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A COMPARATIVE STUDY TO ASSES THE OUTCOME OF GRAND MULTIPARA WITH THAT OF GREAT GRAND MULTIPARA

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ABSTRACT: NEED FOR THE STUDY: In a developing country like India, where poverty, illiteracy, ignorance and lack of knowledge of family planning facilities available have greatly increased the incidence of grandmultipara 2. Grandmultipara has been associated with increased maternal morbidity and mortality rates as well as poor outcome. The investigator is interested in finding out the outcome in grand multipara women and great grand multipara 1 women during the antenatal, internatal and postnatal period, and also to analyze demographic characteristics such as socioeconomic status and religion of the sample. **STATEMENT OF THE PROBLEM:** A comparative study to assess the outcome of grandmultipara[1] with that of grandmultipara women. **OBJECTIVE OF THE STUDY:** 1. To findout the outcome of grandmultipara women during the antenatal, internatal and postnatal period. 2. To find the outcome of great grandmultipara women during the antenatal, internatal[2] and postnatal period. 3. To compare the outcomes of grandmultipara with that of non-grandmultipara women during the antenatal, internatal and postnatal[3] period. (4) To analyze the demographic characteristics 6 of the sample i.e. income and religion.
KEYWORDS: Grandmultipara, Great Grandmultipara, Foetal condition, Premature.

INTRODUCTION:

Operational Definition:

1) Grandmultipara: A women delivering after the 28th week of gestation after five or more previous viable pregnancies.

2) Great Grandmultipara: A women delivering after the 28th week of gestation[4] after 10 or more previous viable pregnancies.

3) Outcome In this study outcome refers to maternal conditions duringintranatal, antenatal and postnatal period such as anemia, PIH, UTI, antepartum haemorrhage, malpresentation, PPH6, shock, UTI, Puerperal sepsis, wound dehiscence.
   Foetal conditions[5] such as IUGR, congenital anomalies, prematurity, foetaldistress7 birth asphyxia, jaundice, RDS, sepsis and Intra uterine death.

ANTENATAL COMPLICATION
ABORTION:

Anemia.

Hypertension in pregnancy.

Antepartum Haemorrhage.

Thibbound et al (1971) reported the incidence of accidental haemorrhage[6] is three times common in woman of 5th parity and above. These patients also had poor performance in pregnancy

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and labour being prone to premature labour, under weight babies and suffer recurrent abruption. These patients belonged to poor socio and nutritional conditions. Strong correlation between folic acid deficiency and increase in maternal age with accidental haemorrhagewas found.

A retro spective analysis of 646 Arab grandmultipara[7] in 1987 showed 0.46% incidence of antepartum haemorrhage.

MINOR DISCOMOFRTS OF PREGNANCY AND ASSOCIATED MEDICAL DISORDER:

1. CARDIOVASCULAR DISEASE: Cardiac decompensation rises with age and parity. Probable reason for early decompensation in India is anaemia, early age of marriage with repeated pregnancies[8] without adequate spacing.
2. DIABETES.
3. OSTEOALACIA.
4. MULTIPLE PREGNENCY.
5. MALPRESENTATION AND POSITION.
6. CEPHALOPELVIC DISPROPORTION (C.P.D).
7. DURATION OF LABOUR AND UTERINE INERTIA.

COMPLICATIONS DURING LABOUR: Rupture uterus.

COLD PRTOLAPSE:
INFANTS:
Birth weight of Babies: Parikh (1965) states that as parity increases the birth weight of the baby increase. Petry and Peterson11, Nelson and Sand Megu have also found significant increase in the number of over weight babies among grand multipara.

Dey and das series10 (1974) 70.6% baby weigh average weight and 19.6% babies were overweight (3201-3650) in grand multipara.

Mudaliar and Menon states that birth weight tend to be higher and incidence of low birth weight lower in multipara than the primigravida.14

Hornihane (1980) says, the tendency of increasing foctal weight gives rise to relative cephalopelvic disproportion in grand multipara.

Prematurity: Congenital malformations.

MATERIALS & METHODS
Research Approach: The outcome of the grand multipara women and that of great grand multipara women were compared.[8] The samples were selected based on their parity. The grand multipara were selected as para 5 and above; great grand multipara were selected as para 10 and above.

