



## Demographic Correlation with Upper Gastrointestinal Endoscopy Findings – A Prospective Study

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### Abstract

**Aims and Objectives:** *Uninvestigated dyspepsia is one of the common presentation in a surgical department. The prevalence and predictability of the upper gastrointestinal findings in a case of uninvestigated dyspeptic patient based on age and sex of the patient varies. A study was undertaken to study. Age and sex wise occurrence of gastro esophageal reflux disease in our community.*

**Materials and Methods:** *Prospective observational study was conducted on 150 patients aged between 18 – 80 years presenting with untreated, uninvestigated and uncomplicated dyspepsia admitted with upper gastrointestinal symptoms .After obtaining ethical committee approval, and getting informed and signed consent from the patients upper gastro-intestinal endoscopy was performed and documented.*

### Results:

- Highest prevalence of late onset dyspepsia in the age group of 41-50years (24.6%)
- Dyspepsia was more common in males (61.3%) when compared to females
- Clinically significant endoscopic findings were observed in 71.3% of patients with uninvestigated dyspepsia.

*Out of 150 patients, there were 92 (61.3%) male patients, 58 (38.7%) female patients, age ranging from 18 years to 80 years. The mean age of the patients in this study with more GERD was found to be between 31 - 40 years.*

*Most patients presented with a complex of three or more dyspeptic symptoms and the symptom profile was not predictive of the endoscopic findings. However, the high prevalence of gastritis (28.7%), suggests that most patients of both sexes presenting with uninvestigated dyspepsia can be safely managed initially with acid suppressive drugs.*

**Conclusion:** *Clinically significant endoscopic findings were observed in 71.3% of patients with uninvestigated dyspepsia. Most patients presented with a complex of three or more dyspeptic symptoms and the symptom profile was not predictive of the endoscopic findings. A larger number of inflammatory lesions as a result of increased acid production and low incidence of malignancy in the study group. It is suggested that the uninvestigated patients with dyspepsia may be initially managed medically with acid suppressive therapy.*

*Endoscopy may be undertaken in patients with recurrent symptoms or in whom drug therapy fails.*

**Keywords:** *Upper GI endoscopy; dyspepsia; Gastro esophageal reflex disease.*

## Introduction

Dyspepsia (also called uninvestigated dyspepsia) had been defined by the Rome working teams as pain or discomfort centered in the upper abdomen. Pain in the central portion of the abdomen is a key symptom, pain located in other areas or related to defecation is excluded. Discomfort is considered to be distinct from pain; however, both often coexist and the distinction may in part be culturally driven. Discomfort has been defined as a subjective negative feeling that may include a variety of symptoms such as fullness in the upper abdomen, early satiety, bloating or nausea.

The definition of dyspepsia includes patients who have intermittent or continuous symptoms and does not specify the duration of symptoms. Thus dyspepsia may be of short or long duration, but acute self-limited dyspepsia does not usually require investigation and will not be considered further here.

The majority of patients who present with chronic dyspepsia have no obvious underlying explanation despite appropriate investigation; these cases are currently labeled as having non-ulcer (or functional) dyspepsia, although this is likely to be a heterogeneous condition. The pathophysiology of functional dyspepsia remains relatively poorly defined, but sensory and motor disorders of the stomach and duodenum appear to play a central role in at least a subset of cases.

## Materials and Methods

Prospective observational study was conducted on 150 patients aged between 18 – 80 years presenting with untreated, uninvestigated and uncomplicated dyspepsia admitted with upper gastrointestinal symptoms. After obtaining ethical

committee approval, and getting informed and signed consent from the patients upper gastro-intestinal endoscopy was performed and documented. The patients of both sexes admitted with upper gastrointestinal symptoms will be studied in terms of: History; Blood investigations: complete hemogram, random blood sugar, HbsAg, HIV; Radiological investigations: X ray Chest PA view, Ultrasound abdomen and pelvis. 150 patients aged between 18 – 80 years presenting with uninvestigated, untreated and uncomplicated dyspepsia were enrolled and evaluated in the study. Patients aged less than 18 years, patients on Proton pump inhibitors, patients who are known cases of chronic pancreatitis and liver disease, patients on NSAID's for more than one month duration, patients who had received Anti-Helicobacter pylori treatment and unwilling or unfit patients for endoscopy were excluded from the study.

