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Research Article

**STUDY OF PREVALENCE AND RISK FACTORS FOR
GASTROESOPHAGEAL REFLUX IN PREGNANCY**¹Dr. Muhammad Mohsin, ² Dr.Hafiz Mujtaba Hassan Usama, ³ Dr. Adeela Shaharyar,¹ Independent Medical College Faisalabad² Independent Medical College Faisalabad³ FMH College Of Medicine and Dentistry**Abstract**

BACKGROUND AND OBJECTIVES The prevalence of gastroesophageal reflux (GER) increases during pregnancy due to various factors such as reduced esophageal sphincter pressure, increased intra-abdominal pressure due to enlargement of the gravid uterus and alteration of the gastrointestinal transit. The present study aimed to determine the prevalence of GER in pregnancy .

Methods Consecutive pregnant women (n = 400) were included in various stages of pregnancy who visited the maternity clinic or who were admitted to maternity wards. Patients with heartburn or regurgitation or both (n = 182) for at least a week were defined as cases and the controls were those without these symptoms (n = 218). Data on demographic variables and symptoms were analyzed using Pearson Chi Square, Yates Corrected Chi Square and the Fischer Exact Test and Student Independent T Test. P <0.05 was considered significant.

Results The demographic characteristics between cases and controls were similar. The average age of the cases (23.68 ±3.37 years) was similar to controls (23.25 ± 3.31 years). The overall prevalence of GER was 45.5% (182/400), 77 (19.3%) had heartburn (GER-HB), 54 (13.5%) had regurgitation (GER-R) and 51 (12, 8%) had both (GER-HB). HB+ R). Age and pregnancy did not influence the frequency of symptoms. Symptoms were more common in the second (43.1%) and in the third trimester (54.1%) than in the first trimester (9.5%) in pregnant women with GER (p <0.001).The atypical symptoms were rare. GER was common among nonvegetarians (p = 0.02) and frequent consumers of carbonated beverages (p = 0.001).

Conclusions The prevalence of GER was high during pregnancy, often in the second and third trimesters. Non-vegetarianism and carbonated beverages increase the risk of reflux during pregnancy.

Keywords Gastroesophageal reflux . Pregnancy

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INTRODUCTION:

It is estimated that heartburn occurs in 30-50% of pregnant women. In some populations the prevalence is even 80% [1]. It often occurs during pregnancy and disappears after childbirth [2]. Heartburn, however, usually occurs in subsequent pregnancies [3]. Various factors, such as the reduction of pressure in the lower esophageal sphincter, the increase in intra-abdominal pressure due to enlargement of the pregnant uterus and the alteration of gastrointestinal transit have been implicated in the pathogenesis of gastroesophageal reflux (GER) during pregnancy.

Gastroesophageal reflux disease (GERD) is less common in Asia than in the West [4]. With the recent lifestyle changes, it is increasing in Asia [4]. The risk of GERD is increased by the presence of heartburn during pregnancy [5]. The aim of the present study was to determine the prevalence of GERD in pregnancy in Punjab Pakistan and to determine the associated risk factors

METHODS:

Later pregnant women (n = 400) were enrolled in various stages of pregnancy who visited the maternity clinic or were admitted to maternity wards. Your demographic information such as age, occupation, literacy level, for the main income, social habits such as smoking, alcoholism and the nature of the house were recorded. The dietary questionnaire was a 7-day food frequency questionnaire. Nutritional information included the average number of articles ingested per day and the frequency. Nutritional information on the consumption of fried and / or spicy cereal, fruit, food and drink was collected.

The details of pregnancy included parity and trimester. Symptoms of GER in the previous pregnancy were also recorded. Clinical information on gastroesophageal reflux (GER) such as heartburn, regurgitation, night-time symptoms, aggravating factors (food, flexor and supine) and relieving factors (food, antacids) and response to treatment have been reported. The presence of atypical symptoms such as the feeling of globus,

increased salivation, vomiting, regurgitation, chest pain, sore throat or dry cough that did not respond to antibiotics and hiccups were recorded with duration.

For inclusion in the study, the cases were defined as pregnant women with heartburn (GER-HB) or regurgitation (GER-R) or both (GER-HB + R) for at least a week and the control subjects were pregnant women with these symptoms did not occur.

Statistical analysis

Quantitative data was expressed as an average (DS). Qualitative data were reported as frequency (%). Data on demographic variables and symptoms were analyzed using Pearson's Chi-Square tests, corrected Chi-Square with Yates and Fischer Exact. The continuous variables were analyzed using an independent student t-test. $p < 0.05$ was considered significant.

RESULTS:

Of the 400 pregnant women examined, 182 had GER (45.5%). The demographic characteristics of pregnant women with and without GER were comparable (Table 1). Seventy-seven (19.3%) pregnant women had heartburn (GER-HB), 54 (13.5%) had regurgitation (GER-HB). R) and 51 (12.8%) both had (GER-HB + R). Age and pregnancy did not influence the prevalence of GER. Symptoms were more frequent in the second (43.3%) and in the third trimester (54.1%) than in the first trimester (9.5%) ($p < 0.001$). Nocturnal symptoms were observed in 99 (51%) women. A postprandial worsening of GER was noted by most patients (82%). Flexion and flexion also worsened the symptoms. The atypical symptoms were rare; The sensation of the globe was the predominant symptom (43.4%), followed by abdominal pain (11%). GER was common in nonvegetarians ($p = 0.02$) and in people with frequent carbonated drinks ($p = 0.001$) (Table 2). The atypical symptoms of GER aggravate and relieve Factors and response to treatment are summarized in Table 3

