

Original Research Article

A STUDY ON MORBIDITY PATTERN OF ANTENATAL WOMEN IN SLUMS OF GUWAHATI CITY, ASSAM

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ABSTRACT

Background: The aim of the study is to find the pattern of general morbidity amongst the pregnant women residing in slums of Guwahati city, Assam and its association with various factors.

Materials and Methods: This Community based Cross-sectional Study was undertaken for a period of 1 Year to assess the morbidity pattern of the antenatal women residing in slums of Guwahati city. A sample size of 408 was taken using the formula $n = \frac{4pq}{l^2}$. They were interviewed and relevant information was collected in a predesigned and pretested proforma.

Results: Among the 408 antenatal women 302(74%) complained of any morbidity. Among them 105 had only one morbidity, 22.5% had two morbidities, 37.1% had three morbidities and 30.4% had ≥ 4 morbidities. Regarding types of morbidity 52.2% complained of having nausea and vomiting during the current pregnancy, 59.8% complained of generalized weakness, 35.6% having loss of appetite, 22.1% complained of swelling of leg/face/body, 20% complained of vaginal bleeding, 17.2% complained of backache, 9.8% having palpitations and 5.4% others. On doing examination 59.1% were found to have anemia, 9.8% having hypertensive disorders of pregnancy, and 4.75% having gestational diabetes.

Conclusion: Many women do not die of causes related to pregnancy but suffer severe morbidities. Educating and creating awareness among the pregnant women about the causes and ill effects of various morbidities and the ways to prevent them will help them to adopt various health services and will lead to safe motherhood.

Keywords: Morbidity profile, antenatal women, anemia

INTRODUCTION

Pregnancy is the event met with joy and expectations. But many a times it may be dangerous to her life due to associated morbidity and mortality. Pregnancy is a state of physiological stress. During pregnancy there is progressive anatomical, physiological and biochemical change not only confined to genital organ but also to all systems of the body. This is principally a phenomenon of maternal adaptation to the increasing demands of growing fetus. So if a mother fails to adapt to the growing needs or fails to fulfil the growing needs, there occurs state of deficiency, which may lead to various complications. The complications of pregnancy can have various

deleterious effects on the health of mother as well as the fetus. Antenatal morbidity is an important indicator of maternal mortality. Even though morbidity and mortality are similar kind of medical problems percentage of morbidity is much higher than mortality. Maternal deaths have been described as the tip of the iceberg and maternal morbidity as the base. Therefore, detection of morbidities through antenatal care has been advocated as a good tool to reduce maternal mortality (in some cases by 60%) in developing countries.^[1,2] Morbidity of a pregnant women or women having poor health has repercussions not only on the concerned women but also on their families. A healthy mother brings forth a healthy baby. Certain disease and conditions of the

mother during pregnancy (e.g. syphilis, german measles, drug intake) are likely to have their effects upon the fetus. Ailing mothers are unable to provide food and adequate care to their children. Finally, a woman's health affects the household economic well-being, since a woman in poor health will be less productive in the labour force.

Morbidity experience during antenatal period and delivery also provide background information useful in improving the health services for pregnant women thereby contributing to achievement of Sustainable development goals.

Maternal mortality estimates are used to highlight the plight of pregnant women in less developed countries. Pregnancy constitutes a high risk of morbidity and mortality due to associated physiological stress. Many women do not die of causes related to pregnancy but suffer severe morbidities. There are a few studies on the specific problems of antenatal women. Most of the available studies are hospital based. However, hospital based studies are not reliable because relatively a few women in developing countries use to visit hospitals for their minor ailments. Therefore, only severe morbidities are mostly considered in hospital based studies. These results are thus not representative of the population. Very few studies are available on the pattern of general morbidity amongst the pregnant women and field based studies in slums of Assam is negligible. Therefore, this study is an attempt to understand their health problems and to take remedial measures for prevention of morbidity amongst them. Keeping all this views in mind and realizing the need for such data this study is proposed to be undertaken in slums of Guwahati city, Assam.