All patients underwent upper gastro-intestinal endoscopy to document the various findings. Biopsies were taken in every patient from the gastric antrum and pathological site. The biopsy specimen was subjected to histo pathological examination for confirmation. The findings were documented and analysed.

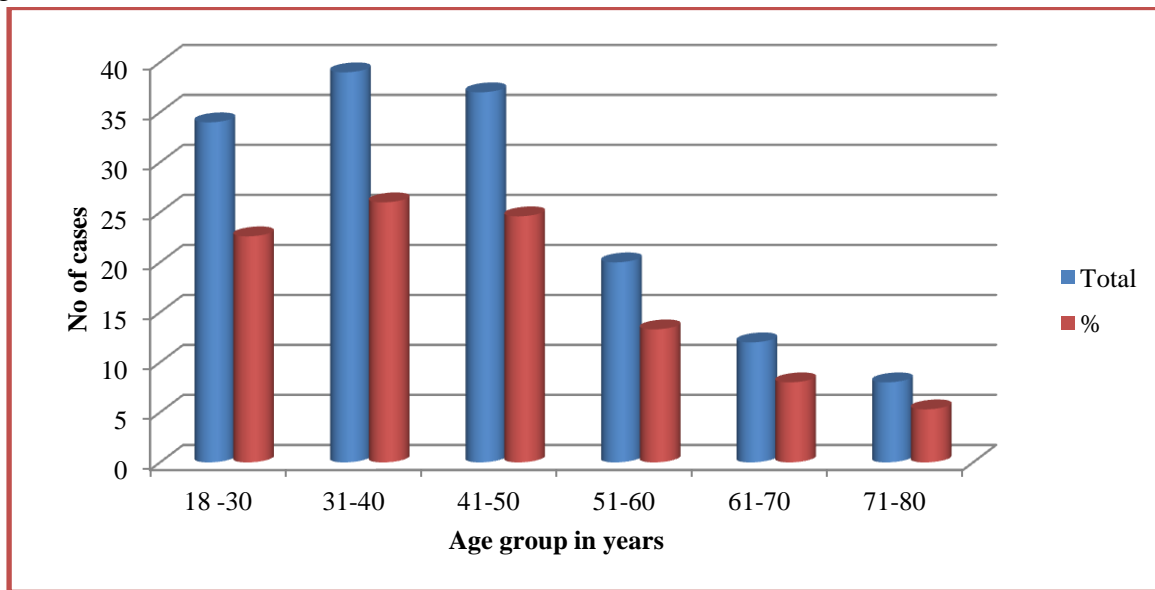
## Study

A total of 150 patients of both sexes and within a age group range of 18- 80 years who presented to the surgical department were subjected to the study , using Upper Gastro Intestinal Endoscopy as a diagnostic tool to identify the prevalence of various dyspeptic conditions based on their demography. All the findings were recorded and analysed.

**Table -1:** Age wise distribution

Age group	Total	%
18-30	34	22.6
31 -40	39	26
41-50	37	24.6
51-60	20	13.3
61-70	12	8
71-80	08	5.3

