

Article

Peptic Ulcer Incidence Among Pregnant Women in Baghdad

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Abstract: Peptic ulcers in pregnant women present a unique therapeutic challenge, necessitating a balance between effective treatment and fetal safety. Pregnant women with peptic ulcers may have *Helicobacter pylori* infection, increased stomach acid production, or NSAID usage. Symptoms such as heartburn, nausea, vomiting, and stomach discomfort are common. The treatment approach requires careful evaluation of the benefits and risks of available therapies. This study aims to investigate effective management strategies for peptic ulcers during pregnancy. Initial strategies include lifestyle modifications, such as avoiding trigger foods and eating smaller, more frequent meals. Antacids can provide temporary relief by neutralizing stomach acid but should be used under medical supervision due to potential risks associated with certain formulations during pregnancy. The study concludes that tailored treatment plans, considering both maternal and fetal health, are crucial for managing peptic ulcers in pregnant women.

Keywords: Peptic ulcer, Pregnancy, Infection, Complication, Odds ratio

1. Introduction

Pregnancy is an irreversible period in a woman's life, which is accompanied by many physiological changes and adaptations necessary to provide growth for the developing fetus. At the same time, most of them can also make the future mother especially vulnerable to certain diseases, such as peptic ulcer. In the essay below, I will define peptic ulcers epidemiology, etiology, symptoms, and treatment in pregnant patients.

What are Peptic Ulcers?

Peptic ulcers are erosions that occur in the mucous membrane of the human stomach or the proximal section of the small intestine [1]. Peptic ulcers are painful and eating or periods of hunger makes it worse, and the discomfort-like pain can be felt in the stomach wall. Gastric ulcers develop in the stomach, while duodenal ulcers are an anatomical site for the proximal small intestine termed the duodenum [2].

Occurrence of Peptic Ulcers in Pregnancy

Peptic ulcers in pregnant women are extremely rare, occurring at a rate of less than 1% [3]. However, in susceptible individuals, the hormonal and physiological changes that accompany pregnancy may exacerbate the development of ulcers. Stress, certain foods, and medications may also increase the risk of peptic ulcers in pregnant women [4].

Causes of Peptic Ulcers in Pregnancy

Helicobacter pylori (*H. pylori*) bacteria are the most common cause of gastric ulcers. When this parasite enters the stomach or small intestine, it can compromise their defenses and cause ulceration [5]. Hormonal changes, especially increased levels of progesterone, can affect the function of the gastrointestinal tract during pregnancy.

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Consequently, the protective mechanisms of the stomach and duodenal lining can be altered, reducing gastric acid secretion [6]. Peptic ulcers may develop or develop as a result of these changes.

Symptoms of Peptic Ulcers in Pregnancy:

Pregnant women may suffer from symptoms of stomach ulcers [7-8]. While others do not suffer from it, one of these symptoms is discomfort in the upper abdomen, which may lead to scarring of the abdomen during pregnancy, in addition to feeling a burning or aching pain in that area. If there is no food in the stomach or after eating, the pain may be worse. . Also during pregnancy, women with stomach ulcers may experience periods of nausea and vomiting, especially after eating. It can be caused by chest pain or a burning sensation, also known as acid reflux or heartburn. Sudden weight loss and loss of appetite are features of stomach ulcers.

and Follow-up:

Pregnant women with a prior history of gastric ulcers should diligently adhere to their doctor's instructions and undergo the required medical evaluations prior to giving birth if they experience any symptoms or signs. Additionally, they should avoid stress and make lifestyle modifications by adhering to a well-balanced diet and taking prescribed medications to address this issue.

2. Materials and Methods

140 pregnant women from various hospitals and clinics participated in this study. A clinical and laboratory examination was conducted to confirm the presence of bacteria in the stomach, through the use of endoscopy, radiography, and ultrasound before the participants were included in this study. The data was collected through a pre-prepared questionnaire. The questionnaire was evaluated by 3 experts to ensure the accuracy of the information contained in it before starting to collect the data. Individual interviews were conducted to complete filling out the information. The questionnaire included demographic characteristics, medical and family history, dietary habits, and details about lifestyle. Life, other factors related to pregnancy were also included in this study. All data were entered into Excel Sheet and analyzed using statistical analysis software, displaying the data in the form of tables and graphics, and also finding a relationship between variables.