MATERIALS AND METHODS

This Community based Cross-sectional study was undertaken for a period of 1 Year from August 2016 to July 2017 to assess the morbidity pattern of the antenatal women residing in slums of Guwahati city.

Inclusion Criteria

All pregnant women residing in the selected slums (residing for last 6months)

All women who become pregnant during the study will be enrolled

Exclusion Criteria

Antenatal women not willing to participate in the study.

Antenatal women with known psychiatric morbidity.

Sample Size and Sampling method:

As per District level household and facility survey Assam 2007-08³, the prevalence of any complication among pregnant women of Assam was 49.9%. Considering the prevalence to be 49.9% and relative error as 10% of prevalence, with 95% confidence interval, the sample size was calculated to be around 400 using the formula

$$n = \frac{4pq}{l^2}$$

Where,

n=required sample size

p=expected or assumed prevalence

q= (100-p)

l=relative error (10% of p)

There are 90 slums in Kamrup (metropolitan) district. Taking these 90 as the primary sampling unit, 25 slums were selected randomly and 16 pregnant from each slum were to be taken to get the desired sample of 400. Within the selected slums, house to house visit was done to get the required number of samples from each slum. If in a family more than one pregnant woman was found than all the pregnant women meeting the inclusion criteria were considered for the study. However, amongst those selected 25 slums, in 21 slums I got less than 16 pregnant women and so the adjacent slums were visited to get the desired number. In rest 4 slums I got more than 16 pregnant women and had included the extra number of pregnant women of eight (8) in my study and so my sample size became 408.

Out of the total 408 antenatal women, haemoglobin estimation was done in all of them. Blood pressure and blood glucose was also measured in all of them. However, urine examination was done in those women who have BP of 140/90 mm Hg after 20wks of gestation.

Data collection technique: All the antenatal women meeting the inclusion criteria were identified in the selected slums, if there were more than one pregnant woman in each household, then all were included

Data analysis: Data collected was entered in Microsoft Office Excel and analysed by using SPSS software. Chi-square test was used for analysis of categorical variables. Criteria for significance used in the study was p<0.05 at 95% Confidence Interval (C.I).

Criteria for diagnosis: Anaemia: Anaemia was considered to be present when haemoglobin was less than 11gm%.

Hypertensive disorders during pregnancy includes four well defined groups:

- Gestational hypertension,
- Preeclampsia and eclampsia.
- Chronic hypertension
- Preeclampsia superimposed on chronic hypertension.

Gestational hypertension was considered when BP> 140/90 mm Hg for the first time in pregnancy after 20weeks of gestation, without proteinuria, or any other systemic features of preeclampsia in a previously normotensive nonproteinuric women.

Pre eclampsia was considered when hypertension associated with proteinuria greater than 0.3g/dl in a 24 hour urine collection or 1+ by qualitative urine examination, after 20weeks of gestation.

Chronic hypertension was considered when known hypertension present before pregnancy or hypertension diagnosed before 20weeks of pregnancy.

Gestational diabetes was considered when fasting blood glucose level of ≥126mg/dl and postprandial ≥200mg/dl was found for the first time during the

present pregnancy as recommended by American diabetic Association.

Ethics Clearance: Has been obtained from the Institutional Ethics Committee (IEC) of Gauhati Medical College and Hospital, Guwahati.

RESULTS

Out of 408 antenatal women majority i.e. 36.3% belongs to age group of 21-25years, 53.9% were Muslims, 52.2% belonged to General caste, 75% were living in nuclear family. Regarding educational status, socio economic (SE) status and occupation, majority of the antenatal women were illiterate 48.7%, 38.5% were from the Middle class and 60.6% were housewives respectively. Out of 408 antenatal women, 37.3% were in first trimester at the time of interview, 20.6% were in second trimester and 42.1% in third trimester.