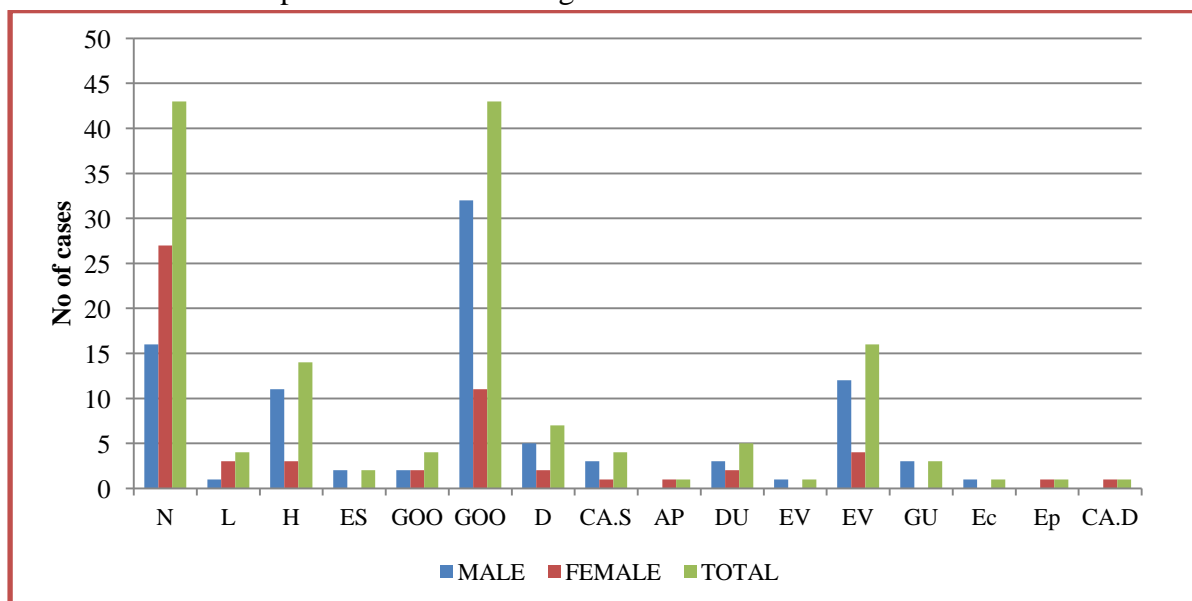
**Fig 1:** Age distribution



**Table 2:** Male Vs Female comparison of various diagnosis

S. No	Diagnosis	Male	%	Female	%
1	Normal	16	37.3	27	62.7
2	Lax hiatus	01	25	03	75
3	Hiatus hernia	11	78.5	03	21.5
4	Eosophageal stricture	02	100	00	0
5	Gastric outlet obstruction	02	50	02	50
6	Gastritis	32	74.4	11	25.6
7	Duodenitis	05	71.4	02	28.6
8	Carcinoma stomach	03	75	01	25
9	Antral polyp	00	0	01	100
10	Duodenal ulcer	03	60	02	40
11	Eosophageal varices	01	100	00	0
12	Eosophagitis	12	75	04	25
13	Gastric ulcer	03	100	00	0
14	Eosophageal candidiasis	01	100	00	0
15	Epiglottic cyst	00	0	01	100
16	Carcinoma duodenum	00	0	01	100

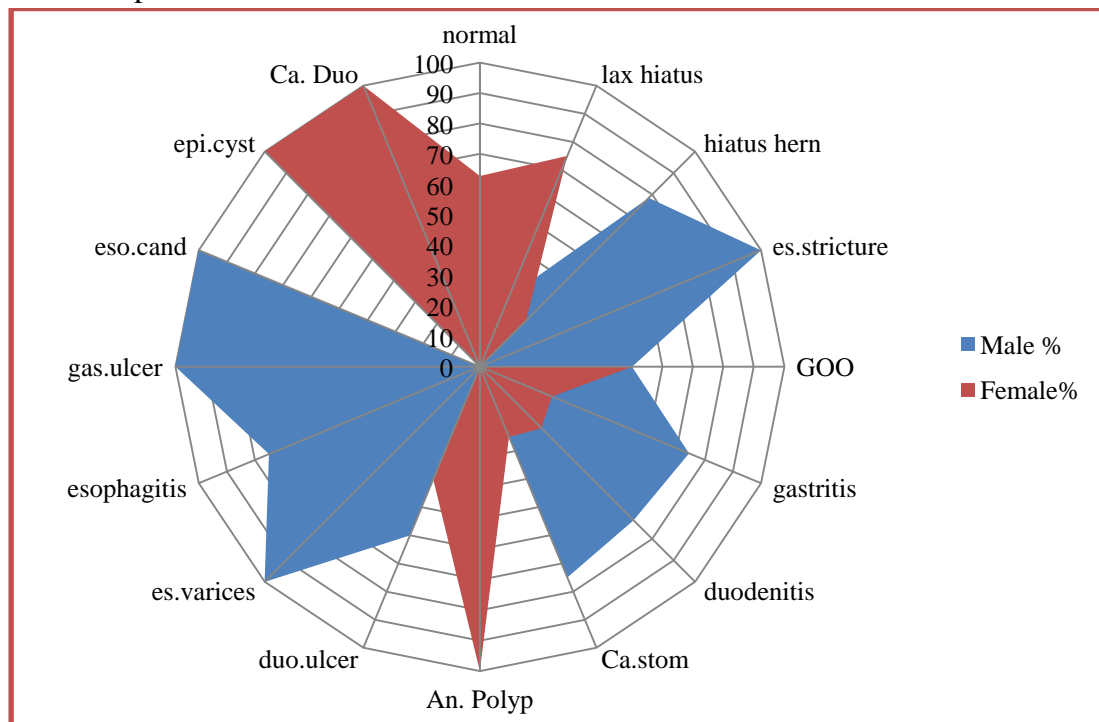
**Fig -2:** Male Vs Female comparison of various diagnosis



