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Original Research Article

Gastrointestinal symptoms in pregnancy among antenatal clinic attendees in Abubakar Tafawa Balewa University Teaching Hospital Bauchi, Northeast Nigeria

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ABSTRACT

Background: Pregnant women are at increasing risk of GI symptoms such as nausea, vomiting and heartburns, most of these symptoms are as a result of the hormonal and physical changes associated with pregnancy. This study aimed to determine prevalence of gastrointestinal symptoms (GI) among pregnant women attending booking clinic at a Northeastern Nigerian Teaching Hospital.

Methods: The study was a cross-sectional, questionnaire-based survey of four hundred and fifty-two pregnant women booking for antenatal care. Their sociodemographic variables as well as the presence or absence of gastrointestinal symptoms in index pregnancy were obtained at by the use of researcher-administered questionnaire. Data were analyzed and presented as frequencies and percentages. A 5% significance level ($p < 0.05$) to test associations.

Results: Two fifty-five women had heart burns (56.4%) while 235 (52.0%) had nausea in pregnancy, these were observed to be the most prevalent GI symptoms among the women. Diarrhea and hemorrhoids were the uncommon GI symptoms in the study population constituting 406 (89.5%), and 360 (79.6%) respectively. Easy fullness was noted in 39.8% of the women while vomiting was in 41.8% and constipation in 29% of the respondents. A significant association was observed (p value < 0.05) between parity and development of anorexia and hemorrhoids in pregnancy (p values of 0.049 and 0.051 respectively) but not for the other symptoms.

Conclusions: GI symptoms are common in pregnancy, the most prevalent symptoms are that of heart burns and nausea, while diarrhea is relatively uncommon.

Keywords: Antenatal, Gastrointestinal symptoms, Pregnant women

INTRODUCTION

A special period in the life of women where both internal and external changes occur is during pregnancy.¹ Gastrointestinal symptoms are some of the earliest changes that herald the existence of pregnancy in a woman, they occur largely due to the effects of circulating progesterone and B-HCG in the system, they could be exaggerated with

increasing levels of those hormones in conditions such as in multiple pregnancy and molar gestation.^{2,3} Though regarded as physiological to the pregnant women but could indeed be pathological when they occur in non-pregnant women, or when exaggerated with attendant adverse consequences. The circulating progesterone level during pregnancy causes the relaxation of the smooth muscles of the gut resulting in significant delayed time of

digestion and emptying with resultant constipation. Some of the GI symptoms observed in pregnancy include nausea, vomiting, anorexia, borborygmi and diarrhea.⁴

Varying degrees of these symptoms may or may not affect the outcome of the pregnancy, sometimes with adverse prognosis for both mother and baby.⁵ Some of the symptoms are mild requiring just reassurance but occasionally, they may be severe and thus requiring medical and occasionally surgical intervention.⁵

Studies across the world have indicated the prevalence of these symptoms ranging from 17 to 80%.⁶⁻⁸ Higher prevalence have also been reported with advancing gestational age. Increasing number of women are presenting with gastro intestinal symptoms in pregnancy. This study is therefore aimed at determining the prevalence of GI symptoms among women attending booking clinic at ATB University Teaching Hospital Bauchi, Nigeria.

METHODS

The study was carried out at Abubakar Tafawa Balewa University Teaching Hospital, Bauchi, Nigeria. All consecutive pregnant women attending the booking clinic of the hospital constituted the study population. The booking clinic was a twice weekly clinic on Tuesdays and Thursdays for a period of six months (February to August 2019). A total of four hundred and fifty-two (452) booked respondents that gave their verbal informed consent had the questionnaire administered by the researcher and trained assistants.

Inclusion criteria

- Pregnant women within the reproductive age group
- All pregnant women that came for booking who gave verbal consent for the study
- All pregnant women with no Known GIT condition before pregnancy.

Exclusion criteria

- All pregnant women with prior history of peptic ulcer disease and or constipation pre dating pregnancy
- Pregnant women with or who were on follow up for a known gastrointestinal disease predating pregnancy
- Women that refused to give consent for the study.