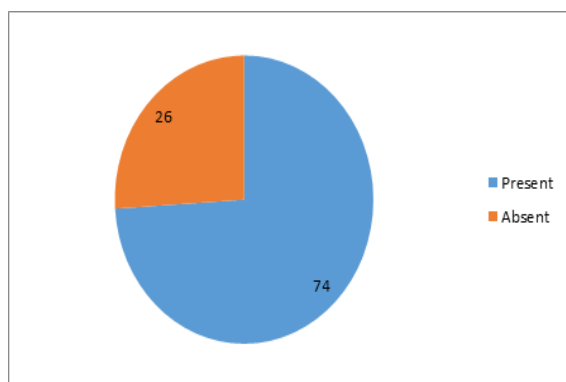


Figure 1: Percentage wise distribution of the antenatal women according to their morbidity status

Among the 408 antenatal women 302 (74%) complained of any morbidity. Among them 105 had only one morbidity, 22.5% had two morbidities, 37.1% had three morbidities and 30.4% had ≥ 4 morbidities. Regarding types of morbidity 52.2% complained of having nausea and vomiting during the current pregnancy, 59.8% complained of generalized weakness, 35.6% having loss of appetite, 22.1% complained of swelling of leg/face/body, 20% complained of vaginal bleeding, 17.2% complained of backache, 9.8% having palpitations and 5.4% others. On doing examination 59.1% were found to

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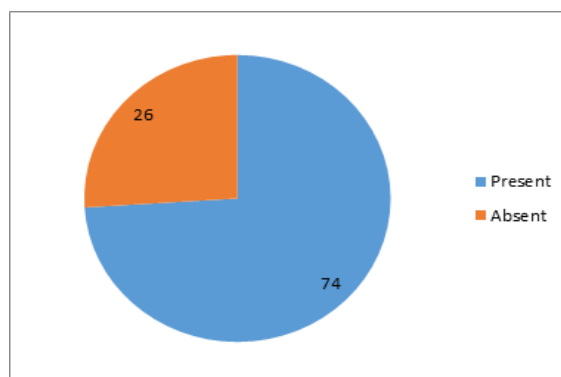


Figure 1: Percentage wise distribution of the antenatal women according to their morbidity status

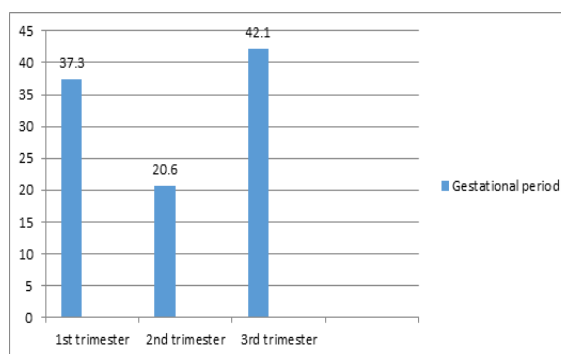


Figure 2: Percentage wise distribution of the antenatal women according to their gestational period

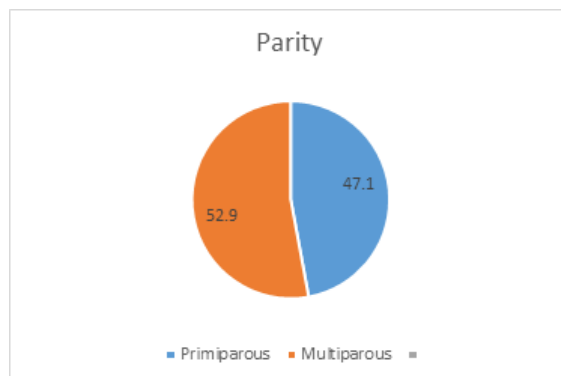


Figure 3: Distribution of antenatal women according to their parity

Table 1: Distribution of antenatal women according their Socio demographic variable