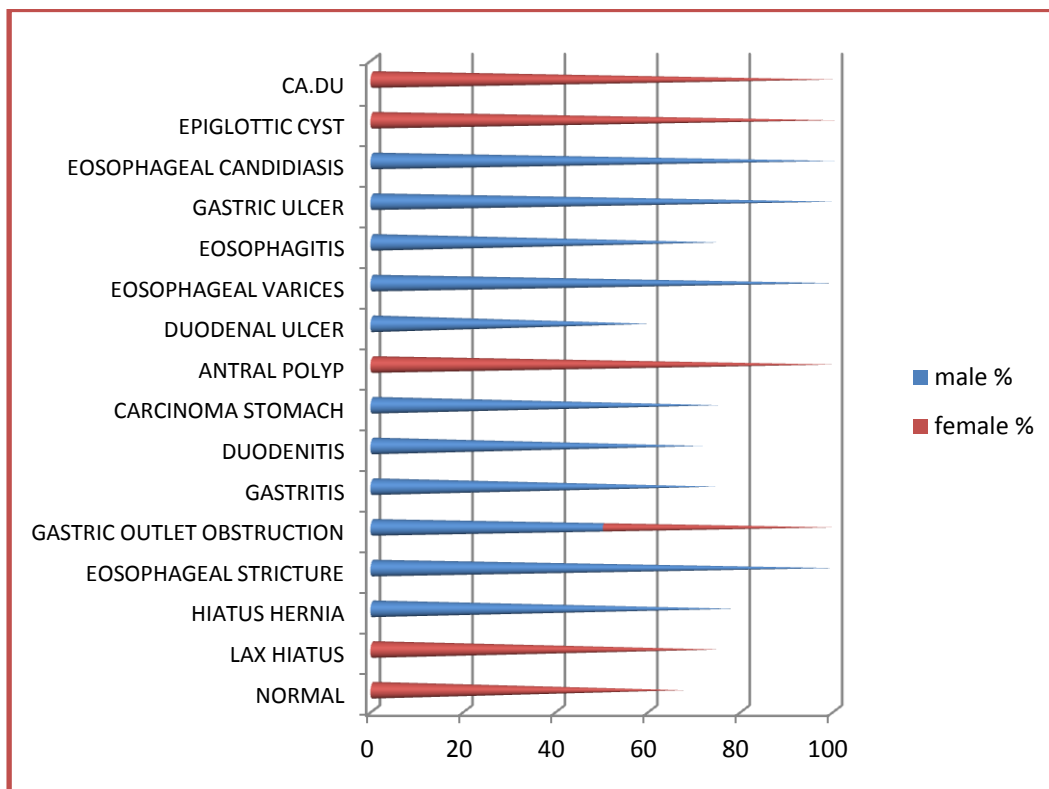
**Table 3:** Sex wise distribution of various endoscopic findings

S. No	Diagnosis	Sex	%
1	Normal	F	67.5
2	Lax Hiatus	F	75
3	Hiatus Hernia	M	78.5
4	Eosophageal Stricture	M	100
5	Gastric Outlet Obstruction	M/F	50
6	Gastritis	M	74.4
7	Duodenitis	M	71.4
8	Carcinoma Stomach	M	75
9	Antral Polyp	F	100
10	Duodenal Ulcer	M	60
11	Eosophageal Varices	M	100
12	Eosophagitis	M	75
13	Gastric Ulcer	M	100
14	Eosophageal Candidiasis	M	100
15	Epiglottic Cyst	F	100
16	Carcinoma Duodenum	F	100

