrary to report from Gondar, Giza, Pakistan, we found that incidence of esophageal varices is low 4(1.7%).The possible reason may be because of reagent scarcity in patients with positive viral marker diagnostic endoscopy was deferred in such patients.

Erick Muhamk et al. found that Gastritis, esophagitis, peptic ulcers, and GORD constituted 76% of those who were referred due to Epigastric pain , Esophageal varices and gastritis were the commonest endoscopic findings among the referred patients due to history of vomiting of blood, Esophageal cancer was the commonest reason among patients referred due to history of difficult in swallowing(25).

The report is similar with our finding, except Duodenal ulcer was the commonest endoscopic finding (50% causes of) of patients with Epigastric and dyspeptic history.

CHAPTER SEVEN

Conclusion

Establishment of UGIE in the health delivery service here resulted in a high diagnostic yield of many gastrointestinal disorders. The frequency of diseases noted in this study gives an approximate epidemiological outline of upper gastrointestinal pathology in this community. Expansion of the service with the provision of more endoscopes, more relevant accessories and training, is recommended to supplement diagnosis and facilitate therapeutic measures.

Dyspepsia followed by Epigastric pain constitutes 58% of indication for UGIE and common manifestation of duodenal ulcer which was leading endoscopic diagnosis.

From our study population which comprised of 304 patients;13 (4.3%) had normal findings, of which 9(69.2%) aged below 40 years and 7(53.8%) complains dyspeptic symptoms.

Duodenal ulcer followed by gastritis, GERD, gastric ulcer, GOO, duodenitis, esophageal varices, achalasia were the leading endoscopy diagnoses in age < 40 years and except GERD, the rest were higher in males.

There was significant association between difficult of swallowing and esophageal cancer (p-value-0.002) and also there was positive correlation between ,0.003) and strong male predominance of duodenal ulcer, Gastric ulcer, duodenitis ,achalasia, GOO and further studies is required to study the underlying risk factors especially in males.

Recommendation and Limitation

Establishment of UGIE in the health delivery service here resulted in a high diagnostic yield of many gastrointestinal disorders. The frequency of diseases noted in this study gives an approximate epidemiological outline of upper gastrointestinal pathology in this community. Expansion of the service with the provision of more endoscopes, more relevant accessories and training, is recommended to supplement diagnosis and facilitate therapeutic measures.so reagent for viral hepatitis also needed to know clear and representative of UGD.

There were around 4.3 % esophageal and 3.6 % Gastric cancer patients identified during our study which was high in percentage and need pathologic confirmation, otherwise endoscopy solely may affect real result.

Scarcity of reagent for viral marker positive patient may undermine the incidence of esophageal varices which was high in previous study that was done in our country.

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ANNEXES

ANNEX 1: CONSENT FORM

TOPIC : PATTERNS OF UGID AMONG PATIENTS UNDERWENT UPPER GI ENDOSCOPY AT JUMC.

Principal Investigator: Megersa Negesa(MD)

Organization: Jimma University, College of Health Sciences

Sponsor: JU, College of Public Health and Medical sciences

Purpose of the Research Project

The aim of this study is to determine the patterns of UGID among patients under went upper GI endoscopy at JUMC.

Procedure

The study involves primarily sampled population from wards who presented with upper GI symptoms and underwent endoscopy for their complaints. Trained hospital staff (Clinical nurse, interns and residents will be included for this purpose

Benefits, Risk and /or Discomfort

There is minimal risk (from endoscopy) associated and patients may benefit from this project if results suggest need for further investigation or follow up.

Incentives/Payments for Participating

The participants will not be provided any incentives or payment to take part in this project.

Confidentiality

The personal information collected from the individual participants will be kept confidential and stored in a file, without their names by assigning a code number to it.

Right to Refusal or Withdraw

Participants have the full right to refuse participating and withdraw at any time in this research.

Person to contact

This research project will be reviewed and approved by the ethical review committee of Jimma University. If you have any question, you can contact any of the following individuals at any time.

Dr .MEGERSA NEGESA(Internal medicine Resident) Tel No – 0912065418, Email address: abdiwaqi@gmail.com/lensmegersa2006@gmail.com

Data Collection instrument on patterns of upper GI disease among patients under went upper GI endoscopy at JUMC.

