Original article:

A comparative study of obstetric complications among primigravida and multigravida attending labour room of a tertiary care hospital

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Abstract

Introduction: Obstetric morbidity is defined as "morbidity in a woman who has been pregnant (regardle-ss of site or duration of pregnancy) resulting from any cause related to or aggravate by pregnancy or its management but not from accidental or incidental causes". The most common causes of obstetric compli-cations are prolonged obstructed labor, hypertensive disorders of pregnan-cy, hemorrhage, sepsis and com-plications of unsafe abortion.

Objectives:

1) To study the socio-demographic profile of the patients and utilization of health services among the two parity gro-ups.

2) To determine the prevalence of obstetrics complications and compare it among the two parity groups.

3) To assess the ou-tcome of pregnancy among the two parity groups.

Materials & Methods: A cross-sectional study was conducted among 128 patients with obstetric compli-cations attending labo-ur room of Gauhati Medical College & Hospital, Assam from 27/07/2015 to 26/09-/2015 using a purposive sampling.

Results: Incidence rate of PIH (53.8%), Fetal distress (23.1%),Malposition (7.7%), Preterm labour (5.8-%), Oligohydramnious(5.8%), were higher in Primigravida compared to Multigravida which showed 43.4% PIH, 9.2% fetal distress, 5.3% malposition, 2.6% preterm labour and 1.3% oligohydramnious. The number of IUD, Still birth and LBW babies were hig-her in Multigravida as compared to Primigravida.

Conclusion: The rate of obstetric complications was higher in primiparous as compared to multiparous. Appropriate intervention for prevention of obstetric complications during labour and delivery should be taken to avoid adverse pregnancy outcomes.

Key Words: Obstetric complications, Parity, Low birth weight, Pregnancy outcome, Antenatal care.

Introduction

Obstetric morbidity is defined as "morbidity in a woman who has been pregnant (regardless of site or duration of the pregnancy) resulting from any cause related to or aggravate by the pregnancy or its management but not from accedental or incidental causes". (1)Complications of pregnancy are health problems that occur during pregnancy. They can involve the mother's health, the baby's health, or both. Some women have health problems that arise during pregnancy, and other women have health problems before they become pregnant that could lead to complications. It is very important for women to receive health care before and during pregnancy to decrease the risk of pregnancy complications.There could be many causes of obstetric complications but the most common causes both in developed and developing countries are prolonged obstructed labor, hypertensive disorders of pregnancy, hemorr-hage, sepsis and complications of unsafe abortion. (2)Social causes associated with pregnancy complica-tions such as delay in decisions to seek care, delay in

accessing and receiving care, inequality in providing proper nutrition, education and medical treatment may affect women's health. Malnutrition, infection, early and repeated child bearing and high fertility also play an important role in poor maternal health condition in India. Lack of access to health care along with the poor quality of the delivery system and its responsiveness to women's need make them more vulnerable to maternal morbidity. Maternal morbidity and reproductive morbidity in general, is an outcome of not just biological factors but of women's poverty, powerlessness and lack of control over the resources as well (3)According to WHO reproductive health problems account for more than one third of the total burden of disease in women (4). The Wor-ld Health Organization estimates that 500,000 women die every year from complications of pregnancy, including abortion and virtually all these deaths occur in developing countries. (99 percent) (5)

Aims and objective

1. To study the socio-demographic profile of the patients and utilization of health care services among the two parity groups.
2. To determine the prevalence of obstetrics complications and compare it among the two parity groups.
3. To assess the outcome of pregnancy among the two parity groups.

Materials and methods

A hospital based cross-sectional study was conducted in labour room of Gauhati Medical College & Hospital; Guwahati, Assam using a purposive sampling .The study was approved by appropriate research body. All the patients with obstetric complications attending labour room of Gauhati Medical College & Hospital from 27/07/2015 to 26/09/2015 were enumerated randomly after obtaining verbal consent from the patients. Thus a total of 128 patients were included in the study.

Data was collected using Predesigned, pretested questionnaire and by review of hospital records. The study subjects were further divided into two different parity groups; primiparous (52) and multiparous (76) and the prevalence of all the complications and events related to pregnancy was compared among the two groups. The data obtained was compiled, tabulated and analyzed by using appropriate statistical tools.