**Fig 3:** Radar chart depiction of sex distribution in %



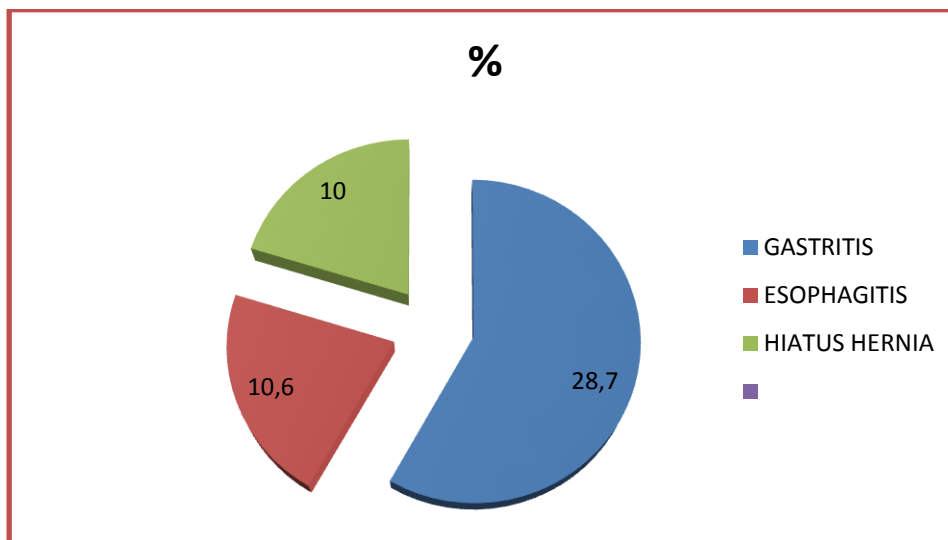
**Fig 4:** Sex distribution



**Table 4:** Most common cause of GERD

S. No	Diagnosis	%	M/F	%
1	Gastritis	28.7	M	74.4
2	Esophagitis	10.6	M	75
3	Hiatus hernia	10	M	78.5

**Fig 5:** Most common cause of GERD



Majority of the cases of dyspepsia were Gastritis, Esophagitis and Hiatus hernia of which most of them were male patients.

All patients were subdivided into different age groups.

- Most common clinically significant

endoscopic findings were seen in age group between 31-50 years.

- Hiatus hernia GERD were commonly seen in the age group between 21-40 years
- Inflammatory lesions (gastritis, esophagitis, eso polyp, Barrett's

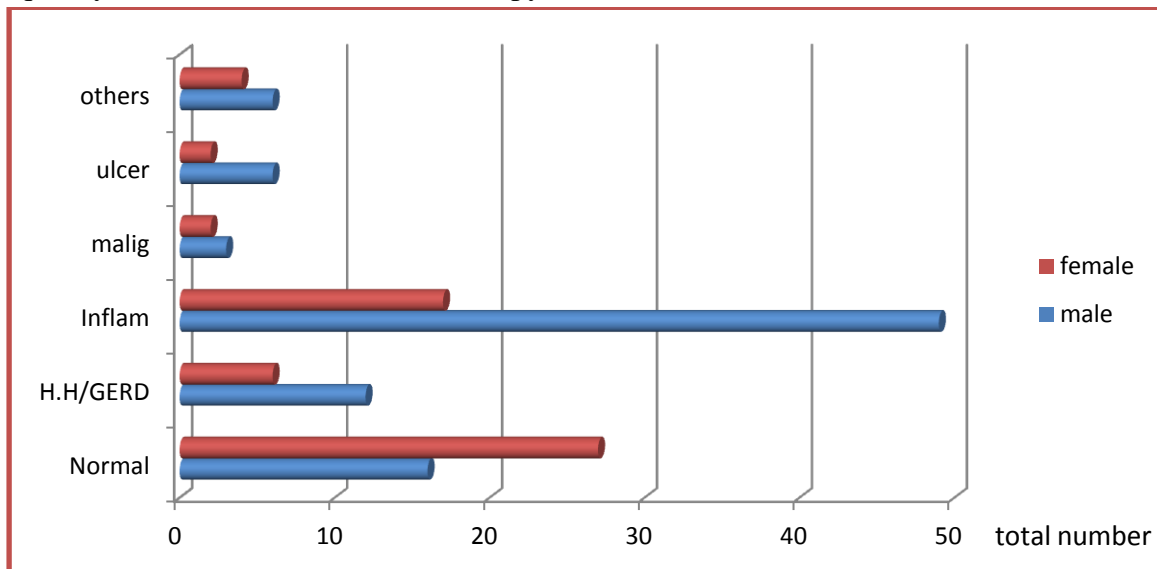
esophagus, esophagogastritis, duodenitis, gastroduodenitis and esophagogastrroduodenitis) were commonly seen in the age group between 31-50 years.