Socio demographic variable		Number	Percentage
Religion	Hinduism	176	43.2
	Islam	220	53.9
	Others	12	2.9
Caste	General	213	52.2
	Scheduled Caste (SC)	74	18.1
	Scheduled Tribe (ST)	22	5.4
	OBC/MOBC	99	24.3
Type of family		Number	Percentage
Joint		102	25
Nuclear		306	75
Educational status		Antenatal women (%)	Husband (%)

Illiterate	199(48.7)	60(14.7)
Primary school	73(18)	48(11.8)
Middle school	62(15.2)	170(41.7)
High school	37(9)	96(23.5)
HSLC passed	26(6.4)	27(6.6)
HS passed	11(2.7)	7(1.7)
Occupation	Number	Percentage
Housewife	247	60.6
Skilled labour	32	7.8
Non skilled labour	92	22.6
Service	7	1.7
Business	25	6.1
Others	5	1.2
Socio economic status	Number	Percentage
Upper class	42	10.3
Upper middle	57	14
Middle	157	38.5
Lower middle	152	37.2

Table 2: Distribution of antenatal women according to their various morbidities

Type of morbidities	Number	Percentage
Nausea and vomiting	213	52.2
Generalised weakness	244	59.8
Pain in lower abdomen	49	12
Swelling of leg/face/body	90	22.1
Anaemia	241	59.1
GDM(Gestational diabetes Mellitus)	19	4.7
Pregnancy induced hypertension	40	9.8
Burning micturition	34	8.3
Vaginal bleeding	82	20
Loss of appetite	144	35.6
Palpitations	40	9.8
Backache	70	17.2
Fever	65	15.9
Others	22	5.4

Table 3: Association of morbidity with risk factors

Age group (years)	Morbidity Present	Morbidity Absent	p
≤20	83	16	p<0.05
21-25	11	33	
26-30	68	44	
≥31	36	13	
Educational status	Morbidity Present	Morbidity absent	p
Illiterate	163	36	p=0.0006
literate	139	70	
Total	302	106	
S E Status	Morbidity Present	Morbidity absent	p
Upper class	21	21	P=0.0009
Upper middle	40	17	
Middle	119	38	
Lower middle	122	30	
Birth order	Morbidity Present	Morbidity absent	p
1	18	23	P=0.1618
2	51	42	
3	34	38	
≥4	8	2	

Age of first pregnancy in years	Morbidity Present		Morbidity absent	p
≤20	110		20	p<0.0001
21-25	105		42	
26-30	77		29	
≥31	10		15	
Birth interval between index and last pregnancy	Morbidity Present		Morbidity absent	
< 3years	112	42	p=0.1944	
≥ 3years	51	11		

Comment: As shown in table 3 statistically significant ($p<0.05$) relation was found between morbidity and age group, education status, S E status. However the relation between morbidity and birth order and birth interval between index and last pregnancy was not found to be statistically significant.

DISCUSSION

A hospital record based study was conducted by Singh R et al., showed that 6.46% of the antenatal women reported illness during antenatal period which is little bit lower than my study.^[4]

A study done by Mousumi Gogoi et al (2014) in Assam, India regarding Utilization of Maternal Health Care Services and Reproductive Health Complications found that 30.8% reported excessive vomiting, 46.7% reported weakness, 17.3% swelling of hands, face and feet and 7.8% having hypertensive disorder during pregnancy. These prevalence were lower than in my study.^[5]

A study by Satish Kumar Chauhan et al (2017),^[6] in rural UP showed that majority of women in rural UP reported of having complications. For example, more than half of women reported anemia problem, about 47% of women reported excessive fatigue and 22.6% of women reported leg, body and face swelling. Very few percentages of women had reported complication of vaginal bleeding (33%) during the time of pregnancy. These findings are somewhat similar to my study findings.