Setting of Study: The study was conducted in the maternity unit, Hospital in Mangalore. This unit has a capacity of (100) in patients beds with facilities of NICU, labour unit, operation theatre and outpatient units.

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Sample and Sampling Technique: sample comprised of 30 grand the multipara women and 30 great grand multipara women who were admitted to maternity unit.

Sampling Criteria: The sample was selected with the following pre-determined set criteria:
1. In patients of the maternity unit
2. Grand multipara women and great grand multipara women who are delivering after 28 weeks of gestation.
3. Great grand multipara women who had ten or more previous viable pregnencies.

After admission to the hospital details of the demographic variables of the patients as well as their husband were collected. The history regarding menstruation, past medical and obstetric history were collected. Details of the present pregnancy, antenatal, general physical examination, abdominal palpation, p/v examination, investigation, intranatal, post natal outcome were collected.

Tool and Technique: Structured interview schedule was utilised together detailed information of the grand multipara women and that of great grand multipara women.

Development of the Tool: The following steps taken by the investigator for development of tool:
1. Review of the related literature.
2. Suggestion from the experts from the obstetrical and Gynaecology department.
3. Investigator's clinical experience also helped to develop the tool.

Description of the Tool:
- Part I Consisted of items on the demographic data such as age, educational status, income and religion
- Part II(a) Mestrual history.
  (b) Obestetrical history.
    1. Past obstetrical history
    2. Outcome of past delivery
    3. Present obstetrical history

- Part III – Antenatal examination
- Part IV – Intranatal examination
- Part V - Puerperal complications

Analysis and Interpretation: This chapter deals with the description of the sample analysis and interpretation of data collected from the selected group of 30 grand multipara women and 30great grand multipara women, who were admitted to the maternity ward of the Hospital. The data collected has been analysed and interpreted in the light of objectives of the study by using descriptive and interferential statistics[8]

This study was carried out in 60 patients out of which 30 patients were grand multipara and 30 patients were great grand multipara.

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The findings are as follows:

1. 50% of the grand multi para women belonged to one age group of 26-35 years where as all great grand multipara belonged to the age group 31-45 years.
2. 30% of grand multipara were illiterate 60% of great grand multigravida were illiterate. 30% of the grand multipara and 10% of great grand multipara were just literate.
3. 30% of grand multigravida and 70% of great grand multigravida had income <10, 000
4. Incidence in Hindu, Muslim & Christian community of grand and great grand multipara were 10%, 80%, 10% and 0%, 100% respectively.[9]
5. Incidence of booked grand multipara were 40% and great grand multipara were only 10%.
6. 60% of grand multipara & 70% of great grand multipara were anaemic.
7. Almost all complications of pregnancy and labour observed in grand multipara and great grand multipara more in the great grand multipara.[10]
8. 83.3% of the grand multipara 96.7% of the great grand multipara had normal vaginal delivery.
9. 16.7% of the grand multipara and 3.3% of the great grand multipara had LSCS.
10. Still born rate was 10% in grand multipara and 6.7% in great grand multipara.
11. There were no maternal deaths.

It can be concluded that in comparison to other patients grand multipara and great grand multipara own a great risk during pregnancy and labour. This risk can be effectively reduced with good antenatal, intrapartum[11] and postpartum care. But still they are liable to serious complications of pregnancy, which can lead to higher maternal and foectal morbidity.

In the present study outcome of pregnancy comparison between grand multipara & great grand multipara showed no significant difference.

Multiparity is on decline in the Western countries owing to a sense of responsible parenthood. But in our country people are religious with less awareness towards family planning methods. Crowning to the belief that children are a gift from Almighty and it is a sin to prevent birth, the practice of early marriage, makes Indian women invariably a grand multi para by the age of 25-30 years.

According to the World population conference at Bucharest economic development and improving educational status are the best contraceptives.

Prevention is always better than cure and hence grand multiparity should be prevented by effective family planning measures, increasing the level of education and removal old religious believes and stigmas.

Age Incidence: Distribution of the grand and grand multipara women with regard to their age in terms of frequency and percentage.