A proforma was used for the study which assessed socio-demographic variables of the respondents and presence or absence of GI symptoms.

Statistical analysis

Data obtained was inputted into and analyzed using SPSS version 21.0 and results presented in table of frequency and percentages with p values of 0.05 as significant.

Ethical approval was obtained from the Health research and Ethical committee of the ATB University Teaching Hospital, Bauchi.

RESULTS

A total of four hundred and fifty-two women participated in the survey. Their age ranged between 11 and 45 years with the mean age of 28.4±4 years. The majority of the respondents 68.8% were multigravidas, only 11.5% of them were grand multiparous women. Four hundred and forty (97.4%) were carrying singleton fetuses and ten (2.2%) had twin gestation.

Two (0.4%) had molar pregnancy that was detected at the time of booking (Table 1).

Table 1: Age, parity, gestational and number of fetuses (n = 452).

Factors	Frequency	%
Age-group		
11-15	1	0.22
16-20	35	7.74
21-25	142	31.42
26-30	131	28.98
31-35	96	21.24
36-40	43	9.51
41-45	4	0.88
Parity		
Primigravida	89	19.70
Multigravida (2-4)	311	68.80
Grand multipara (> 5)	52	11.50
Gestational age (Weeks)		
< 13	30	6.64
14-27	314	69.47
> 28	108	23.89
Number of fetuses		
Single	440	97.35
Twins	10	2.21
Molar	2	0.44

Two hundred and fifty-five women had heart burns (56.4%) while 235 (52.0 %) had nausea in pregnancy, these were observed to be the most prevalent GI symptoms in the study (Table 2).

Diarrhea and hemorrhoids were the uncommon GI symptoms in the study population constituting 406 (89.5%) and 360 (79.6%) respectively.

Easy fullness was noted in 39.8% of the women while vomiting was in 41.8% and constipation in 29 % of the respondents. One hundred and thirty-eight women (30.5%) gave a history of borborygmi and 20.4% had hemorrhoids.

A significant association was observed (p value <0.05) between parity and development of anorexia and hemorrhoids in pregnancy (p values of 0.049 and 0.051 respectively) but not for the other symptoms (Table 2). Most of the multigravidas in the study had some of the GI

symptoms that were not statistically significant compared to the symptoms of anorexia and hemorrhoids where a significant association exist between multiparity and their occurrence with X² of 6.044 p value (0.049) and X² of 5.967, p value (0.051) (Table 3).

Table 2: Description of gastrointestinal symptoms and their frequency.

Symptoms		Frequency	%
Hearth burns	Yes	255	56.40
	No	197	43.60
Easy fullness	Yes	180	39.80
	No	272	60.20
Nausea	Yes	235	52.00
	No	217	48.00
Dyspepsia	Yes	139	30.80
	No	313	69.20
Vomiting	Yes	189	41.80
	No	263	58.20
Diarrhea	Yes	46	10.20
	No	406	89.80
Constipation	Yes	131	29.00
	No	321	71.00
Anorexia	Yes	135	29.90
	No	317	70.10
Borborygmi	Yes	138	30.50
	No	314	69.50
Hemorrhoid	Yes	92	20.40
	No	360	79.60

Table 3: Association between parity and symptom.

Parity	Response	Primigravida	Multigravida	Grand multipara	Total	x ² (p value)
Hearth burns	Yes	48	177	30	255	0.289 (0.866)
	No	41	134	22	197	
Easy fullness	Yes	38	118	24	180	1.635 (0.441)
	No	51	193	28	272	
Nausea	Yes	42	163	30	235	1.521 (0.467)
	No	47	148	22	217	
Dyspepsia	Yes	31	93	15	139	0.889 (0.641)
	No	58	218	37	313	
Vomiting	Yes	35	129	25	189	1.079 (0.583)
	No	54	182	27	263	
Diarrhea	Yes	11	31	4	46	0.83 (0.66)
	No	78	280	48	406	
Constipation	Yes	24	93	14	131	0.411 (0.813)
	No	65	218	38	321	
Anorexia	Yes	18	97	20	135	6.044 (0.049)
	No	71	214	32	317	
Borborygmi	Yes	31	90	17	138	1.262 (0.532)
	No	58	221	35	314	
Hemorrhoid	Yes	11	66	15	92	5.967 (0.051)
	No	78	245	37	360	

