

**DRUG UTILISATION REVIEW, RISK FACTOR ASSESSMENT AND IMPACT OF
PATIENT COUNSELING ON PEPTIC ULCER DISEASE IN A TERTIARY CARE
HOSPITAL – A PROSPECTIVE STUDY**

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ABSTRACT

Peptic ulcer disease refers to painful sores or ulcers in the lining of the stomach or first part of the small intestine, called the duodenum. Peptic ulcers are present in around 4% of the population. [1] They newly began in around 53 million people in 2014. [4] To understand the basis etiology and pathogenesis of the fundamental efforts and basic knowledge is required. The study has planned with following objective to understand the distribution of peptic ulcers. The 150 peptic ulcer disease patients were enrolled into the study. From the studies it may be concluded that the mostly used Anti-peptic ulcer agent in our hospital is Ranitidine, lifestyle habits are the main risk factor in peptic ulcer and it is found to be that the patient awareness towards the disease has been increased by the influence of patient counseling.

KEYWORDS: Peptic Ulcer, Non-Steroidal Anti-Inflammatory Drugs, Riskfactors, Anti Peptic Ulcer Drugs.

INTRODUCTION

Peptic ulcer disease refers to painful sores or ulcers in the lining of the stomach or first part of the small intestine, called the duodenum. Peptic ulcer disease (PUD), also known as a peptic ulcer or stomach ulcer, is a break in the lining of the stomach, first part of the small intestine, or occasionally the lower esophagus. [1,2] An ulcer in the stomach is known as a gastric ulcer while that in the first part of the intestines is known as a duodenal ulcer. The most common symptoms are waking at night with upper abdominal pain or upper abdominal pain that improves with eating. The pain is often described as a burning or dull ache. Other symptoms include belching, vomiting, weight loss, or poor appetite. About a third of older people have no symptoms. [1] Complications may include bleeding, perforation, and blockage of the stomach. Bleeding occurs in as many as 15% of people. [3] Peptic ulcers are present in around 4% of the population. [1] They newly began in around 53 million people in 2014. [4] About 10% of people develop a peptic ulcer at some point in their life. [5] They resulted in 301,000 deaths in 2013 down from 327,000 deaths in 1990. [6] The first description of a perforated peptic ulcer was in 1670 in Princess Henrietta of England [3] *H. pylori* was first identified as causing peptic ulcers by Barry Marshall and Robin Warren in the late 20th century, [7] a discovery for which they received the Nobel Prize in 2005. [8] No single cause has been found for ulcers.

Drug Utilization Evaluation (DUE) is an ongoing, authorized and systemic quality improvement process, which is designed to: Review drug use and/or prescribing patterns, provide feedback of results to clinicians and other relevant groups, develop criteria and standards which describes optimal drug use, promote appropriate drug use through education and other interventions. Hence, it is used in our project to facilitate the rational use of drugs in our hospital.

For the individual patient, the rational use of drugs implies the prescription of well documented drug at an optimal dose, together with correct informations on frequency and duration of therapy. Hence the inappropriate use of drugs represents a potential hazard to patients and may leads extended hospital stay and as well as the expense of the therapy. This necessitates the periodic review of patterns of drug use in a health care facility to ensure safe and effective use of drugs.

Risk factor assessment is a scientific process of evaluating the adverse effects caused by a substance, activity, lifestyle, or natural phenomenon. In our work we need risk factor assessment to find out the major reason for peptic ulcer disease among our taken group of patients in our hospital, by which the further case of same complaints could be prevented respectively.

METHODOLOGY

In this study a total number of 150 peptic ulcer patients, who were admitted as in-patient in general medicine (both male and female) of a tertiary care hospital, Salem. During the period of November 2016 to April 2017, and the data from the case sheets were noted, updated timely and were analysed according to the needs of the study. All the patients above the age of 18 and diagnosed with PUD and those are willing to give their consent were included in this study. The data was extracted from the General medicine department ward of the hospital. The data regarding age, gender, endoscopy findings, medications given along with their dose and duration, were noted down for each of these patients on a pre-designed proforma and analyzed.

RESULTS AND DISCUSSION

Table. no. 1: Demography of study participants.

Variable	Entries(n=150)
Gender	
Male	83(55.3%)
Female	67(44.7%)
Age category(in years)	
20-29	48(32%)
30-39	21(13.3%)
40-49	37(24.7%)
50-59	28(18.7%)
60-69	13(8.7%)
70-79	3(2%)
80-89	1(0.6%)
Employment status	
Employed(daily wage)	133(89%)
Unemployed	17(11%)
Co-morbidity status	
PUD alone	97(64.7%)
PUD with co-morbid	53(35.3%)

Table no. 2: Drug utilization review parameters.

Variables	Entries(n=150)
Prescribed PUD drugs	
H2 receptor antagonists (H2RAs)	108(72%)
Proton pump inhibitors (PPIs)	80(53.3%)
Antacids	54(36%)
Ulcer protectives	87(58%)
Antibiotic	13(8.7%)

Demographic characteristics of study participants are shown in Table 1. More than a half of patients with PUD in both healthcare facilities were males (55.30%). About three-quarter of the patients were found to be employed (89%). One-third of the patients with PUD in the study site was within 20 – 29 years of age (32%). About one-third of patients with PUD had other co-morbid conditions in the study site (35.3%).