Age	Grand multipara		Great grand multipara	
	Number	Percentage	Number	Percentage
21-25	3	10%		
26-30	6	20%		
31-35	9	30%	12	40%
36-45	12	40%	18	60%
	30	100%	30	100%
TABLE 1				

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50% of the grand multipara women belonged to the age group of 26-35 years whereas all the great grand multipara belonged to the age group of 31-45 years.

DISTRIBUTION OF THE GRAND MULTIPARA AND GREAT GRAND MULTIPARA WOMEN WITH REGARD TO THEIR EDUCATIONAL STATUS ANNUAL INCOME & RELIGION INTERMS OF FREQUENCY & PERCENTAGE.

N=60

Variables	Grand multipara		Great grand multipara	
	Frequencies	percentage	Frequencies	percentage
Educational status (a)Illiterate	9	30%	18	60%
(b)Just Literate	9	30%	3	10%
(c)Literate	12	40%	9	30%
Annual Income (a)<10, 000	9	30%	21	70%
(b)10, 000-20, 000	18	60%	6	20%
(c)20, 000	3	10%	3	10%
Religion (a) Hindu	3	10%		
(b)Muslim	24	80%	30	100%
©Christian	3	10%		
TABLE 2				

60% of grand multipara were illiterate, 70% of great grand multipara were illiterate. 30% of grand multipara and 70% of great grand multipara had income less than 10, 000 per annum.

Incidence in Hindu, Muslim. Christian community of grand and great grand multipara were 10%, 80%, 10%and0%, 100% respectively.[12]

DISTRIBUTION OF THE GRAND MULTIPARA WOMEN & GREAT GRAND MULTIPARA WOMEN WITH REGARD TO THE REGISTRATION IN THE HOSPITAL.

N=60

	Grand Multipara		Great Grand Multipara	
	Frequency	Percentage	Frequency	Percentage
Booked	12	40%	3	10%
Unbooked	18	60%	27	90%
	30	100%	30	100%
TABLE 4				

Table 4 shows booked patients in grand multipara 40%, in great grand multipara 10%.
Unbooked cases were 60% & 90% in grand multipara and great grand multipara respectively.

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CHI – SQUARE ANALYSIS SHOWING THE RELATIONSHIP BETWEEN BOOKED AND UNBOOKED PATIENTS.

	Grand Multipara	Great Grand Multipara	Total
Booked	12	3	15
Unbooked	18	27	45
	30	30	60
TABLE 5			

The findings of table 5 suggests that the obtained value is 7.2 P<0.001. This indicates there is highly significant relationship between antenatal checkup and parity.[13]

DISTRIBUTION OF GRAND MULTIPARA AND GREAT GRAND MULTIPARA WITH REGARD TO COMPLICATIONA DURING PREGNANCY.

Complications	Grand Multipara		Great Grand Multipara	
	Frequency	Percentage	Frequency	Percentage
Anaemia (Hb<10gm%)	18	60%	21	70%
APH				
Placenta Praevia	2	6.6%	0	
Abruptio placenta	3	10%	3	10%
Malpresentation	2	6.6%	3	10%
Prolapse	2	6.6%	-	-
PIH	3	10%	3	10%
Table 6				

Table 6 shows 60% of grand multipara women had anaemia.
70%of great grand multipara women had anaemia. P>0.05 comparison between the two groups not significant.
Incidence of Abruptio placenta is same (10%)
Malpresentation is 6.6% is grand multipara.
10% is great grand multipara. P>0.05 comparison is not significant.
PIH was same that is 10% in both the study groups.[14]

Distribution of Grand multipara & Great grand multipara with regard to mode of delivery
N=60

Mode of Delivery	Grand Multipara		Great Grand Multipara	
	Frequency	Percentage	Frequency	Percentage
Normal Vaginal Delivery	25	83.3%	29	96.7%
Vaceum	-	-	-	-
Forceps	-	-	-	-
LSCS	5	16.7%	1	3.3%
TABLE 7				

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Table 7 highlights 83.3% of grand multipara and 96.7% of great grand multipara had normal vaginal delivery. 16.7% of the grand multipara and 3.3% of the great grand multipara had undergone LSCS.