Table 1 Demographic characteristics

Parameters (54.5%)		Cases <i>n</i> (%) 182 (45.5%) <i>p</i> -value	Controls <i>n</i> (%) 218	
Age (years) (Mean \pm SD)		23.68 \pm 3.37	23.25 \pm 3.31	0.20
Occupation	House wife	167 (91.8)	204 (93.6)	0.08
	Maid	8 (4.4)	2 (0.9)	
Literacy	Manual laborer	7 (3.8)	12 (5.5)	0.27
	Uneducated	16 (8.8)	22 (10.1)	
	Elementary school	58 (31.9)	85 (39)	
	High school	99 (54.4)	97 (44.5)	
Per capita income	Graduate	9 (4.9)	14 (6.4)	0.69
	<1000	52 (28.6)	64 (29.4)	
	1000–2500	70 (38.5)	74 (33.9)	
	2500–5000	49 (26.9)	63 (28.9)	
Social habits	>5000	11 (6)	17 (7.8)	
	Alcohol	0	0	
	Smoking	0	0	
Type of house ^a	Tobacco chewing	2 (1.1)	1 (0.5)	0.90
	Kutchra	44 (24.2)	51 (23.4)	
	Pucca	137 (75.3)	165 (75.7)	
	Semi	1 (0.5)	2 (0.9)	
Gravida	Primi	79 (43.4)	90 (41.3)	0.66
	Multi	103 (56.6)	128 (58.7)	
Trimester	First	2 (1.10)	19 (8.7)	0.001
	Second	101 (55.49)	132 (60.6)	
	Third	79 (43.41)	67 (30.7)	
Weight gain during pregnancy (kg)		8.0 \pm 2.4	7.8 \pm 3.0	0.43
Heartburn during previous pregnancy		58 (56.3)	69 (53.9)	0.96

Table 2 Dietary habits

Parameters		Cases	Controls	<i>p</i> -value
Cereal	Rice	164 (90.1)	198 (90.8)	0.83
	Wheat	0	0	
	Mixed	18 (9.9)	20 (9.2)	
Vegetarian		0	8 (3.7)	0.02
Non-vegetarian		182 (100)	210 (96.3)	
Fruits	Daily	53 (29.1)	69 (31.7)	0.44
	Alternate days	54 (29.7)	66 (30.3)	
	Once a week	75 (41.2)	83 (38)	
Fried food	Daily	23 (12.6)	29 (13.3)	0.40
	Alternate days	43 (23.6)	51 (23.4)	
	Once a week	116 (63.8)	138 (63.3)	
Spicy food	Daily	47 (25.8)	49 (22.5)	0.90
	Alternate days	12 (6.6)	12 (5.5)	
	Once a week	105 (57.7)	135 (61.9)	
Beverages	Tea/Coffee	169 (92.9)	195 (89.4)	0.23
	Soft drinks	70 (38.5)	46 (21.1)	0.001

DISCUSSION:

The prevalence of gastroesophageal reflux disease in halitosis The Western world varies from 30 to 80%. On dry Asian cough In other countries the prevalence is between 2.5 and 7.1% [6]. Hiccup Although the overall prevalence is low in Asian countries, pain occurs in the upper abdomen Recently, the trend has changed with the increase in aggravating and mitigating factors Incidence of GERD and its complications, which largely coincide with a decrease in *Helicobacter pylori* infection [7, 8]. No changes There are very few studies from the Indian subcontinent Bending / lying increases on the prevalence and severity of GER. A community: no change Supported cross-sectional study of hospital staff Nocturnal symptoms reported a prevalence of 162/1000 [9]. In another study, the response to treatment The prevalence of GER among medical students was 49% [10].

In the present cross-sectional study, the prevalence of GER was 9.5% in the first trimester, 43.3% in the second trimester and 54.1% in the third trimester ($p < 0.001$). A longitudinal study published in 2007 showed that while the prevalence of heartburn increased with increasing gestational age, the incidence remained the same in all three quarters [14]. About 50% of our pregnant women had nocturnal symptoms, 82% worsened the symptoms and in 50% the symptoms worsened with a change in posture. The symptoms of reflux in pregnant women are similar to those described in the general population. Heartburn and acid regurgitation are the typical symptoms that are reasonably specific for the diagnosis of GER. These symptoms increase after meals and after lying down [15-19]. The sensation of Globus was observed in 43.4% of pregnant women. Other less common symptoms were increased salivation, vomiting, halitosis, vomiting, regurgitation, sore throat and chest pain Pain, dry cough, hiccups and pain in the upper part of the abdomen. In pregnancy, various factors predispose to GER. These include an increase in progesterone plasma levels, gestational age, pregnancy-related heartburn and multi-parity. Pre-pregnancy body mass index, weight gain during pregnancy or race do not predict heartburn. Pregnancy in old age also seems to have a protective effect [13]. In the present study, the consumption of non-vegetarian drinks and cold carbonated drinks was associated with a higher risk of GER. Age, pregnancy, weight gain during pregnancy, heartburn during the previous pregnancy and eating habits (spicy foods, fried foods, cereals and fruit) did not affect the onset of reflux symptoms during the current pregnancy.

CONCLUSION:

Lifestyle changes and eating habits have helped reduce GER in about two-thirds of our pregnant women and almost a quarter of them have alleviated antacid symptoms. In conclusion, the prevalence of GER in pregnancy is high. Follow-up of pregnancy to GER symptoms from the first trimester to childbirth is probably more significant.

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