The demographic characteristics of the patients revealed that males suffer more from peptic ulcer disease (PUD) than females in the hospital. This is moreover similar to

what some researchers got as their male to female ratio: Dong et al^[12], 3.95:1, Rosenstock and Jorgensen^[13], 2.2:1, and Kurata et al,^[14] 1:1. Peptic ulcer disease is a worldwide common disease, but the incidence of peptic ulcer disease in different countries and regions is obviously different. This may be the reason for variation in the ratio. The group of patients that suffered most from PUD because a lot of them are not educated, not empowered economically and may suffer from lack of proper sanitation, of safe drinking water, and of basic hygiene, as well as poor diets and overcrowding, all play a role in determining the overall prevalence of PUD. The age groups between 21- 40 years had the highest percentage of PUD patients in the hospitals. This could be attributed to the hyperactivity and exposure to stress of this age group. Sharma et al^[15] found out that peptic ulcer disease is a significant cause of morbidity in urban population of Nepal with more prevalent of erosive diseases in productive age group (20-49 years). Also, Dong et al^[12] reported that peptic ulcer disease in Hunan and Guangdong provinces in China occurred most in patients between 20 and 50 years old, which was similar to the results of the reports from India. Ramakrishnan and Salinas^[16] reported that 70 per cent of PUD patients in United States are between the ages of 25 and 64 years. The above findings agree with the results

Results for prescription pattern for PUD management in the study sites are shown in Table 2. H2 receptor blockers were the most prescribed ulcer healing drugs category with the utilization frequency more in tertiary healthcare facilities (72%). Antacid utilization in the study center was high as about 4 out of every 10 encounters had antacid prescription (36%).

A prospective study was done to analyze the drug utilization and risk factors, impact of patient counseling on 150 peptic ulcer inpatients attended in a tertiary care hospital, Salem. The male patients are more susceptible to the disease and the more number of patients lies between the age group of 20 to 29 years old. The most common risk factor is the lifestyle and food habits and also NSAID usage as OTC also plays important role as the risk factor for PUD. Counseling helped to analyse the improved knowledge of the patient regarding peptic ulcer and their health condition.

CONCLUSION

From the above studies it may be concluded that the mostly used Anti-peptic ulcer agent in our hospital is Ranitidine, lifestyle habits are the main risk factor in peptic ulcer and it is found to be that the patient awareness towards the disease has been increased by the influence of patient counseling.

REFERENCES

1. Najm, WI (September 2011). "Peptic ulcer disease." Primary care 38 (3): 383–94, vii. doi:10.1016/j.pop.2011.05.001. PMID 21872087.

2. Definition and Facts for Peptic Ulcer Disease". <http://www.niddk.nih.gov/>. Retrieved 28 February 2015.
3. Milosavljevic, T; Kostić-Milosavljević, M; Jovanović, I; Krstić, M. Complications of peptic ulcer disease. *Digestive diseases* (Basel, Switzerland) 2011; 29(5): 491–3. doi:10.1159/000331517.
4. Global Burden of Disease Study 2013, Collaborators (22 August 2015). "Global, regional, and national incidence, prevalence and years lived with disability for 301 acute and chronic diseases and injuries in 188 countries, 1990-2013: a systematic analysis for the Global Burden of Disease Study". *Lancet* (London, England) 2013; 386(9995): 743–800. PMID 26063472.
5. Snowden FM (October 2008). "Emerging and reemerging diseases: a historical perspective". *Immunol. Rev.* 2008; 225(1): 9–26. doi:10.1111/j.1600-065X.2008.00677.x. PMID 18837773.
6. GBD 2013 Mortality and Causes of Death, Collaborators (17 December 2014). "Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013". *Lancet*; 385: 117–71. doi:10.1016/S0140-6736(14)61682-2.
7. Wang, AY; Peura, DA (October 2011). "The prevalence and incidence of *Helicobacter pylori*-associated peptic ulcer disease and upper gastrointestinal bleeding throughout the world.". *Gastrointestinal endoscopy clinics of North America*, 2011; 21(4): 613–35.
8. "The Nobel Prize in Physiology or Medicine 2005". nobelprize.org. Nobel Media AB. Retrieved 3 June 2015.
9. Scheeres DE, Dekryger LL; Surgical treatment of peptic ulcers before and after the introduction of H2 blockers. *Primary Care*, 1987; 53(7): 392-397.
10. Svanes C, Soreide J, Skarstein A, Fevang B, Bakke P, Vollset S, Svanes K, Soreide O; Smoking and ulcer perforation. *Gut*, 1997; 41(2): 177-180.
11. Smedley FH, Hickish P; Nonsteroidal anti-inflammatory drugs and perforation. *Gut*, 1986; 27: 114-120.
12. Dong W, Cheng C, Liu S and Yu J. Epidemiology of peptic ulcer disease in Wuhan area of China from 1997 to 2002. *World J Gastroenterol*, 2004; 10(22): 3377 – 3379.
13. Rosenstock SJ and Jorgensen T. Prevalence and incidence of peptic ulcer in a Danish County- a prospective cohort study. *Gut*, 1995; 36(6): 819–824.
14. Kurata JH, Haile BM and Elashoff JD. Sex differences in peptic ulcer disease. *Gastroenterol*, 1985; 88(1 pt 1): 96-100.
15. Sharma SK, Maharjan DK, and Thapa PB. Hospital based analytic study of peptic ulcer disease in patients with dyspeptic symptoms. *Kathmandu Univ Med J (KUMJ)*, 2009; 7(26): 135-8.
16. Ramakrishnan and Salinas (2007). Peptic ulcer disease. *Am Fam Physician*, 2007; 76(7): 1005-1012.