- Ulcer dyspepsia were commonly seen in the age group between 51-80 years
- Malignant lesions were seen frequently in patients aged more than 60 years.

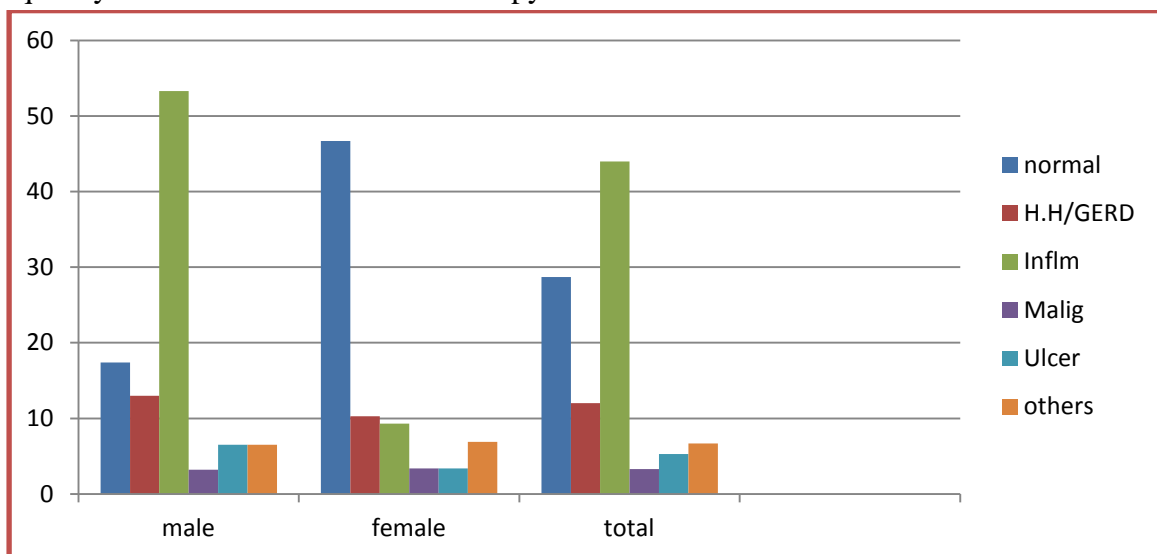
**Table 4:** Frequency of various diseases on endoscopy in males and females

Gender	Normal study	H.H/ Gerd	Infla lesion	Malig	Ulcer	Others	Total	%
Male	16 (17.4%)	12 (13%)	49 (53.3%)	03 (3.3%)	06 (6.5%)	06 (6.5%)	92	61.3%
Female	27 (46.7%)	06 (10.3%)	17 (29.3%)	02 (3.4%)	02 (3.4%)	04 (6.9%)	58	38.7%
Total	43 (28.7%)	18 (12%)	66 (44%)	05 (3.3%)	08 (5.3%)	10 (6.7%)	150	100%