Prevalence of Peptic Ulcers among Pregnant Women:

Our study indicated that 2% of pregnant women were diagnosed with peptic ulcers out of the total number of participants, and this indicates that the rate of infection with the disease during pregnancy is higher compared to the entire population, and this indicates the extent of their susceptibility to infection.

Risk Factors:

Previous studies have indicated that the most risk factors that increase the incidence of gastrointestinal ulcers during pregnancy are, firstly, infection of the stomach with *Helicobacter pylori* bacteria; those with pelvic fractures; the use of non-steroidal anti-inflammatory drugs such as ibuprofen or aspirin; and those who suffer from stress, anxiety, and psychological distress are also more prone to stomach ulcers.

Symptom Presentation:

Feeling stomach pain, nausea, heartburn, and acid reflux are among the most important symptoms of ulcers that were observed during our study.

Management Strategies:

The study findings revealed that pregnant women afflicted with gastric ulcers require a complete and varied treatment program. Antacids can alleviate symptoms. The

selection of drugs during pregnancy is done cautiously and under the guidance of a doctor to guarantee their safety. Once the condition is diagnosed, antibiotics are used to eradicate it. Antibiotics are administered cautiously during pregnancy to mitigate potential risks to the growing baby. Furthermore, based on this study, we recommend that pregnant women modify their lifestyle by decreasing the intake of certain substances that may exacerbate symptoms. Additionally, it is advisable to consume smaller and more frequent meals and efficiently manage stress using relaxation techniques. Furthermore, engaging in research and ongoing surveillance of pregnant women afflicted with ulcers might aid in pinpointing the underlying factors[9-10].

3. Results

Among the 140 pregnant women with peptic ulcer disease, 53.5% were between the ages of 36 and 44, 28.5% were under the age of 35, and 18% were over the age of 45, as indicated in Table 1.

Table 1. Characteristic of Pregnancy with Peptic Ulcer

Characteristics	Frequency	Percent
<35	40	28.5
36-44	75	53.5
>45	25	18
Total	140	100

As shown in the table 2, out of 140 pregnant women seen during the period of the study, 77 (55%) were primigravidae, while 63 (45%) were multigravidae

Table 2. Patients Distribution According to Parity

Parity	PUD (140)	%
Primigravidae	77	55
Multigravidae	63	45

Out of all pregnant women, 70.8% were obese, 27.4% were morbidly obese, and just 1.8% had a normal body mass index.

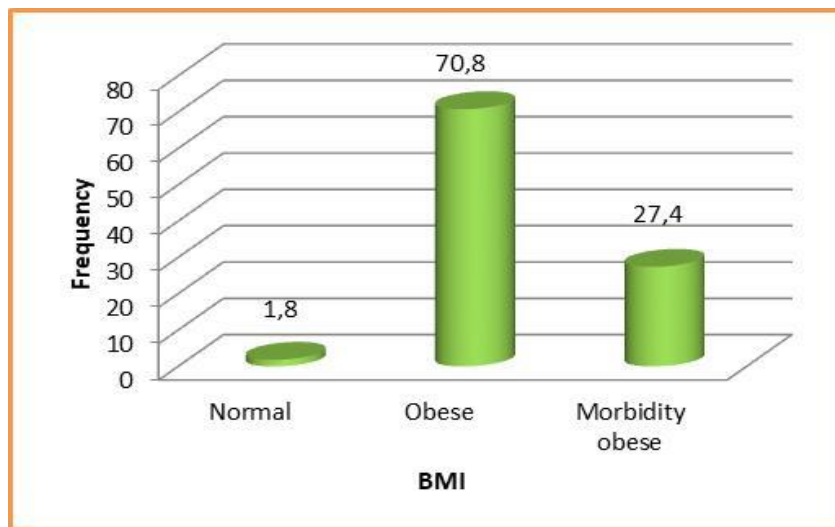


Figure 1. BMI Among Pregnancy Women

Pregnant women were more likely to have D.M., smoking, H.pylori infection, and esophageal reflux, but Crohn's disease, alcohol usage, drug abuse, and long-term NSAID use were less prevalent.