Chi- square analysis, showing the relationship between normal vaginal delivery & other.
N=60

Mode of Delivery	Grand Multipara	Great Grand multipara	Total
Normal	25	29	54
LSCS	5	1	6
	30	30	60
TABLE 8			

X^2= 1.66 P>0.05

The findings of the Table 8 suggests that the obtained chi-square value of 1.66, P>0.05 is not significant. This indicates that there is no significant relationship between parity and LSCS.[15]

DISTRIBUTION OF THE GRAND MULTIPARA AND GREAT GRAND MULTIPARA WITH REGARD TO INDICATIONS FOR LSCS.
N=60

Indications for L.S.C.S.	Grand Multipara	Great Grand Multipara
Foetal distress due to cord prolapse	1	-
Failure to progress	1	-
Malpresentation	1	-
A.P.H.	2	1
TABLE 9		

Table 9 shows the indications for L.S.C.S out of 30 great grand multipara 5 patients underwent LSCS and out of 30 great grand multipara only one patient underwent L.S.C.S. The principle indication was abruptioplacenta in both the groups.[16] Other indications in grand multipara were malpresentation, failure to progress and foetal distress.

DISTRIBUTION OF GRAND MULTIPARA & GREAT GRAND MULTIPARA WITH REGARD TO THE OUTCOME OF LABOUR.
N=60

Outcome of Labour	Grand Multipara		Great Grand Multipara	
	Frequency	Percentage	Frequency	Percentage
a. Live born	27	90%	28	93.35
b. Still born	3	10%	2	6.7%
c. Preterm	6	20%	1	3.3%

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d. Over weight	1	3.3%	1	3.3%
e. Birth asphyxia	1	3.3%		
f. Jaundice	1	3.3%		
g. Infection	1	3.3%		
h. RDS	1	3.3%		
TABLE 10				

Table 10 shows outcome of labour out of 30 grand multipara and 30 great grand multipara. There were 27 live births out of 30 grand multipara and 28 live births out of 30 great grand multipara. Still born number were 3 and 2 respectively.[17]

DISTRIBUTION OF GRAND MULTIPARA AND GREAT GRAND MULTIPARA WITH REGARD TO POSTPARTUM COMPLICATIONS.

N=60

Complications of post partion	Grand multipara		Great grand multipara	
	Frequency	Percentage	Frequency	Percentage
(a) PPH	2	6.7%	3	10%
(b)Shock & Rupture uterus	1	3.3%	2	6.7%
© Puerperal sepsis	-	-	1	3.3%
(d) Wound dehiscence	1	3.3%	1	3.3%
(e) UTI	2	6.7%	2	6.7%
(f) Maternal death	-	-	-	-
TABLE 11				

Table 11 shows 2 patients in grand multi para and 3 patients in great grand multipara had post partumhaemorrhage. P> 0.05 i.e. there is no significant difference in the incidence of PPH between the two groups.

Shock due to rupture uterus was present in 1 case of grand multipara and 2 cases of great grand multipara. Other complications were puerperal sepsis, UTI, Wound dehiscence of LSCS. There were no maternal death.[18]

COMPARISON OF THE WEIGHT OF THE BABIES BORN TO GRAND MULTIPARA AND GREAT GRAND MULTIPARA

Weight of the baby	Grand multipara		Great grand multipara	
	Frequency	Percentage	Frequency	Percentage
<2kg	-	-	-	-
2.0-2.5kg	1	3.3%	-	-
2.6-3kg	18	60%	9	30%
3.1-3.5	9	30%	18	60%
>3.5kg	2	6.7%	3	10%
TABLE 12				

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Table 12 shows only 3.3% of the babies in grand multipara had birth weight <2.5kg and none in great grand multipara.6.7% in grand multhipara and 10% in great grand multipara had babies with birth weight of>3.5kg.p>0.05, X2=5.62 shows there is no significant difference in birth weight[19] of the babies between the two groups

CHI-SQUARE ANALYSIS SHOWING THE RELATIONSHIP BETWEEN LIVE BIRTIS AND STILL BIRTH.

