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PREVALENCE AND PREDICTORS OF GERD IN PREGNANT WOMEN AND ITS EFFECT ON QUALITY OF LIFE AND PREGNANCY OUTCOMES

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Abstract:
Introduction: *In accordance with the new Montreal criteria, Gastroesophageal Reflux Disease (GERD) is classified as a disease that is related to troublesome symptoms and/or complications because of reflux of stomach contents into the esophagus.* ***Objectives:*** *The main objective of the study is to find the prevalence and predictors of GERD in pregnant women and its effect on quality of life and pregnancy outcomes.* ***Material and methods:*** *This cross sectional study was conducted in Nishtar medical university during 2021. The GerdQ was used to diagnose GERD. The GerdQ comprises four predictors of GERD: (1) heartburn and regurgitation (symptoms of GERD, Montreal definition); (2) sleep disturbance; (3) use of medication (predictors of GERD, DIAMOND study), and (4) epigastric pain and nausea. (1) and (2) are positive predictors. (3) and (4) are negative predictors.* ***Results:*** *There were no significant differences between the GERD and non-GERD groups in terms of mean age, gravidity, education, and trimester. Of the 94 pregnant women, 28 were diagnosed with GERD.* ***Conclusion:*** *It is concluded that the prevalence of GERD in late pregnancy is high in Pakistan and is associated with poor QoL in pregnant women.*

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INTRODUCTION:

In accordance with the new Montreal criteria, Gastroesophageal Reflux Disease (GERD) is classified as a disease that is related to troublesome symptoms and/or complications because of reflux of stomach contents into the esophagus. The prevalence of GERD in the general population has rapidly increased in Pakistan over the last 20 years. With weekly heartburn or acid regurgitation, it has been reported to be 3.4%–7.9% in Pakistan [2]. It is known that the prevalence of GERD in Western countries is higher than that in Pakistan, and studies in Western countries that have represented the issue of GERD symptoms in pregnancy show a prevalence rate of approximately 30%–80% [3]. Pregnancy is widely recognized as a risk factor for GERD. Several mechanisms of pathogenesis have been proposed to be attributed to the occurrence of GERD during pregnancy [4]. Increased intra-abdominal pressure and sex hormones during pregnancy are known to lower Lower Esophageal Sphincter (LES) pressure.

Known risk factors for GERD are multiparity, gestational age, past history of GERD, and family history of GERD. However, weight gain during pregnancy has not been considered a risk factor for GERD; obesity in women (Body Mass Index [BMI] >25) outside of pregnancy is a known risk factor. Knudsen, in 1995, showed that older maternal age and GERD had a positive correlation [3]. However, these studies were not based on validated questionnaires, and some of the results differed from those of other studies. Studies have shown that in comparison to untreated group, patients treated with EVBL had a decreased risk of first bleeding episode by 64% and mortality by 45%. Once patient present with rebleeding the management is same as acute variceal hemorrhage including hemodynamic resuscitation and endoscopic examination [2]. Endoscopic therapies like band ligation, sclerotherapy and detachable snares can be applied on individual basis. Patients with variceal bleeding refractory to endoscopic upper GI bleeds should be considered for transjugular intrahepatic portosystemic shunt (TIPSS) procedure [3,4]. Keeping in view of the high mortality in patients with variceal hemorrhage and effectiveness of endoscopic intervention, as evident in western literature, it's worthwhile to study this in our population [5].

Objectives

The main objective of the study is to find the prevalence and predictors of GERD in pregnant women and its effect on quality of life and pregnancy outcomes.

MATERIAL AND METHODS:

This cross sectional study was conducted in Nishtar medical university during 2021. The GerdQ was used to diagnose GERD. The GerdQ comprises four predictors of GERD: (1) heartburn and regurgitation (symptoms of GERD, Montreal definition); (2) sleep disturbance; (3) use of medication (predictors of GERD, DIAMOND study), and (4) epigastric pain and nausea. (1) and (2) are positive predictors. (3) and (4) are negative predictors. The participants recorded their symptoms over the past week in the GerdQ. For positive predictors, points 0–3 were recorded while for the negative predictors, points 3–0 (reversed order) were recorded accordingly. The GerdQ score was recorded by summing each score, and it ranged from 0 to 18. Participants with a GerdQ score of 8 or higher were diagnosed with GERD. Data collected for the age of the patient, etiology of cirrhosis and size of esophageal varices. Less than or equal to 5 mm varices were graded as small sized while more than 5 mm varices were graded as large size varices. Rebleeding was considered in the patient who presented again with hematemesis, melena or drop in hemoglobin of more or equal to 2 grams/dl within 4 weeks of the index endoscopic band ligation.