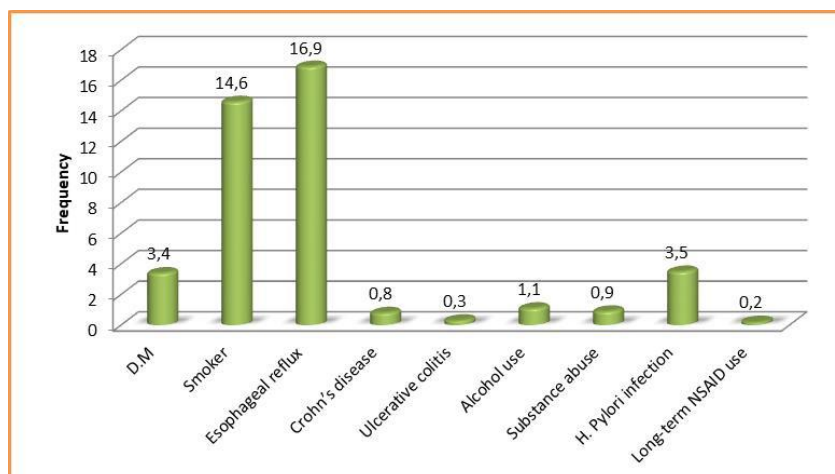


Figure 2. Medical History Among Pregnancy with Peptic Ulcer

Pregnant women were more likely to have diagnostic endoscopies, including EGD with closed biopsy and closed endoscopic biopsy of the stomach or small intestine. Pregnant women were less likely to undertake invasive therapy, including endoscopic bleeding management and peptic ulcer suture.

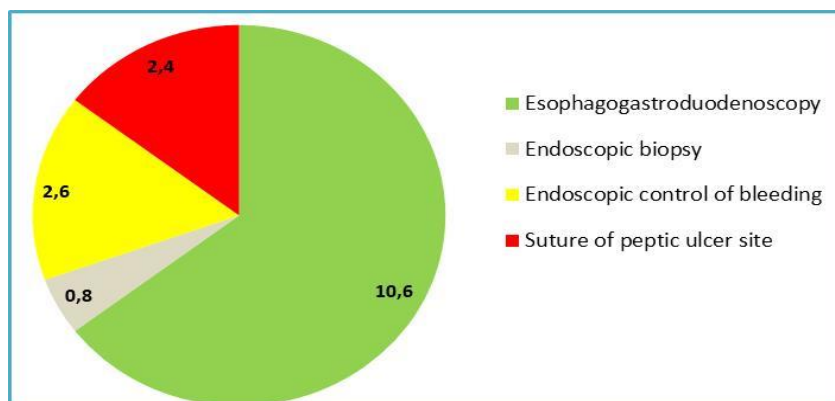


Figure 3: Management of Patients Hospitalized for Peptic Ulcer Disease

In general, gastric ulcers constituted the most prevalent form of ulcer identified among the participants. Duodenal ulcers were also more frequently diagnosed in expectant women, while unspecified and gastrojejunal ulcers were the least frequently detected.