Results and observations

Table 1: Demographic variables compared between Primiparous & Multiparous groups.

	PRIMIGRAVIDA(N=52)	**MULTIGRAVIDA(N=76)**	**P value**
	Number(Percentage)	**Number(Percentage)**	
Age (in Years)			
<20	10(19.2)	1(1.3)	<0.0001
21-25	27(52.0)	26(34.2)	
26-30	12(23.1)	42(55.3)	
>30	3(5.7)	7(9.2)	
Religion			
Hindu	42(80.8)	61(80.3)	0.943
Muslim	10(19.2)	15(19.7)	
Residence			
Urban	12(23.0)	19(25.0)	0.803
Rural	40(77.0)	57(75.0)	
Education			
Illiterate	16(30.8)	17(22.4)	0.657

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Primary	7(13.5)	14(18.4)	
Middle	9(17.3)	15(19.7)	
HighSchool	15(28.8)	15(19.7)	
Intermediate	5(9.6)	13(17.1)	
Graduate	1(1.9)	1(1.3)	
Occupation			
Housewife	49(94.2)	70(92.1)	0.810
Service	2(3.8)	3(3.9)	
Labour	1(2.0)	3(3.9)	
Social Class			
Upper Middle	5(9.6)	6(7.9)	0.6142
Lower Middle	18(34.6)	35(46.1)	
Upper Lower	25(48.1)	29(38.1)	
Lower	4(7.7)	6(7.9)	

Table 1 shows the demographic profile of the study subjects.

Most (52%) of the primigravida were in the age group 21-25 yrs and most (55.3%) of the multigravida were in the age group 26-30 yrs which was statistically significant.Majority (80.8% & 80.3%) of primiparous and multiparous belonged to Hindu religion.Majority (77.0% & 75.05) of primiparous and multiparous were from rural areas. Most (30.8% & 22.4%) of the primiparous and multiparous were illiterate.Only (28.8%) of the primiparous and 19.7% of the multiparous were educated upto high school level.Majority (94.2% & 92.1%) of primiparous and multiparous were housewife by occupation.Most (48.1%) of the primiparous belonged to Upper lower social class and most (46.1%) of the multiparous belonged to Lower middle social class.

Table 2: **Distribution of study subjects according to status of antenatal care in present pregnancy.**

ANTENATAL CARE	**PRIMIGRAVIDA (N=52)No. (%)**	**MULTIGRAVIDA (N=76) No. (%)**	**P VALUE**
No. of ANC visit			
0	0(0.0)	2(2.6)	0.436
1	1(1.9)	6(7.9)	
2	8(15.4)	9(11.8)	
3	12(23.1)	17(22.4)	
4	31(59.6)	42(55.3)	
IFA tablets			
0	3(5.8)	12(15.8)	0.0053
<30	6(11.5)	4(5.3)	
30-60	12(23.1)	26(34.2)	
61-100	31(59.6)	34(44.7)	
TT injection			
0	2(3.8)	9(11.8)	0.062
1	2(3.8)	9(11.8)	
2	48(92.3)	58(76.3)	

Table 2 shows antenatal care in present pregnancy.

Most (59.6% and 55.3%) of the primiparous and multiparous had four antenatal visit although the differences were not statistically significant.Majority (94.2% and 84.2%) of the primiparous and multiparous had taken iron and folic acid tablets , out of which 59.6% of the primiparous and 44.7% of the multiparous had taken iron-folic acid tablet for 61-100 days which was statistically significant

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(P<0.05).Majority (92.3% and 76.3%) of the primiparous and multiparous had taken 2 doses of tetanus toxoid injection which was statistically significant (P<0.05).

TABLE 3: Obstetric Complications compared between Primiparous and Multiparous groups.

