Assessment of risk factors associated with Acid Peptic Diseases patients in a tertiary care hospital

KEYWORDS

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ABSTRACT *Aim: To assess the risk factors associated with Acid Peptic Diseases (APD). **Method:** A prospective observational study was conducted in outpatient department of Bharati Hospital and Research Centre, from August 2015 to April 2016. Information on patient demography, medical history, family history, lifestyle factors and dietary habits were collected. **Results:**High prevalence of APD was seen in age group of 21-50 years (68.9%). Majority of patients were affected with Gastritis & Duodenitis 73(65%) followed by Peptic ulcer 25(22%), H. Pylori 8(7%) and Gastro esophageal Reflux Disease (GERD) 7 (6%). Associated risk factors for Acid Peptic Disease included Smoking 48 (42.5 %), psychological stress (37%), sleep problem 31 (27 %) and regular use of NonSteroidal Anti-Inflammatory Drugs 25 (22%). Consuming spicy meals was reported by 67 (59.0%).**Conclusion:** The study result shows that the main risk factors for Acid Peptic Disease were spicy food consumption, Smoking, psychological stress and regular NSAID use. Key words: Acid peptic Diseases, risk factors*

Introduction:

Acid peptic disease is a collective term used to include many condition such as Peptic Ulcer Disease (PUD), duodenal ulcer (DU), Gastro Esophageal Reflux Disease (GERD), Esophageal Ulcer, Gastritis and Duodenitis. [1]

Acid peptic disease result from distinctive but overlapping pathogenic mechanism that typically involves acid effects on diminished mucosal defense.[2] A physiological balance exists in healthy individuals between gastric acid secretion and gastro duodenal mucosal defense. Acid peptic disease occur when the balance between aggressive factors like gastric acid, pepsin, bile salts, H.pylori and Non Steroidal Anti Inflammatory Drugs (NSAIDs) and mucosal defensive mechanism (mucosal blood flow, mucus, mucosal bicarbonate secretion, mucosal cell reconstitutions, epithelial cell renewal) are distrupted.1 India is a large subcontinent with differing cultural and diet habits. These differences perhaps influence the frequency and natural course of some disease within country. Type of food consumption, medications drinking habits, smoking and psychological stress influence the acidic environment of stomach and thus ulcer development. So the purpose of the study is to assess the risk factor associated with Acid Peptic Diseases in a tertiary care hospital.

Method

A prospective observational study was conducted in Outpatient department of Bharati Hospital and Research Centre, Pune over a period of 6 months. Patients of age 18 years and above with confirmed with Acid Peptic Disease clinically or endoscopically were included in the study. Patients with GIT malignancy and pregnant woman were excluded from the study. The study was conducted after obtaining approval from institutional ethics committee. Information

on age, educational- employment status, place of residence, life style factors, dietary details, history of previous medications especially use of NSAIDs, social history such as smoking habits, alcohol intake, sleeping pattern and type of psychological stress were noted in self pre-designed Patient profile proforma. Descriptive statistics (frequency, percentage and means) were generated for assessing risk factors associated with acid peptic diseases.

Results

Out of 113 patients 58.4% were male and 41.9 % were female. The occurrence of APD was high in the age group of 21-50 years (68.9 %). Most of the patients were graduates (30.1 %) and live in urban (96.4 %) area.

Table No.1: Socio Demographic characteristics of study objects

Characteristics	Number of patients	Percentage (%)
Gender		
Male	66	58.4
Female	47	41.5
Age in years		
Less than 20	4	3.5
21-30	25	22.1
31-40	27	23.9
41-50	22	19.4
51-60	14	12.4
> 60	21	18.6

Education status		
Uneducated	36	31.8
Preliminary	10	8.8
Secondary	25	22.1
Graduate	34	30.1
Post Graduate	8	7.1
Employment Status		
Civil servant	35	31.0
Public servant	1	0.9
Self – employed	14	12.4
Farmers	2	1.8
Retired	12	10.6
House wife	24	21.2
Student	13	11.5
Un-employed	12	10.6
Marital Status		
Married	88	77.9
Un-married	21	18.6
Widow /Divorced	4	3.5
Place of residence		
Urban	109	96.4
Rural	4	3.5

Smoking status		
Current smokers	48	42.5
Past smokers	10	8.8
Non smokers	55	48.7
Alcohol drinking		
Alcoholic	8	7.1
Past Alcoholic	10	8.8
Non-alcoholic	95	84.1
Recent NSAID Use		
Yes	25	22.1
No	88	77.9
Psychological stress due to Economic, work, family, housing, or personal problems		
Present	42	37.2
Absent	71	62.8
Tea/ coffee Drinking		
No	28	24.8
≤3 times per day	71	62.8
More than 3 times per day	14	12.4
Use of carbonated drink		
No	89	78.7
Once in a week	16	14.1
3-4 times a week	7	6.2
1-2 times a month	1	0.9

Commonly reported dietary habits included consuming spicy meals by 67 (59.3 %) and tomato soup by 12 (10.6 %). 48 (42.5%) were current smokers, 10 (8.8 %) were former smokers and 25 (22.1 %) were using analgesic like NSAIDs regularly. 31 (27.4 %) were reported sleep problem and in 12 (10. 6%) patients duration of sleep was less than five hours. There were 14 (12.4 %) patients taking tea more than three times a day. While 95 (84.1 %) patients who had never consumed alcohol , taking carbonated drink 3-4 times a week was reported by 7(6.2 %).