	Grand Multipara	Great Grand multipara	Total
Live birth	27	28	55
Still birth	3	2	5
	30	30	60

X2 value is 0.382 and P>0.05 which is a not significant. This indicates still birth rate is high both groups. But comparison among is not significant.

DISCUSSION AND SUMMARY: This chapter deals with summary and discussion of the findings.

AGE DISTRIBUTION: In the present study 50% of the grand multipara belonged to the age group of 26-35 years whereas all great grand multies belonged to the age group 31-45 years.

Narendra kumara17 (1971) found that 78.4% of grand multipara were less than 36 years of age. Only 1.6% of these patients where beyond 40 years of age. Whereas Oxon (1955) reported 20% of grand multipara beyond 40 years of age.[20]

Fuchs and Peretz's 18(1961) series youngest multipara was 22 years old (para 8) and oldest was 48 years old (Para17) 26% of the grand multipara were less than 30 years of the age and 64% less than 35 years.

Women average age grand multipara can be explained on the basis of early marriage, lack of knowledge of desire for proper spacing of child birth and no limitation of family among the general population.

SOCIOECONOMIC STATUS AND LITERACY: Naredrakumari and pinto (1971) series 79.6% had low socioeconomic status that is class IV, V and VI according to I.C.M.R classification (1961), with an income below Rs.200 per month and this was statistically significant. Another important findings which was significant statically was that, the majority, that is 78.2% of patients who were para 5 and above were illiterate, as against 48.8% in lesser parous group (para1-4)

Dey and Das (1974) series 82% of grand multipara belong to lower income group, 10% middle group only 8% belonged to high income group. Due to financial implications these patients in lower income group cannot afford a nutritious diet rich in Vitamins and proteins. Poverty, illiteracy and ignorance combined to raise the incidence of grand multiparity[20]

ANTENATAL CARE: It Is Important to know the occurrence of various obstetrical factors like maternal age, height, weight gain during pregnancy, as well as obstetrical complications of grand multipara and their prophylaxis.

In the present study 40% of grand multipara and 10% of great grand multipara were booked.

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In O'Sullivan16 1963 series out of 611 pregnancies of para 6 and above 50%were book cases. Narendrakumari and pinto 1971 the incidence of booked cases among grandmultipara was 18.4% and was 1 ½ times less than that of para 1-4, which was 44%.

Anaemia: Anamia is the commonest complication among grand multipara and great grand multipara. The same was found from the investigators series. Considering 10gm% of haemoglobin as standard 60% of grand multipara and70% of the great grand multipara were found anaemic.

Pregnancy induced Hypertension: This study shows 10% of grand multipara and great grand multipara had pregnancy induced hypertension because of the fact that with advancing age and increasing parity the cardiovascular system becomes lesser and lesser competent and hypertension and associated disorders are commonly seen.[21]

The study done budey states that frequency of PIH was double in grand multipara when compared with nongrand multipara. The incidence was 9% in grand multipara. Miller (1954) observed lower incidence among grand multipara being 7.1%

Naraendrakumari & Pinto (1971) states that general incidence of PIH being 3.67%, in para 5 & above 8.8% in para 8 & above 15.6%.

Modak et al 18(1994) found as incidence of 10% in grand multi para.

The etiology of pre eclampsia can be hypothesized that metabolic changes occurring in repeated pregnancies, lack of vascular resiliency with advancement of age play a part in their etiology. In addition to age, obesity seems to be an important factor in predisposing to chronic hypertension.

According to Hendricks and William 14(1971) the type of patient likely to acquire PIH are woman aged 35 years or more & with Para 5 & above.

Ante partum Haemorrhage: Ante partum Haemorrhage is common in grand multipara. This fact has been appreciation by many investigators Bainiaz pointed out that high party leads to augmentation of venous drainage from lower portion of the uterus and lower implantation creating the preponderance of abruption placenta and placenta praevia.[22] Thesame study shows premature separation of placenta was twice as common in the grand multipara and great grand multipara than in other parity.

The result of present study reveals that abruption placenta was common among grand multipara (10%) and great grand multipara (10% whereas placenta praevia was 6.6% multipara and none in great grant multipara.