OBSTETRIC COMPLICATIONS	PRIMIGRAVIDA (N=52) No. (%)	MULTIGRAVIDA (N=76) No. (%)	P VALUE
Anaemia	24(46.2)	45(59.2)	0.1455
Pregnancy induced Hypertension(PIH)	28(53.8)	33(43.4)	0.2461
Fetal distress	12(23.1)	7(9.2)	**0.0302**
Rupture of membrane	1(1.9)	5(6.6)	0.2210
Malposition	4(7.7)	4(5.3)	0.5771
Preterm labour	3(5.8)	2(2.6)	0.3682
Oligohydramnious	3(5.8)	1(1.3)	0.1550
Ectopic Pregnancy	0(0.0)	3(3.9)	0.1471
Placenta Praevia	1(1.9)	1(1.3)	0.7856
Sepsis	0(0.0)	2(2.6)	0.2384
IUGR	0(0.0)	2(2.6)	0.2384
Polyhydramnious	1(1.9)	0(0.0)	0.2249
Postpartum Heamorrhage	0(0.0)	1(1.3)	0.4063
Umbilical cord prolapsed	1(1.9)	0(0.0)	0.2249
Gestational Diabetes	0(0.0)	1(1.3)	0.4063
Breech Presentation	1(1.9)	0(0.0)	0.2249

Note *Multiple responses

Table 3 shows the prevalence of complications in present pregnancy in both parity groups.Majority (86.5%& 90.7%) of primigravida and multigravida developed the complications during pregnancy.

Incidence rate of PIH (53.8%), Fetal distress (23.1%), Malposition (7.7%), Preterm labour (5.8%), Oligohydramnious(5.8%) were higher in Primigravida when compared to Multigravida which showed 43.4% PIH, 9.2% fetal distress, 5.3% malposition, 2.6% preterm labour and 1.3% oligohydramnious although significantly differences were observed in the case of Fetal Distress only.

Table 4: Event outcomes compared between Primiparous & Multiparous groups

CATEGORY	PRIMIGRAVIDA (N=52) No(%)	MULTIGRAVIDA (N=76) No(%)	P value
GESTATIONAL AGE AT DELIVERY			
Pre term	10(19.2)	19(25.0)	0.7285
Term	37(71.2)	51(67.1)	
Post term	5(9.6)	6(7.9)	
Total	52	76	
MODE OF DELIVERY			
Vaginal	16(30.8)	33(43.4)	0.1481
Cesarean Section	36(69.2)	43(56.6)	
Total	52	76	
BABY OUTCOME			
Male	35(67.3)	38(50.0)	0.1712
Female	15(28.8)	26(34.2)	
Twins	0(0.0)	1(1.3)	

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IUD	2(3.8)	8(10.5)	
Still birth	0(0.0)	3(4.0)	
Total	52	76	
BIRTH WEIGHT OF LIVE BORN BABIES (N=115)			
<2.5 KG	10(20.0)	37(57.0)	<0.0001
>2.5 KG	40(80.0)	28(43.0)	
Total	50	65	

.**Table 4** shows the outcome in present pregnancy in both the parity groups.

In majority (71.2 % and 67.1%) of primigravida and multigravida, the gestational age at delivery was term pregnan-cy although insignificant. The incidence of cesarean section in primiparous was 69.2% as compared to the incidence of cesarean section in multiparous mothers (56.6%) although thedifferences were not statistically signify-cant. Only 30.8% of primiparous had vaginal delivery as compared to 43.4% of multiparous that had vaginal delive-ry. Majo-rity (96.2%) of primiparous and majority (85.5%) of multiparous mothers delivered live born babies. In multiparou-s, 10.5% fetuses died in utero as compared to 3.8% fetuses who died in utero in primiparous. More (57.0%) low-birth weight babies were significantly born to multiparous as compared to primiparous (20.0%).

Discussion

In our study majority (52%) of primiparous were in 21-25 years age group and majority (55.3%) of multiparous were in 26-30 years age group which was statistically significant. Similar findings were corroborated by Kaur J et al (6) who also found that majority (51.92%) of primiparous mothers belonged to 21-25 yrs of age group and 35.41% of multiparous belonged to 26-30 yrs of age group which was also statistically significant.In our study (30.8% & 22.4%) of primiparous and multiparous were illiterate. Only 28.8 % of primiparous and 19.7 % of multiparous was educated upto high school level. As per census of India 2011, In India, one in three women is illiterate. (7) Women with less education are more vulnerable to health complications because of lack of knowledge regarding complications whereas educated women are more aware about the problems that might occur during pregnancy and they are in a better position to take care of such problems.