Statistical analysis

Collected information of the patients was entered into SPSS version 21 and analyzed. Results were presented as mean ± standard deviation for quantitative variables and frequencies for qualitative variables. P value ≤ 0.05 was taken as significant.

RESULTS:

There were no significant differences between the GERD and non-GERD groups in terms of mean age, gravidity, education, and trimester. Of the 94 pregnant women, 28 were diagnosed with GERD. The prevalence of GERD in late pregnancy is 29.7%. GERD was more prevalent in the third trimester (32%) than in the second trimester (22%). Of the patients with GERD, five used H2 receptor antagonists. However, none of the patients had used proton pump inhibitors (PPIs), which are the most effective for the treatment of GERD.

Table 01: Prevalence of GERD in pregnant women.

	Prevalence
Total (n=94)	28 (29.7%)
Second trimester (n=23)	5 (22%)
Third trimester (n=71)	23 (32%)

Table 2: ANOVA results of data

Variable		**Recurrent bleeding(n)**		**P value**
		Yes	No	
Child pugh score	A	0	6	0.01
	B	1	11	
	C	12	50	
Number of variceal columns	1-2	1	29	0.02

DISCUSSION:

In this study, the effects and clinical outcomes of GERD in late pregnancy were evaluated in Pakistan. The prevalence of GERD in late pregnancy was 29.7%, which was much higher than that in the general population in Pakistan. This prevalence is higher than that reported in studies conducted in other countries. The prevalence of GERD in the third trimester (32%) was higher than that in the second trimester (22%). It is thought that increased sex hormone-like progesterone and estrogen affect LES pressure, and intra-abdominal pressure is higher in the third trimester. Therefore, there appears to be an increased probability of developing GERD in advanced pregnancies [3,7].

Several previous studies have shown a positive correlation between pre-pregnancy BMI and GERD in pregnancy [3]. However, there was no positive correlation between the two predictive factors in this study. Perhaps it resulted from a small number of subjects in this study, although we could carefully anticipate its causes as follows: Women with low pre-pregnancy BMI might be more vulnerable to increased abdominal pressure in a short time. Moreover, they might have a lower threshold for GERD symptoms because they rarely experienced GERD symptoms before the high BMI group. GERD symptoms were influenced by maternal age and parity in previous studies [3], although we did not find a relationship between GERD and these symptoms in this study. Otherwise, estimated predictive factors such as the sex of baby, percentage of increased weight during pregnancy, and pre-partum BMI were not related to GERD in pregnancy.

The QoL of patients with advanced pregnancy with GERD was considerably reduced in this study. Aspects of sleep, vitality, emotional well-being, eating, and drinking were impaired in the presence of GERD. However, the physical and social functioning aspects were not statistically different between the two groups.

Poor QoL is known to affect the overall health of the fetus and mother [3]. Therefore, it is very important to manage GERD symptoms during pregnancy to improve the health of the fetus and mother. However, similar to other studies, GERD did not affect fetuses' birth weight, Apgar score, gestational age, or preterm birth [8].

Generally, the step-up approach is used for the treatment of GERD during pregnancy. If the symptoms are not severe, lifestyle changes and the use of antacids are used as first-line therapy. Histamine-2 receptor antagonists and PPIs are used in cases of failure of first-line therapy [9]. PPIs are the most efficacious drugs for the treatment of GERD. However, PPIs are rarely used as a treatment for GERD during pregnancy. In our study, only 5 of 28 pregnant women with GERD (18%) received medication, although these did not include PPIs. The advantage of PPI may surpass the potential risks to the mother and fetus [3]. Bjorn, et al. reported that the use of PPIs during the first trimester of pregnancy does not affect major birth defects [10].

CONCLUSION:

It is concluded that the prevalence of GERD in late pregnancy is high in Pakistan and is associated with poor QoL in pregnant women. However, most

pregnant women with GERD symptoms do not receive adequate medication.

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