The investigator of the study, came across 8 patients who had ante partum haemorrhge. Out of 8 patients 3 underwent casesarem section. 1 because of major placenta praevia and 2 because of abruption placenta.

Multiple Pregnancy: One patient (grand multipara) is the study had multiple pregnancy with the incidence of 3.3%, it is was a twin (1st vertex and 2nd breech).There was no prablm during the delivery and babies also were normal and had no complication. Multiple pregnancy commonly seen in grand multipara and also associated with complications.

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Waterhouse, in his 10 year study found an incidence of 16.8%in grand multipara. He concluded that increasing maternal age and increasing parity exert separate and independent positive influence on the frequency of twinning.

CARDIOVASCULAR DISEASE: Cardiac decompensation rises with age and parity. Probable reason for early decompensation in India is anaemia early age of marriage with repeated pregnancies without adequate spacing.

In the present study no case of cardiac disease was recorded.

Rupture Uterus: In the present study 3 patients has rupture uterus 1 in grand multipara, 2 in great grand multipara. All the 3 cases of rupture uterus were referred to the institute. I case of grand multipara was referred as failure to progress and underwent ceasarean and was found to have threatened rupture of uterus. Baby was asphyxiated when born and cried after resuscitation. Both the cases of great grand multipara with rupture uterus were referred as obstetric shock. Both the cases underwent caesarean hysterectomy.

Retained Placenta: The present study had no patients with the retained placenta. But the studies by Dey and Bhan show that 3%and 1.7% had retained placenta respectively

In the Schram's series of 502 cases if was 2.9% and Allen Vehaskari series was 4.02% which was 4 times more than the control group.

Forceps Delivery and Vaccum Extraction

In the present study, there were no grand multipara or grand multipara with the forceps delivery or vacuum delivery.

Caesarean Section: Total case underwent caesarean section with the incidence of 16.7% in grand multipare and 3.3% in great grand multipara.

The reported incidence of grand multipartite by oxen (1995) was 1.6% dutta (1970)30.5%, parika

The indication are:

Grand multhipara great grand multipara.
Antepartum haemorhage-21.
Malpresentation- 1.
Foctal distress due to cord prolapsed -1.
Failure to progress -1.

Antepartum Haemorrhage: In this study total 8 patients had antepartum haemorrhage 6 in the grand multipara group and 2 in great grand multipara group. 2 patients in grand multipara and 1 in grand multipara underwent caesarean section.

Failure to Progress: Icase in grandmultipara had failure to progress probable reason was cephalopelvic disproportion.

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Malpresentation: In the present study I case of grand multipara underwent caesarean section because of transverse lie. Abnormalpresentation is a common complication of labour in grand multipara, due to pendulous abdomen, lardosis of lumbar spine and secondary high inclination of the pelvic brim. In Dey series 9% of grand multipara had malpresentation Breech presentation is more common in grand multopara.

Fuchs & peretz series transverse lie was almost twice as common among grand multipara. Face and brow presentation were twice common. Breech was 3.28% in grand multipara and 3.40% in control group.

Narenrakumar & Pinto series incidence of transverse lie was 8.9% twice that of primigravida.

Foetal Indication: I case underwent caesarean section because of cord prolapsed. Cord prolapseis a common complication because of delayed engagement & malpresentation in pluripara.

Fuchs and Peretz (1961) series found the incidence of Cord prolapsed was twice common in frandmultipars i.e. 0.72% and control group 0.42%.

Palliez et al (1972) in their study the incidence of cord pralapse being 1.3% and Allan Vahaskari et al (1969) had 0.51%.

Post-Partum Haemorrhage: Primary post-partum haemorrhage is defined as the loss of blood in excess of 500 ml

During the first 24 hours after the birth of the infant. When it occurs after 24 hrs it is designated as secondary post-partum haemorrhage. (Samil 1988, Hebert and Celelo 1984 <Prichard et al 1988).

Maternal Mortality: There were no maternal deaths in the present study. This can be attributed to the improved obstetric care, blood bank facility, anaesthesia and surgical techniques.

Fuchs and Perez series (1961) stated that the rate of maternal mortality raises appreciably with increase in parity. He gave as incidence of 2.2%

Birth weight of the Babies: Dey and Das series (1974)70.6% baby weight average weight and 19.6% babies were overweight (3201-3650) in grand multipara.

