

# Spectrum of Grand Multiparity

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## ABSTRACT

This prospective research of comparing the outcome of the grand multipara women with that of non grand multipara was conducted in one of the tertiary health care centres and teaching hospitals of southern Karnataka. The study sample comprised of 100 grand multipara women and 100 non grand multipara women who were admitted to the maternity unit during the period from June 1996 to May 1997. Most of the grandmultipara women belonged to the age group of 26 to 35 years. 87% of the non grandmultipara women were illiterate, and 59% of the grand multipara women had haemoglobin levels which were less than 10 gm%. Out of 11 cases of antepartum haemorrhage, 3

had placenta previa and 8 had abruption of the placenta. 21 patients of the grand multipara group had pregnancy induced hypertension, and 2 of the grand multiparas had pre-eclamptic toxemia (PET). 90% of the grand multipara women and 86% of the non grand multipara women had normal vaginal deliveries. 29% of the babies of the grand multipara women weighed less than 2.5 kg and a maximum number of babies of both the grand multipara and the non grand multipara women weighed between 2.6 to 3.5 kg. There were 12 still births among the grand multiparas and two among the non grand multipara women. 12 among the grand multipara women had post partum haemorrhage (PPH), while only 4 of the non grand multiparas had PPH.

**Key Words:** Grand multipara; anaemia; post partum haemorrhage; non grand multipara

## INTRODUCTION

The historical origins of the term "grand multiparity" are uncertain, and a number of definitions have been used (mostly four or five previous viable births). [1], [2] Grand multiparity, as per the International Federation of Gynecology and Obstetrics, is the delivery of the fifth to ninth infant, whereas women who are undergoing their tenth (or more) delivery are considered to be great-grand-multiparas. [3],[4],[5],[6],[7] Grand multiparity (GMP) is considered as a dangerous and high risk clinical entity, as certain complications during the pregnancy, labour and the puerperium are thought to occur with an increased incidence in these women. In terms of the minimal risk concept: the safest babies to have are the second, third and the fourth. The hazards are greater for women in their fifth pregnancy and onwards. [8] Some complications that are classically associated with grand multiparaes include abruptio placentae, placenta previa, postpartum haemorrhage, ruptured uterus, macrosomic babies and anaemia. [9] This prospective research of comparing the outcome of the grand multipara women with that of the non grand multipara women was conducted in one of the tertiary health care centres and teaching hospitals of southern Karnataka. The purpose of this study was to evaluate the parity related complications during pregnancy and labour in the grand multiparas and to see the outcome of pregnancy and labour in them.

## MATERIALS AND METHODS

This prospective research of comparing the outcome of the grand multipara women with that of the non grand multipara women was conducted in one of the tertiary health care centres and teaching hospitals of southern Karnataka which provided healthcare services predominantly to the rural population. This prospective study was conducted during the period from June-1996 to May-1997. The

number of deliveries which were conducted during this period was 1635. The sample comprised of 100 grand multipara women and 100 non grand multipara women who were admitted to the maternity unit. The samples were selected by adopting a convenient sampling technique and after following pre-determined set criteriae like; grand multipara women who were delivering after the 28<sup>th</sup> week of gestation after five or more previous viable pregnancies and non grand multipara women who had three or less previous viable pregnancies. After admission to the hospital, information regarding the demographic variables of the patients, relevant medical history and details of the examination and treatment were collected. All the information was collected in preformed proformas and were then tabulated.

## RESULTS

37% of the grandmultipara women belonged to the age group of 26 to 30 years, whereas 46% of the non grandmultipara women belonged to the age group of 21 to 25 years, as is depicted in [Table/Fig-1].

