International Journal of Clinical Obstetrics and Gynaecology

ISSN (P): 2522-6614
ISSN (E): 2522-6622
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www.gynaecologyjournal.com
2021; 5(5): 36-38
Received: 11-07-2021
Accepted: 22-08-2021

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Clinical Profile of antenatal primigravidas of more than 37 weeks gestation admitted at a Tertiary care hospital

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DOI: https://doi.org/10.33545/gynae.2021.v5.i5a.1013

Abstract
Factors that increase maternal death can be direct or indirect. Generally, there is a distinction between a direct maternal death that is the result of a complication of the pregnancy, delivery, or management of the two, and an indirect maternal death; that is a pregnancy-related death in a patient with a preexisting or newly developed health problem unrelated to pregnancy. All antenatal primigravidas of >37 weeks gestation with a singleton pregnancy in vertex presentation admitted in the Labor room of Medical College Hospital were eligible for inclusion in the study. 89(66%) of the gravid women were between 38-39 weeks of gestation and the remaining subjects, 46(34%) were in the 39-40 weeks of gestation. A little more than half 82, (61%) of the gravid women were induced and the remaining 53 (39%) progressed spontaneously.

Keywords: primigravidas, gestation, pregnancy

Introduction
Every day in 2013, about 800 women died due to complications of pregnancy and child birth. Almost all of these deaths occurred in low-resource settings, and most could have been prevented. The primary causes of death are hemorrhage, hypertension, infections, and indirect causes, mostly due to interaction between pre- existing medical conditions and pregnancy. Of the 800 daily maternal deaths, 500 occurred in sub-Saharan Africa and 190 in Southern Asia, compared to 6 in developed countries. The risk of a woman in a developing country dying from a maternal-related cause during her lifetime is about 23 times higher compared to a woman living in a developed country [1]. Maternal mortality is a health indicator that shows very wide gaps between rich and poor, urban and rural areas, both between countries and within them [2].
The number of women dying due to complications during pregnancy and childbirth has decreased by 45% from an estimated 523 000 in 1990 to 289 000 in 2013. The progress is notable, but the annual rate of decline is less than half of what is needed to achieve the Millennium Development Goal (MDG) target of reducing the maternal mortality ratio by 75% between 1990 and 2015, which would require an annual decline of 5.5%. The 45% decline since 1990 translates into an average annual decline of just 2.6%. Between 1990 and 2000, the global maternal mortality ratio decreased by 1.4% per year, while from 2000 to 2013 progress accelerated to a 3.5% decline per year [3, 4].
Factors that increase maternal death can be direct or indirect. Generally, there is a distinction between a direct maternal death that is the result of a complication of the pregnancy, delivery, or management of the two, and an indirect maternal death; that is a pregnancy-related death in a patient with a preexisting or newly developed health problem unrelated to pregnancy. The most common causes of direct maternal death are post-partum bleeding (15%), complications from unsafe abortions (15%), hypertensive disorders of pregnancy (10%), postpartum infections (8%), and obstructed labor (6%). Other causes include blood clots (3%) and pre-existing conditions (28%). Indirect causes are malaria, anemia, HIV/AIDS, and cardiovascular disease, all of which may complicate pregnancy or be aggravated by it [5].
Obstructed labor, the direct clinical consequence of CPD, was responsible for 8% of maternal deaths worldwide, according to figures quoted in the 2005 World Health Report of the World Health Organization (WHO).10 The report estimates that, in 2000, obstructed labor complicated 4.6% of live births (six million births), resulting in 42 thousand maternal deaths [6].
The only treatment for absolute CPD is caesarean section, symphysiotomy or fetal craniotomy. 2 Without such relief, the consequences are serious. In a classic review, Philpot 11 described the natural history of obstructed labor in primigravida and multigravida women.

In the primigravida, sustained contractions result in fetal anoxia and death, with eventual delivery of a macerated, collapsed and infected baby, frequently followed by atonic postpartum hemorrhage with or without puerperal infection. The survivor may be left with vesicovaginal or rectovaginal fistula, secondary infertility and chronic pelvic pain.9In the multigravida, uterine rupture is the rule, usually associated with extrusion of the fetus into the abdominal cavity, and maternal death from massive internal hemorrhage [7, 8].

The major objective of obstetric practice has been the prevention of obstetric maternal mortality. Adequate knowledge and right clinical skills would aid an obstetrician to diagnose and intervene without compromising both the mother and the fetus.

Methodology

Study design: Prospective study

Source of data: All antenatal primigravidas of >37 weeks gestation with a singleton pregnancy in vertex presentation admitted in the Labor room of Medical College Hospital were eligible for inclusion in the study.

Inclusion criteria

1. Primigravida of more than 37 weeks gestation.
2. Age group between 18 – 35 years.
3. Primigravidae with a singleton pregnancy in vertex presentation.