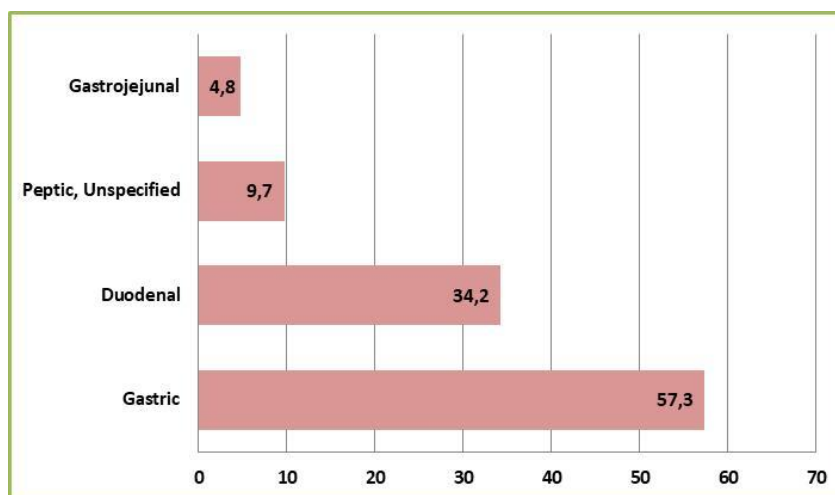


Figure 4: Ulcer Type Among Pregnant Who Underwent an EGD

Pregnant women had a considerably higher likelihood of experiencing a urinary tract infection (UTI) during their hospital stay, while displaying a lower likelihood of developing pneumonia, sepsis, or other infections.

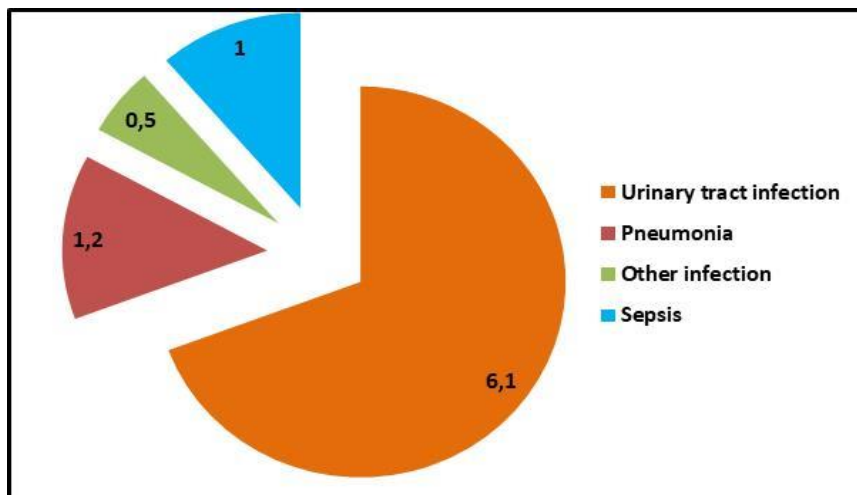


Figure 5: Infections Related Complication Among Patients Hospitalized for PUD by Pregnancy

Pregnant women 77% were also found to have shorter hospital stays during the study period.

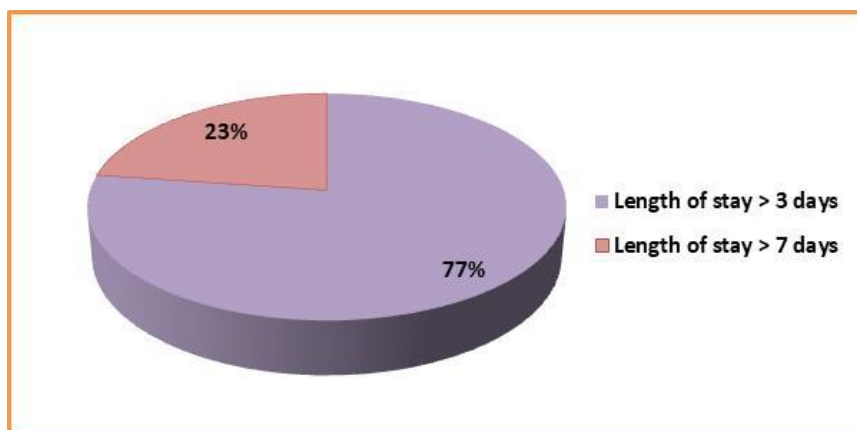


Figure 6: Hospital Stays Among Pregnancy

Additionally, pregnant women had a higher likelihood of requiring blood transfusion (20.3%) and acute post-hemorrhagic anemia (17.8%).