Age	Grand Multipara		Non-Grand Multipara	
	Number	Percentage	Number	Percentage
< 20	–	–	12	12%
21 – 25	6	6%	46	46%
26 – 30	37	37%	34	34%
31 – 35	36	36%	7	7%
36 – 45	21	21%	1	1%
	100	100%	100	100%

[Table/Fig-1]: Age distribution of the grand and non grand multiparae

A majority (87%) of the non grandmultipara women were illiterate and 93% of the non grandmultipara women were literate, as shown in [Table/Fig-2]. [Table/Fig-3] depicts that a majority (57%)

of the non-grand multipara women were primiparas and that 33% of the grand multipara women were para 7. Only one 43 year old lady was para 14. [Table/Fig-4] shows that 59% of the grand multipara women had haemoglobin levels which were less than 10 gm%, whereas only 12% of the non-grand multipara women had anaemia. Out of 11 cases of antepartum haemorrhage, 3 had placenta previa and 8 had abruption of the placenta.

Variables	Grand Multipara		Non-Grand Multipara	
	Frequency	% age	Frequency	% age
1. Educational status				
Illiterate	87	7	7	7%
1 – 10 <sup>th</sup>	12	70	70	70%
Above 10 <sup>th</sup>	1	23	23	23%
2. Annual Income				
a. < 10,000	42	42%	9	9%
b. 10,000–20,000	55	55%	61	61%
c. > 20,000	3	3%	30	30%
3. Religion				
a. Hindu	1	1%	19	19%
b. Muslim	97	97%	46	46%
c. Christian	2	2%	35	35%

[Table/Fig-2]: Distribution with regard to their educational status, annual income and religion

Para	Grand Multipara		Non-Grand Multipara	
	Frequency	Percentage	Frequency	Percentage
1	–	–	57	57%
2	–	–	21	21%
3	–	–	12	12%
4	–	–	10	10%
5	–	–	–	–
6	23	23%	–	–
7	33	33%	–	–
8	22	22%	–	–
9	11	11%	–	–
10	5	5%	–	–
11	5	5%	–	–
14	1	1%	–	–
	100	100%	100	100%

[Table/Fig-3]: Distribution with regard to their parity

Complications	Grand Multipara		Non-Grand Multipara	
	Frequency	% age	Frequency	% age
Anaemia (Hb less than 10g%)	59	59%	12	12%
Antepartum haemorrhage				
Placenta previa	3	3%	–	–
Abruptio placenta	8	8%	–	–
Mal-presentation	4	4%	2	2%
Prolapse	3	3%	–	–
Pregnancy Induced Hypertension (PIH)	21	21%	1	1%
PET	2	2%	–	–

[Table/Fig-4]: Complications of Pregnancy  
N = 200

Out of 100 grand multipara women, 3 had uterine prolapse. Twenty one cases of grand multiparas had pregnancy induced hypertension, whereas among the non grand multiparas, only 1% had pregnancy induced hypertension. 2 of the grand multiparas had pre-eclamptic toxemia (PET). 90% of the grand multipara women and 86% of the non grand multipara women had normal vaginal deliveries, as is depicted in [Table/Fig-5].

[Table/Fig-6] indicates that 12 patients who belonged to the grand multipara group had post partum haemorrhage (PPH) and that only 4 among the non grand multiparas had PPH. The least

common post partum complications were puerperal sepsis and shock in the grand multiparas, which were absent in the non grand multiparas.

Method of Delivery	Grand Multipara		Non-Grand Multipara	
	Frequency	Percentage	Frequency	Percentage
Normal vaginal Delivery	90	90%	86	86%
Vacuum	–	–	–	–
Forceps	–	–	3	3%
L.S.C.S.	10	10%	11	11%
	100	100%	100	100%

[Table/Fig-5]: Method of Delivery  
N = 200

Complications of post partum	Grand Multipara		Non-Grand Multipara	
	Frequency	% age	Frequency	% age
1. P.P.H.	12	12%	4	4%
2. Wound disease	–	–	1	1%
3. UTI	5	5%	3	3%
4. Puerperal sepsis	1	1%	–	–
5. Shock	1	1%	–	–
6. Maternal death	–	–	–	–

[Table/Fig-6]: Postpartum Complications  
N = 200

## DISCUSSION

This prospective research of comparing the outcome of the grand multipara women with that of the non grand multipara women was conducted in one of the tertiary health care centres and teaching hospitals of southern Karnataka which provided healthcare services predominantly to the rural population. This prospective study was conducted during the period from June-1996 to May-1997. The number of deliveries which were conducted during this period was 1635. This study was carried out on 200 patients, out of which 100 were grand multiparas and 100 were non-grand multiparas.