Table No. 2: Associated risk factors and their frequencies in patients with Acid Peptic Disease

Characteristics	Number of patients	Percentage (%)
Peptic ulcer history		
yes	3	2.6
No	110	97.3
Dietary habits		
Vegetarian	44	38.9
Mixed	69	61.1
Type of Food		
Spicy food	67	59.3
Bland food	34	30.1
Tomato soup in diet	12	10.6
Sleep problem		
Yes	31	27.4
No	82	72.6
Hours of sleep per day		
2-3 Hrs	5	4.4
3-4 Hrs	5	4.4
4-5 Hrs	2	1.8
5-7 Hrs	31	27.4
More Than 8 Hrs	70	61.9
Hours of work per week/day		
More than 12 Hrs a day	10	8.8
10-12 Hrs a day	46	40.7
Less Than 7 Hours	33	29.2
Retired	24	21.2

Majority of the patients were diagnosed with gastritis and duodenitis 73 (64.6%) followed by Peptic ulcer 25(22.1%), H. Pylori 8 (7.1%) and GERD 7(6.2 %).

Figure 1: Distribution of Acid Peptic Disease
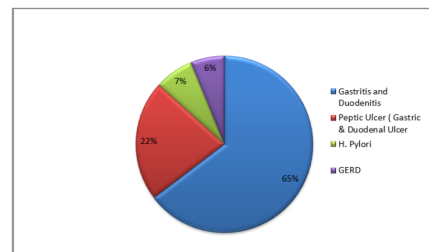
DISCUSSION

Acid-related disorders influence the quality of life and productivity of afflicted patient's and is common and important causes of morbidity and mortality.[1] The gender distribution of study population showed that among 113 patients, 66 (58.4%) were male and 47 (41.6%) were female. This data showed that Acid Peptic Disease (APD) is more prevalent in males as compared to female. This can be due to smoking, drinking status, chewing pan, betel nuts which are more frequent in male than female. Other reasons can be the hormonal differences in male and female.[3] Similar results were reported by Dr. Rafi Abul Hasnath Siddique et.al ,[4] among 196 participants 62.8 % were male and rest of them was female (37.2%). Highest numbers of patients were found in the age group of 21-50 years (68.9%). Our study showed that APD was found to be more prevalent in the age between 21-50 years; similar results were reported by Niaz Ali et al.[5] This could be attributed to the hyperactivity and exposure to stress at this age group.

Consumption of spicy meals and pickles in the meals are considered as risk factors associated with high prevalence of the Acid Peptic Diseases. Use of pickles in meals is routinely followed in Asian countries, especially India, Pakistan, and Iran; while, consumption of spicy meals is followed in most parts of Asia.[6] In our study almost half of the patients reported consuming spicy meals. Dietary habits also greatly influence the acidic environment of stomach. In our study

majority of patients (61.1 %) have mixed dietary patterns. It is known that coffee, carbonated beverages, soft drinks, and fruit juices with citric acid increase stomach acid production[3]. In our study there were 12.4 % patients taking tea more than three times a day and 6.2 % were taking carbonated drink more than 3three times in a week. NSAID including aspirin use is the second most common etiologic factor for peptic ulcer disease and a major factor for peptic ulcer complications. NSAIDs induce GI mucosal injury by direct toxic effects and reduce mucosal prostaglandins which play a critical role in defense mechanisms and repair processes. In our study 22 % were using analgesic like NSAIDs regularly.

Cigarette smoking is also considered to be one of the major contributors to Acid peptic disease especially ulcer diseases. A large US population-based study (1997–2003) revealed that the prevalence of ulcer disease in current and former smokers (11.43 and 11.52%) is almost doubled that of never smokers (6.00%).[7] Smoking increase gastric acid secretion and duodenogastric reflux and decreases both gastroduodenal prostaglandin production and pancreatic duodenal bicarbonate production. In our study majority of patients were smokers. (42.5%). Alcohol is another factor which irritate stomach, makes the stomach to produce more acid than usual, which can in turn cause gastritis. In our study 7.1 % were alcoholic.Importance of emotional disturbances due to stress has long been shown to be a consideration in the pathogenesis of Acid Peptic disease.[8] There is evidence that psychological stress induces many ulcers and impairs response to treatment. In our study 37.2 % patients were reported with Psychological stress..

CONCLUSION

Acid Peptic Diseases is a general health problem throughout the world. The prevalence of Acid peptic diseases is more common in male and middle age group. There are several factors influencing development and progression of disease. Type of food consumption, drinking habits, smoking and psychological stress influence the acidic environment of stomach and thus ulcer development.

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