In the present study shows 63% of the babies in grand multi para and 30% of great grand multipara were with the birth weight of 2000G-3000G. 6.7% in grand multipara and 10% in great grand multipara had birth weight above 3.5KG.

CONCLUSION: The present study reveals that grand multiparity and great grand multiparity is associated with significant increase in the occurrence of a number of potentially, dangerous complications of pregnancy and labour. The case of these complications are many. Besides obstetrical causes, factors like lack of an inadequate antenatal case, low socio economic group and illiteracy also played a major role. Majority of them were unbooked cases.

BIBLIOGRAPHY:
1. K. BhaskerRao – Safe Motherhood, 1992 Edition.
2. Das – 98: Year book 1975.

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3. IanDonals – Grand multi: Practical Obst. Problems 1995.
4. Williams Obstetrics – 20th Edition.

REFERENCES:

1. Aziz Karim, S. et al (1989) – Grand multiparity – a continuing problem in developingcountries. Asia-Occania-J Obstet –Gynaecology, 15(2): 155-60.
2. B.C. Ozumba et al (1992)- The challenge of grand multiparity in Nigerian Obstetric Practice, Pg. 259-264.
3. Bhan, S.G. (1978)- Journal of Obstetrics andGynaecology of India, 28:203.
4. Bhatt, K.M. (1979) – Grand multipara Journal of Obstetrics and Gynaecology of India, Pg. 296-300.
5. Dey, S.R., (1976) – Role of grand multiparity in the causation of high risk pregnancy. Journal of Obstetrics and Gynaecology of India, 706-708.
6. Donald, I (1969)- Practical Obstetric Problems. Ed. 4, London, Lioyd Luke Ltd.
7. Eidelman, A.I.et al (1988)- The grand multiparity – Is she still a risk. American – J- Obetet-Gynaecology, 158(2):389-92.
8. H.M. Fayed et al (1993) – Int. Journal of Obstetrics and Gynaecology, 41: 17-22.
9. Goldman, G.A., et al (1955) –The grand multiparity. Eur-J-Obste-Gynaecol-reprod-Biolo., 61(2): 105-9.
10. Hughese. P.F. and Morrison, J. (1994)Grandmultiparity not to be feared. Int-GynaecologyObstet, 44(3): 211-7.
11. Kalpan, B., et al (1955) – great grand multiparity beyond the 10th delivery. International journal of Gynaecology and obstetrics, 17-18.
12. Mitra, R., (1973)- Review of 30 cases of general prolapse associated with pregnancy. Journal of Obstetrics and Gynaecology of India, 337-339.
13. S.R. Mitra and K. Sikdar (1978) – A study of primary caesarean section with reference to grand multipara. Journal of obstetrics and Gynaecology of India, Pg.1183-86
14. modak, R., et al (1994) – Grand multipara – A medico-social problem. Journal of Obst.And Gynaecology of India, 186-233.
15. Mor-Yosef, S. et al (1990) – The effects of the socio economic status on the perinatal outcome of grand multipara. Eur-J-Obstet-Gynaecology, 36(1-2): 117-23.
16. Oxorm, H. (1955)- Journal of Obstetrics and Gynaecology, 5.
17. Mwambingu, F.T. (1988) – The problem of grand multiparity in current obstetric practice. Int-Journal of Obst. And Gynaecology 26(3): 355-9.
18. Parikh, V.N. (1965)- Journal Obstetrics and Gynaecology of India, 15: 578.
19. Petrikovsky, B., Cohen, M. and Tancer, M.L., (1986)-Labour patients in grand multiparas. Int. Journal of Gynaecology Obstetrics, 439-441.
20. Seidman, D.S. etai (1987) – Does grand multiparity affect fetal outcome. Int. J. Obstet.Gynaecology, 25(1): 1-7.
21. Tai-C (1991)-Grand multiparity in Malasian women. Asia-Oceanic-J Obstet-Gynae 17(4):327-34.
22. Veerbala (1965)- Grand multipara. Journal of Obstetrics and Gynaecology of India, Pg. 573-580.

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