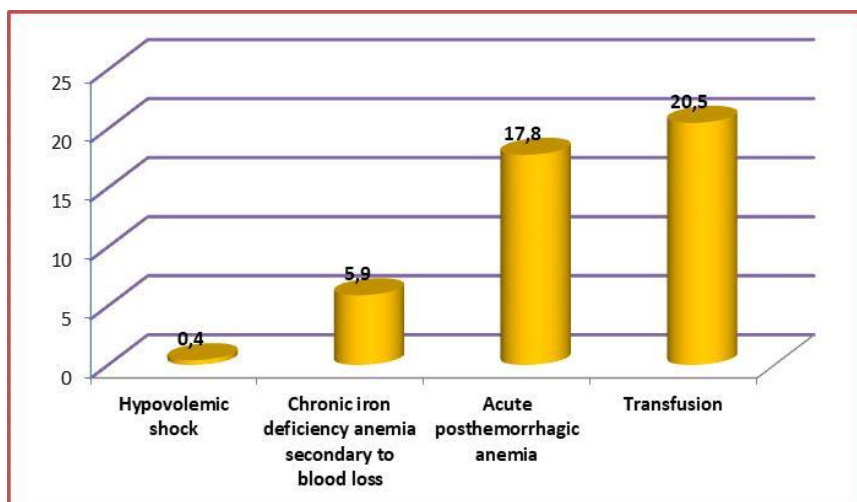


Figure 7. Blood-Related Complications Among Pregnancy

Table 3. Infection Related Complication Among Pregnancy After Adjustment for Some Variables

Complication	Pregnant (140)	Crude OR(95%CI)	Adjusted OR(95%CI)*	Adjusted p. value
Infections				
UTI	6.1	0.74 (0.68–0.82)	0.71 (0.63–0.80)	<.0001
Pneumonia	1.2	0.38 (0.32–0.46)	0.29 (0.23–0.38)	<.0001
Other infection	0.5	0.54 (0.39–0.74)	0.31 (0.18–0.53)	<.0001
Sepsis	1.0	0.47 (0.38–0.58)	0.34 (0.25–0.46)	<.0001

*Adjustments made for age, obesity, diabetes mellitus, smoking status, presence of esophageal reflux, Crohn's disease or Ulcerative Colitis, alcohol use, substance use, H. Pylori infection, long-term NSAID use.

Table 4. Administrative Related Complication Among Pregnancy After Adjustment for Some Variables

Complication	Pregnant (140)	Crude OR(95%CI)	Adjusted OR(95%CI)*	Adjusted p. value
Administrative				
Length of stay > 3 days	35.58	0.67 (0.63–0.70)	0.67 (0.63–0.71)	<.0001
Length of stay > 7 days	10.49	0.65 (0.60–0.70)	0.63 (0.58–0.69)	<.0001

*Adjustments made for age, obesity, diabetes mellitus, smoking status, presence of esophageal reflux, Crohn's disease or Ulcerative Colitis, alcohol use, substance use, H. Pylori infection, long-term NSAID use.

Table 5. Blood Related Complication Among Pregnancy After Adjustment for Some Variables

Complication	Pregnant (140)	Crude OR(95%CI)	Adjusted OR(95%CI)*	Adjusted p. value
Blood-related complications				
Chronic iron deficiency anemia secondary to blood loss	2.1	0.34 (0.30–0.39)	0.31 (0.26–0.37)	<.0001
Acute posthemorrhagic anemia	5.9	0.65 (0.59–0.72)	0.63 (0.56–0.71)	<.0001
Transfusion	7.1	0.48 (0.44–0.52)	0.49 (0.44–0.54)	<.0001

*Adjustments made for age, obesity, diabetes mellitus, smoking status, presence of esophageal reflux, Crohn's disease or Ulcerative Colitis, alcohol use, substance use, H. Pylori infection, long-term NSAID use.

4. Discussion

In this study aimed to explore the occurrence, causes, symptoms, and management of peptic ulcers among pregnant women during the pregnancy period. Among the 140 pregnant women with peptic ulcer disease, 53.5% were between the ages of 36 and 44, 28.5% were under the age of 35, and 18% were over the age of 45. According to a cohort study conducted in the United States by Rosen and colleagues, fifty percent of expectant women were between the ages of twenty-five and thirty-four; 23.5% were younger than twenty-five years old, and 22.7% were older than thirty-five years old[11].