Our study showed that 73% of the grandmultipara women belonged to the age group of 26 to 35 years. In our study, 33% of the grand multipara women were para 7. Anaemia was the commonest complication among the grand multiparas in our study. It may also be predicted that repeated pregnancies within a short span of life along with poverty, poor hygienic conditions, nutritional deficiency, widespread gastrointestinal disorders and round and hookworm infestations were the major causes of anaemia which were observed in the grand multipara women.

This study showed that about 21% of the grand multiparas had pregnancy induced hypertension (PIH) because of the fact that with advancing age and increasing parity, the cardiovascular system becomes lesser and lesser competent and therefore hypertension and associated disorders are more commonly seen in this group. This study was in concurrence with the studies which were conducted by Fayed HM and Abid SF. [10] This study revealed that only 2% of the grand multiparas had pre-eclamptic toxemia and that none of the non grand multiparas had pre-eclamptic toxemia.

The results of the present study revealed that abruption of the placenta was common among the grand multiparas (8%), whereas the occurrence of placenta previa was only 3%. Abruptio placenta is a major complication which is seen in the grand multiparas. The parity of the patients was considered to be significant factor for the occurrence of placental abnormalities. [11-18] The above studies

showed that there was a lesser incidence of APH, which can be attributed to a higher socio economic status, better nutrition and a better knowledge regarding the prenatal care of the people in the developed countries. So, the higher incidence of APH in the present study may be related to the poor socio economic status, poor nutrition and poor knowledge regarding the prenatal care of the population. In this study, 11 patients had antepartum haemorrhage, of which 7 underwent caesarean sections because of this complication (3 because of major placenta-previa and 4 because of abruption of the placenta).

Post partum haemorrhage is also an important complication. In this study, 12 grand multiparas and 4 non-grand multiparas had post partum haemorrhage. Out of the 12 grand multiparas, 5 had mild PPH and 7 had severe PPH, out of which one had cardiac arrest. 10 grand multiparas had atonic PPH and 2 had disseminated intra vascular coagulation. None of the cases of PPH had maternal mortality. Since these patients were often anaemic to start with, the effects of the haemorrhage were more pronounced. The full retraction of the myometrium in the grand multipara was impaired due to aging, scarring and exhaustion. Also, atherosclerotic changes in the uterine blood vessels led to their being less easily and less efficiently clamped off.

## SUMMARY

- 73% of the grand multipara women belonged to the age group of 26-35 years, whereas 46% of the non-grand multiparas belonged to the age group of 21-25 years.
- 87% of the multiparas were illiterate, whereas 93% of the non grand multiparas were literate.
- A majority of the grand multiparas belonged to the muslim community, followed by Christians and Hindus.
- The incidence of the parity was from 5-14 in the grand multiparas, but a higher incidence of the parity (7) was also seen. A majority (57%) of the non-grand multiparas belonged to the para one group.
- A majority (59%) of the grand multiparas were anaemic, whereas only 12% of the non grandmultiparas had anaemia.
- Almost all the complications of pregnancy and labour were observed to be higher among the grand multiparas.
- 90% of the grand multiparas and 86% of the non-grand multiparas had normal vaginal deliveries.
- 10% of the grand multiparas and 11% of the non-grand multiparas had LSCS.
- There were no maternal deaths.

It can be concluded that in comparison with the other patients, grand multiparas are at a greater risk during pregnancy and labour. This risk can be effectively reduced with good antenatal care, but

they are still liable to the serious complications of pregnancy, which can lead to higher maternal and foetal morbidity and mortality. Prevention is always better than cure and hence grand multiparity should be prevented by effective family planning measures, by increasing the level of education and by the removal of old religious beliefs and stigmas

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