DISCUSSION

This study was aimed at assessing GI symptoms among pregnant women attending booking clinic of a tertiary health facility in Northeastern Nigeria. About 59.4% of the sampled population had heartburns, while a little more than half (52.0%) had nausea in the index pregnancy. Audu et al in Maiduguri in a similar study more than a decade ago reported about 45% for heart burns and 39.9% for nausea among their studied group, showing an increasing prevalence of these symptoms since the study population are in the same region and likely to be similar.⁹

This finding was also supported by a systematic overview by Vazquez J where heart burns were common GI symptom among pregnant women with prevalence of 17 to 45% and as much as 70% in the last trimester of pregnancy.⁷ Heart burns occurs because of the higher level of progesterone and its metabolites resulting in decrease tone and motility of the gut and subsequently decrease the pressure of the lower esophageal sphincter, gastroesophageal reflux and a burning feeling.⁷ This can be managed through life style modifications, drugs and sometimes minimal invasive procedures or even no intervention at all.¹⁰⁻¹² While for the nausea which begins in the first 28 days and peak at 9 weeks following the last menses, it is usually accompanied by vomiting in half of cases and occur in isolation in additional quarter.¹⁴ Fluid intake and avoidance of food and smell inducing nausea may be the only adjustment.

A multicenter study involving 2411 women indicated the prevalence of nausea and vomiting in pregnancy of 88%, this was for combined symptoms of nausea and vomiting.¹⁵ The observed low value for vomiting in pregnancy in our study was the fact that the majority of the study population were in their second half of pregnancy, and the symptoms of nausea and vomiting tends to subside as pregnancy advances, this is as a result of the reduction in the circulating levels of hormones like B-HCG.

Vomiting when it occurs in pregnancy must be adequately evaluated as sometimes self-induced vomiting may be mistaken for vomiting associated with eating disorder.¹⁶ Even though constipation was significantly low (29.0%) in this study, a systematic review indicated that it is another common symptom in pregnant women in Shanghai with a prevalence of 13.0% among women that were over 35 years, educated and of higher social class, their findings was due to the fact that the majority of the women in that region were postponing child bearing to a later age of 34 and above leading to mood swings and subsequently, constipation.¹⁷ Another study by Vazquez et al indicated the prevalence of constipation in pregnancy at 11 to 35%.⁶ Despite the seemingly low figure for constipation in this study, the prevalence is still more than that in the Chinese study, this may be due to the large sample size in their study when compare to this

study. Similarly, constipation in pregnancy has been found to be commoner among sedentary women, and women in this north east region hardly engage in exercise during pregnancy and their intake of fruits and vegetable in pregnancy is equally low. All these factors may add up to the smooth muscle relaxing effects of progesterone to cause constipation which is considered as one of the five causes of gastrointestinal distress in pregnant population.¹⁸

There appeared to be a significant association between parity and occurrence of haemorrhoids from in this study, close to one third of the respondents indicated the symptom from the survey, similar figure had been quoted from another study by Longo et al with raised blood volume and intraabdominal pressure exerted by the growing uterus, as well as the relaxing effects of circulating progesterone as the possible risk factors for the development of haemorrhoids.¹⁹

Others had alluded to the high vascularity of the perianal vessels, but the symptoms are commoner in the last part of pregnancy and could persist even after delivery with significant life sequelae.²⁰⁻²⁴

CONCLUSION

GI symptoms like heartburn, nausea and vomiting are common in pregnancy and their prevalence may be on the increase, their occurrence should not be seen as normal. Thus, other pathological causes of these symptoms should be evaluated and appropriately handled. It is therefore, important to determine whether their occurrence is normal or whether it has any adverse impact on pregnancy and future health outcomes.

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Conflict of interest: None declared

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