For parity, 77 (55%) were primigravidae, while 63 (45%) were multigravidae. A cross sectional study was conducted in Nigeria by Umegbolu, he's reported out of 435 pregnant, there is 160 (36.8%) were primigravidae, while 275 (63.2%) were multigravidae

and the incidence of PUD in the pregnant women was 13%; 4.8% in primigravidae, and 8.2% in multigravidae. The association between PUD and parity was not significant (p value =0.89)[12].

For BMI, 70.8% were obese, 27.4% were morbidly obese, and just 1.8% had a normal body mass index. Rosen and other colleagues mentioned 5.9% of them were obese and 2.5% were morbidity obese and 91.6% were not obese [9].

Esophageal reflux, H.pylori infection, D.M., and smoking were all more prevalent among pregnant women, whereas Crohn's disease, alcohol consumption, substance addiction, and long-term NSAID use were comparatively less prevalent. 8.2% of the participants in a cohort study in the United States had D.M., and 14.8% had a history of smoking [9]. Pregnant women were more likely to have diagnostic endoscopies, including EGD with closed biopsy and closed endoscopic biopsy of the stomach or small intestine. Pregnant women were less likely to undertake invasive therapy, including endoscopic bleeding management and peptic ulcer suture. In Pakistan, Kamani and other authors reported the EGD, sigmoidoscopy, colonoscopy, and ERCP were performed on 28, 15, 1, and 4 patients, correspondingly, out of a total of 48. In 16 patients (57.14 percent), hematemesis was the leading indication for EGD. Dysphagia and persistent epigastric pain each accounted for three patients (10.7%). Cholestethiasis and cholangitis were the sole indications for ERCP in four expectant patients. The primary indication for sigmoidoscopy and colonoscopy was rectum hemorrhaging [13].

Overall, gastric ulcers were the most commonly detected type of ulcer reported by the participants. Additionally, pregnant women had a higher incidence of ductal ulcers diagnosed, whereas unspecified and gastrojejunal ulcers were identified with the lowest frequency. Liao et al. conducted a pilot study in Taiwan, wherein they documented 66.2% of participants with gastric ulcers and 12.2% with duodenal ulcers [14].

Pregnant women had a considerably higher likelihood of experiencing a urinary tract infection (UTI) during their hospital stay, while displaying a lower likelihood of developing pneumonia, sepsis, or other infections. In 2020, Rosen and et al, observed that women with PUD had increased risk of some complication, including (UTI), pneumonia, sepsis, or other infections and this maybe one of the reasons which is linked to H. pylori infection in this patient population [11]. Previous studies have also shown an association between H. Pylori infection in pregnancy and iron-deficiency anemia [15].

It was also discovered that 77% of pregnant women had shortened hospital stays throughout the study period. The authors of a retrospective study conducted in Bangladesh on 120 patients with PUD demonstrated that patients who developed morbidities had a prolonged length of hospital stay [16].

Moreover, it was shown that pregnant women had a higher likelihood of experiencing acute post-hemorrhagic anemia (17.8%) and requiring a blood transfusion (20.3%). Rosen et al. found that pregnant women in the United States had a 13.7% higher chance of needing a blood transfusion due to acute post-hemorrhagic anemia, with a specific incidence rate of 8.7% [11].

5. Conclusion

The study presents significant insights into the occurrence, causes, symptoms, and management of peptic ulcers among pregnant women in Baghdad. The findings reveal that the majority of pregnant women with peptic ulcers are between the ages of 36 and 44, with obesity being a prevalent condition. Helicobacter pylori infection, esophageal reflux, and smoking emerged as common contributing factors. The results underscore the

importance of tailored therapeutic approaches, emphasizing lifestyle modifications and cautious use of antacids under medical supervision. Additionally, pregnant women with peptic ulcers displayed a higher incidence of urinary tract infections and acute post-hemorrhagic anemia, necessitating vigilant monitoring and management. The study's implications suggest that healthcare providers must balance effective treatment with fetal safety, highlighting the need for further research into optimized therapeutic strategies and comprehensive prenatal care to mitigate the risks associated with peptic ulcers in pregnancy.

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