A study by T Ruwanpathirana, in Colombo district, showed that anaemia was the commonest condition 26.2% during pregnancy with infections of urinary tract among 2.5%, which are lower than found in my study. Gestational diabetes and PIH were observed in 4.6% and 9.5% of pregnant mothers respectively. GDM prevalence is similar to my study finding but hypertensive disorders of pregnancy prevalence is more than in my study.^[7]

A study by Venkatachalam J et al (2012) in peri-urban areas of coastal district in Tamil Nadu, India reported the important morbidity were, morning sickness 45%, fever 17.9%. Other morbidities included pallor 20%, pedal oedema 14%, gestational diabetes 1.35% and pregnancy-induced hypertension

1.35%, bleeding per vaginum 2.7% and urinary tract infections 19.5%. These prevalence were lower than in my study findings. 8

A Study By Zoe Matthews et al (2011) mine in Rural Karnataka, India found Vaginal bleeding 0.4%, High blood pressure 0.4%, Anemia 21.9%, Abdominal pain 22.6%, Inability to digest 14.5%, Nausea 10.9%, Backache 6.7%, Burning on urination 4.6%, Tiredness 4.6%, Abnormal vaginal discharge 4.2%. These prevalence were lower than in my study finding.^[9]

A study conducted by Deepshikha Kamra et al (2014), in 4 villages of Ludhiana district showed that 79% of the women had experienced one or more morbidity during pregnancy period which is similar to my study. The most reported pregnancy-related morbidities were nausea/vomiting (38.5%), pain in lower abdomen (17%) and swelling in leg, body or face (16.8%). This finding were lower than in my study finding.^[10]

A study done by G Rama Padma in rural Andhra Pradesh showed that there is high prevalence of maternal morbidity in rural Andhra Pradesh. 95% in the less developed districts and 61% in the developed districts suffered from at least one morbidity. Severe vomiting was the most common complication complained by them followed by swelling of hands/feet, giddiness, fever > 3 days etc. These findings are little bit different from my study where I have found majority of them having weakness/fatigue.

A hospital record based study was conducted by Singh R et al, showed that 67.46% of the antenatal women reported illness during antenatal period and majority 81.95% were anaemic. This was much higher than anaemia reported in my study.

A study by Dipika Subba (2013) in West Bengal, India found that the highest maternal complications were observed in Bihar (93.3%) followed by Jharkhand (92.2%) and West Bengal (91%) In case of pregnancy and post delivery complications, Bihar has the highest complications with 75% and 57% respectively. Large percentage of women in all the eastern states and more than half of the women in Bihar and West Bengal had reported paleness/giddiness/weakness as pregnancy complications. The reporting of excessive fatigue and

swelling of hand, feet and face were also high. Reporting of excessive vomiting was also high in eastern states, with 27.9% highest in West Bengal. Excessive bleeding and vaginal discharge are the low reported complications in all the eastern states.^[11]

A study by Gayatri Bora et al (2015) in Assam India found that prevalence of anaemia was 50.4% among pregnant women which is somewhat to my study finding.^[12]

A study by Mishul Mangla, Deepak Singla (2016), in rural India found that prevalence of anaemia was 98% among the pregnant females.^[13]

A study by A Lindquist et al (2014) in Australia found that socioeconomic status was directly associated with maternal morbidity, with women with severe maternal morbidity being twice as likely to come from the lowest socioeconomic group compared with women who did not have maternal morbidity.^[14]

Study done by Kamra D et al (2014) observed that obstetric morbidities were higher among educated women than that of illiterate women. This contradicts my study where I have found morbidities mostly reported by less educated women.^[15]

Jagdish C.Bhatia and John Cleland in their study found that lack of education and low economic status emerged as significant risk factors affecting women's health.

Ramesh Chellan and P.M Kulkarni also found in their study in Tamil Nadu that educated women were found more likely to report obstetric morbidity than their uneducated counter parts. This study however contradicts my study finding.

CONCLUSION

Education and creation of awareness among women residing in slums about the causes and ill effects of various antenatal morbidities and the various ways to prevent them will lead to a healthy pregnancy.

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