In our study, majority (59.6%) of primiparous and 55.3% of multiparous had 4 antenatal visits although the differences were not statistically significant. This is contrary to the findings reported by Kaur J et al (6) who found that where majority of primiparous mothers (67.30%) didn't approach for antenatal care, greater part of multiparous women (52.08%) booked themselves for the same ($p<0.05$).

In our study, 59.6% of primiparous and 44.7% of multiparous had taken IFA tablets for 61-100 days which was statistically significant. Pregnant women must be clearly explained about the benefits of iron supplements and they should be encouraged to consume iron to avoid anaemia. Alternate preperations of iron can also be made' available in the form of syrup for increased compliance.In our study, majority (92.3 % and 76.3%) of primiparous and multiparous had taken 2 doses of TT injection ($P<0.05$). These findings are in conformity with the results of NFHS III (9) in Assam where 83.0% of primiparous and 66.9 % of multiparous had taken 2 doses of TT injection.

In our study, Incidence rate of PIH (53.8%), Preterm labour (5.8%), fetal distress (23.1%) and oligohydraminos (5.8%) were higher in primiparous when compared to multiparous which showed 43.4 %

PIH, 2.6 % Preterm labour, 9.2 % fetal distress and 1.3% oligohydraminos. Comparable if not similar findings were reported by Kaur J et al (6) who also found that Incidence rate of PIH (15.38%), Preterm labour (09.61%), fetal distress (19.23%) and oligohydraminos (17.30%) were higher in primiparous when compared to multiparous which showed 10.41% PIH, 04.16% Preterm labour, 12.50% fetal distress and 10.41% oligohydraminos. These conditions are considered obstetric emergencies and thus require immediate/ urgent and appropriate interventions.

In our study, among the multiparous 59.2 % were anaemic as compared to (46.2%) among the Primiparous which was not statistically significant. Comparable if not similar findings were reported by Kaur J et al (6) who also found that 25.0% of multiparous were anaemic as compared to 23.07 % of the primiparous who were anaemic which was also not statistically significant. Emphasis should be laid down on screening for anaemia, treatment of anaemic women, and availability of food fortification (wheat flour with iron and folic acid), milk sugar and salt with iron to reduce anaemia.

In our study, the gestational age at which deliveries happened in both primiparous and multiparous was TERM (complete 37 weeks) with 71.2 % and 67.1% respectively although the differences were not statistically significant. Similar finding was corroborated by Kaur J et al (6) who also found that gestational age at which deliveries happened in both primiparous and multiparous was TERM with 82.69% and 83.33%, respectively.

In our study, the incidence of cesarean section in primiparous was 69.2% as compared to the incidence of cesarean section in multiparous mothers (56.6%) although the differences were not statistically significant. Similar finding was corroborated by Kaur J et al (6) who also found that incidence of emergency lower segment cesarean section (LSCS) in primiparous was 65.51% which was higher than incidence of emergency LSCS in multiparous mothers (41.66%) although the differences were not statistically significant.

Caesarean sections have been long practiced as a lifesaving procedure for the mother and fetus. The incidence of caesarean section has risen considerably over the years and is done for even trivial indications. The advances in the field have reduced maternal mortality considerably. But the problem of maternal and fetal morbidity after caesarean section is high.In our study, only 30.8% of primiparous had vaginal delivery as compared to 43.4% of multiparous that had vaginal delivery. Comparable if not similar was reported by Kaur J et al (6) who found that 44.23 % of primiparous had vaginal delivery as compared to 25.0 % of multiparous that had vaginal delivery.In our study significantly more (57.0%) low-birth weight babies were born to multiparous as compared to primiparous (20.0%). The high prevalence of LBW in our study can be attributed to maternal anaemia, high parity, low education and low economic status of the study subjects.This is contrary to the findings reported by Kaur J et al (6) who found that LBW babies were significantly more ($p<0.05$) in primiparous group (55.76%) as compared to their counterparts.(64.58 %)

Conclusion:

The findings of the present study revealed that majority of the women reported obstetric complications. In order to improve maternal health, women should be educated and counselled about obstetric complications so that they can seek proper medical care to avoid adverse pregnancy outcomes in

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future and they should have access to good quality antenatal care. There should be no delay among the family members in recognizing problems and decision to seek care. Also timely recognition and management of complications should be done.

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