**Fig 6:** Frequency of various diseases on endoscopy in different males and females



**Fig 7:** Frequency of various diseases on endoscopy in different males and females in %



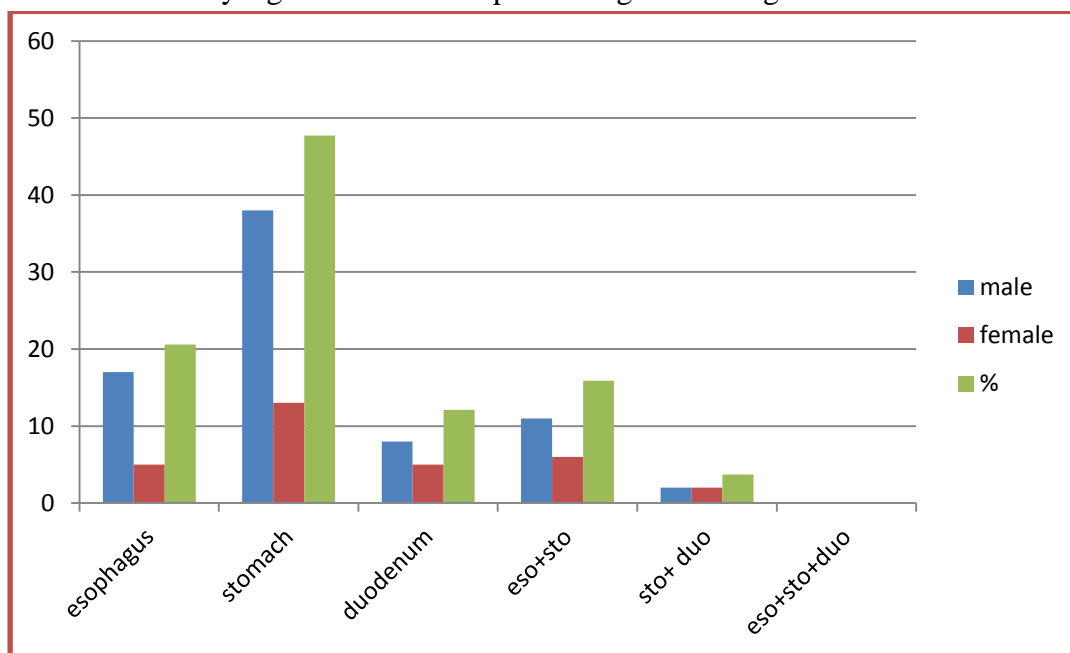
Analysis of various diseases on endoscopy showed that the most common pathology was inflammatory lesions seen in 66 (44%) of patients, of which 49(53.3%) were male patients and 17 (9.3%) were female patients, followed by Hiatus hernia and GERD were next common abnormal

findings, 18 (12%) in the decreasing order of the frequency of which 12 (13%) were males and 06 (10.3%) females. Ulcer dyspepsia was seen in 08 (5.3%) of which 6 (6.5%) males and 2 (3.4%) females. Malignancy was common 3(3.2%) in males of total 5 (3.3%) patients.

**Table 5:** Prevalence of clinically significant endoscopic finding according to the site of lesions

S. No	CSF"s	Male	Female	Total	Percentage
1	ESOPHAGUS	17	5	22	20.6%
2	STOMACH	38	13	51	47.7%
3	DUODENUM	8	5	13	12.1%
4	ESO+STO	11	6	17	15.9%
5	STO+DUO	2	2	4	3.7%
6	ESO+STO+DUO	0	0	0	0%
	Total	76	31	107	100%

**Fig 8:** Prevalence of clinically significant endoscopic findings according to the site of lesion



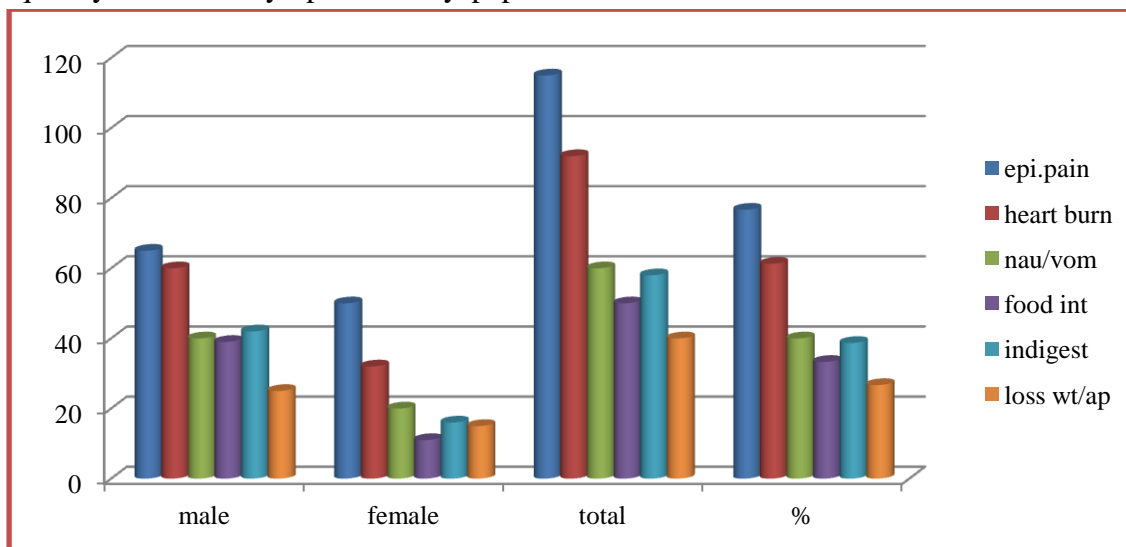
Out of 107 patients with clinically significant endoscopic findings, most common pathology was seen in stomach of 51 (47.7%), patients followed