Exclusion criteria

1. Patients less than 37 weeks of gestation.
2. Patients who are short statured [height less than 145 cm]
3. Patients with external deformities of foot, spine or pelvis.
4. Patients with other known obstetric risk factors with a planned caesarean Delivery.
5. Multiple gestation

Sample size: 135

Duration of study: One and a half year

Method of collection of data

The height, bis-acromial, foot length, vertical and transverse diameters of the Michaelis rhomboid, symphysis-fundal height and abdominal girth were measured for each woman. Height was recorded on a stadiometer with an accuracy of 0.5cm and a measuring tape was used for the various anthropometric measurements as mentioned in the study.

Results

Table 1: Frequency and percentage distribution of gravid women according to their age

Age (yrs)	Frequency	Percentage
≤ 19 yrs	5	4%
20-25 yrs	83	61%
26-30 yrs	38	28%
31-35 yrs	9	7%
Total	135	100%

Just a little more than half, 83 (61%) of the gravid women belonged to the age group of 20-25 years, 38 (28%) belonged to 26-30 years, 9 (7%) were in the age group of 31-35 years and 5 (4%) were ≤ 19 years.

Table 2: Frequency and percentage distribution of gravid women according to their Parity

Parity	Frequency	Percentage
G2A1	18	13%
G3A2	2	2%
PRIMI	115	85%
Total	135	100%

Majority 115 (85%) of the subjects were primigravidas, 18 (13%) were second Gravida with 1 abortion and a negligent number of 2 (2%) subjects were Gravida three with two abortions.

Table 3: Frequency and percentage distribution of gravid women according to their Antenatal Visits

Antenatal Visit	Frequency	Percentage
Booked	101	75%
Booked outside	34	25%
Total	135	100%

Exactly three –quarters, 101(75%) of the gravid women were booked subjects and the remaining, 34 (25%) gravid women were booked outside.

Table 4: Frequency and percentage distribution of gravid women according to their Gestational Age

Gest. Age (in weeks)	Frequency	Percentage
38-39	89	66%
39-40	46	34%
Total	135	100%

89(66%) of the gravid women were between 38-39 weeks of gestation and the remaining subjects, 46(34%) were in the 39-40 weeks of gestation.

Table 5: Frequency and percentage distribution of gravid women according to Spontaneous/ Induced labor

Spont/ induc	Frequency	Percentage
Spontaneous	53	39%
Induction	82	61%
Total	135	100%

A little more than half 82, (61%) of the gravid women were induced and the remaining 53 (39%) progressed spontaneously.

Discussion

135 primigravidae were included in the study. 61% (83 women) in the study group were within the age range between 20 – 25 years with mean age being 24 years. This correlates with the studies of EJ BUCHMANN [9], where the mean age was 25 years.

Multiparae behave differently in labor from primigravidae concerning bony dystocia; the former over reacting with strong uterine contractions, the latter under responding with hypotonic labor. This study enrolled 115 (85%) primigravidae, 18 (13%) G2A1 and 2 (2%) G3A2. Though the inclusion criteria required only normal primigravidae without any obstetric or medical complications, St. John's Medical College Hospital being a tertiary care center deals with complicated emergencies of all sorts and hence it was difficult to get adequate normal primigravidae alone for the study sample.

Donald insisted that a high head at term in a primigravidae is not a welcome finding. A study done by Weekes *et al.* [10] in 462 primigravidae revealed that only 23% showed head engagement

by the end of 37 weeks of gestational age. Engagement occurred in the majority of pregnancies at 38–42 weeks.

This study has enrolled women only from 37 weeks of gestation providing a uniform group for study and results. 89 (66%) women were between gestational age 38–39 weeks and 46 (34%) between 39–40 weeks of gestational age.

All the 135 women in this study were booked cases either at our hospital or booked outside. Majority of them (101 women) were booked here. This study did not contain unbooked cases because, majority of these women came in active phase and hence it was not possible to measure their parameters prospectively. It has been universally accepted that adequate standard ANC has immense value in reducing the incidence of complications by early detection and prompt management.

Conclusion

- Just a little more than half, 83 (61%) of the gravid women belonged to the age group of 20-25 years, 38 (28%) belonged to 26-30 years, 9 (7%) were in the age group of 31-35 years and 5 (4%) were ≤ 19 years.
- Majority 115 (85%) of the subjects were primigravidas, 18 (13%) were second gravida with 1 abortion and a negligent number of 2 (2%) subjects were gravida three with two abortions.
- Exactly three–quarters, 101(75%) of the gravid women were booked subjects and the remaining 34 (25%) gravid women were booked outside.
- 89(66%) of the gravid women were between 38-39 weeks of gestation and the remaining subjects, 46(34%) were in the 39-40 weeks of gestation.

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