Instructions:-Dear data collector the objective of this study is to assess patterns of upper GI disease among patients under went upper GI endoscopy at JUMC, the results of the study will help as to see the magnitude of UGID in our study area and it also help in identifying indication for endoscopy ,hence we may identify which group of individual (client) have a risk of UGID, so we can design a new preventive strategy.so you are kindly requested to revise each chart thoroughly, and record on the designed check list .-

Part one general characteristic –please circle the right answer

Research code number_____

Part: 1- Socio **demographic Characteristics** (fill the blank space or circle the right choice)

1-Card number -----

2-Age of the patient at time of diagnosis (in years) -----

3-Sex of the patient

1) Male

2) Female

4-indication for upper GI endoscopy (patient complaints)

1-Epigastric pain

2-Heart burn, regurgitation

3-Difficult of swallowing

4-Reflux/ vomiting

5-hematemesis

6 -melena

7-bleeding per rectum (hematochezia)

- 8-signs of anemia
- 9-abdominal lump/Epigastric swelling
- 10-others (specify)-----

5-what is the current diagnosis of upper GI endoscopy

- 1-Duodenal ulcer
- 2-Gastric ulcer
- 3-Esophagitis
- 4-Esophageal varices
- 5-Mass/polyps
- 6-Gastritis (erosive, atrophic----specify)-----
- 7-Mallory Weiss tear
- 8-GERD
- 9-GOO
- 10-Achalasia
- 11-Esophageal ca
- 12-Gastric ca
- 13-hiatal hernia
- 14-candidiasis
- 15-external compression
- 16-others (specify)

NB-include normal finding

Name of Data collector_____

Signature _____

Date of data collection_____

Name and signature of the supervisor _____

Thank you

CHAPTER FIVE
Work Plan

| S.N | | Responsibility | September 2016 GC. | October 2016 GC. | November, 2016 GC. | JULY, 2016, GC. | AUGUST, 2016 GC. |
|-----|---|----------------|--------------------|------------------|--------------------|-----------------|------------------|
| 1. | Prepare proposal and submit to advisors | R | █ | | | | |
| 2. | Get permission letter | R | | █ | | | |
| 3. | Preparation of study tool | R | | █ | | | |
| 4. | Pre testing of data collection format (questionnaire) | R and D | | █ | | | |
| 5. | Data collection | D | | | █ | | |
| 6. | Data entry and cleaning | DC and R | | | | █ | |
| 7. | Data analysis and write up | R | | | | █ | |
| 8. | Prepare for presentation on findings | R and A | | | | | █ |
| 9. | Presentation of final research | R and A | | | | | █ |

CHAPTER SIX:
Budget Proposal

| S. no | Budget category | Unit cost | Multiplying factor | | Total cost (birr) |
|----------|------------------|-------------|--------------------|------------|-------------------|
| 1 | Personnel | Fee per day | Number of staff | No of days | |
| | Data collectors | 50 | 1 | 263 | 13,150 |
| | Data entry clerk | 100 | 2 | 5 | 1000 |
| | Secretarial work | 300 | 1 | --- | 300 |
| Subtotal | | | | | 14,450 |

| | Supplies | Cost per item | Number | |
|---|-------------------------|---------------|---------|------|
| 2 | Questionnaire photocopy | 0.50 | 1000 | 500 |
| | Pen | 5.00birr | 10 | 50 |
| | Pencil | 1.00birr | 10 | 10 |
| | Eraser | 3.00birr | 5 | 15 |
| | Sharper | 3.00birr | 5 | 15 |
| | Printing paper | 180 | 6 reams | 1080 |
| | Printing and binding | 30 | 9 | 270 |
| | Subtotal 1060 | | | |
| | Total | 1+2 | 15,510 | |
| 3 | Contingency | | | 468 |
| 4 | Grand total | 1+2+3 | 15,978 | |

ASSURANCE OF PRINCIPAL INVESTIGATOR

The undersigned agrees to accept responsibility for the scientific ethical and technical conduct of the research project and for provision of required progress reports as per terms and conditions of the Faculty of Public Health in effect at the time of grant is forwarded as the result of this application.

Name of the student: Megersa Negesa (Internal Medicine Resident)
 Date. _____ Signature _____

APPROVAL OF THE ADVISORS

Name of the first advisor: Dagmawi T (MD, Internist)
 Date. _____ Signature _____
 Name of the second advisor: Habtamu J Lecturer, Dept. of Epidemiology)
 Date _____ Signature _____