by esophagus 22 (20.6%) and esophagus with stomach 17 (15.9%). Both males & females had more lesions in stomach.

**Table-6** Frequency of various symptoms of dyspepsia in males and females

S. No	Clinical presentation	Male	Female	Total	%
1	Epigastric pain	65	50	115	76.7%
2	Heart burn	60	32	92	61.3%
3	Nausea/vomiting	40	20	60	40%
4	Food intolerance	39	11	50	33.3%
5	Indigestion	42	16	58	38.7%
6	Loss of weight/appetite	25	15	40	26.7%

**Fig -9** Frequency of various symptoms of dyspepsia in males and females



Out of 150 patients, the most common component of dyspepsia was epigastric pain and discomfort, seen in 115 (76.7%) patients, followed by heart burn in 92 (61.3%) patients nausea and/or vomiting 60(40%) patients, food intolerance in 50 (33.3%) patients, indigestion in 58 (38.7%) patients and loss of appetite and/or weight in 40 (26.7%) patients.

**Comparison of Gender Distribution**

In this study 92 (61.3%) were male patients, 58 (38.7%) were female patients. The incidences of different presentations of late onset dyspepsia were common in males compared to females. The male / female ratio in the studies conducted by Khan N et al – 2.3:1, Ziauddin- 1.6:1, Mustapha SK et al- 1.1:1 respectively. In these studies also the majority of patients were males as observed in our study.

**Comparison of Incidence of Gastric Malignancies**

In this study there were 04 patients with carcinoma stomach accounting for 2.7%, among them which 3 were male patients. Gastric malignancies were common in older age groups. Incidence of gastric malignancies observed by various authors are as follows:

**Table-7:** The incidence of gastric malignancy in these studies is comparable with the observed in the present study

S. No	Name of study	% Gastric Malignancies
1	Choomsri P et al.5	1%
2	Khan N et al.6	3%
3	Ziauddin40	4%
4	Present study	2.7%

**Results**

- Highest prevalence of late onset dyspepsia in the age group of 41-50years (24.6%)



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Most patients presented with a complex of three or more dyspeptic symptoms and the symptom profile was not predictive of the endoscopic findings. However, the high prevalence of gastritis (28.7%), suggests that most patients of both sexes presenting with uninvestigated dyspepsia can be safely managed initially with acid suppressive drugs.

### Conclusion

Clinically significant endoscopic findings were observed in 71.3% of patients with uninvestigated dyspepsia. Most of the dyspeptic conditions were seen in middle age group in the range between 30 – 50 years. Male had predominance over females. Inflammatory lesions [ mostly Gastritis], GERD and malignancy was found more common in males. Most patients presented with a complex of three or more dyspeptic symptoms and the symptom profile was not predictive of the endoscopic findings. A larger number of inflammatory lesions as a result of increased acid production and low incidence of malignancy in the study group. It is suggested that the uninvestigated patients with dyspepsia may be initially managed medically with acid suppressive therapy, diet and life-style modification.

Endoscopy may be undertaken in patients with recurrent symptoms or in whom drug therapy fails.

**Declaration of Conflict of Interest:** There is no conflict of interest

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