



Prevalence and Factors Associated with High-Risk Pregnancies in Lubumbashi, Democratic Republic of Congo

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Abstract

Introduction: Pregnancy is a special natural and physiological event that is not always normally and is responsible for morbidity and preventable mortality. Pregnancy risk is defined as one that is complicated by a factor or factors that negatively affect the outcome of pregnancy the mother's side and/or perinatal. This study was assigned as targets to determine the risk pregnancy prevalence and the factors associated with these pregnancies. **Materiel and Method:** We conducted a cross-sectional descriptive study at the General Hospital Katuba in Lubumbashi for a period of three months from March to June 2017. **Result:** Our results showed that 11.5% of pregnancies were high risk and moderate in 21.6%. Overall, pregnancies were high or moderate risk of 33.1%. A proportion of 19.8% of new mothers were aged over 35 years and 3.4% were under 18 years. The average age was 28.8 ± 7.2 years. Age greater than 35 years, multiparity, the high parity, the multigestity and the large multigestity were significantly associated with a risk pregnancy OR: 181 [43.08 to 762.99], OR 16.04 [6, from 44 to 40.00] OR: 232.39 [58.60 to 971.36] OR: 5.15 [2.06 to 12.87] OR: 78.67 [25.77 to 240, 15. diabetes history OR = 6.32 [1.26 to 31.78], perinatal mortality ($p = 0.006$) and repeated abortions ($p = 0.023$) were also significantly related to a pregnancy at risk. **Conclusion:** A good support suitable or adequate based on risk could never be achieved without close collaboration between stakeholders and health professionals perinatal and follow the microscope stage of the support organization.

Subject Areas

Gynecology & Obstetrics

Keywords

Prevalence, Risk Pregnancy, Associated Factors, Lubumbashi

1. Introduction

Pregnancy is a special natural and physiological event that is not always normal and is responsible for morbidity and preventable mortality. Pregnancy risk is defined as one that is complicated by a factor or factors that negatively affect the outcome of pregnancy the mother's side and/or perinatal [1]. Among mothers seen prenatally, only 10% to 30% of mothers are classified as high risk. Among these mothers, 70% to 80% are left with mortality or perinatal morbidity [2].

A high-risk pregnancy refers to anything that puts the mother, the fetus or newborn at increased risk of morbidity and mortality during pregnancy and childbirth. According to the study Samar K. Hafez, 44% of Saudi women with a high risk pregnancy had an age between 30 and 35 years, 60% of them were obese, 62% had between 5 gestity - 12 previous pregnancies, about half of them (47%) had a parity between 5 and 11, 35% had a history of more than 2 abortions. About two-thirds (66%) of them had complicated pregnancies in the past and 68.7% of them complained of conditions such as anemia (25.3%), gestational diabetes (16.2 %), hypertension (15.2%) [3]. By against study Sapna Jain found that of 415 women, 96 (59%) were at high risk, 191 (46%) were low risk and 128 (31%) had no risk. In the high-risk group, there were 59 perinatal deaths and perinatal mortality rate was very high (614 per 1000 live births) [4].

A high-risk pregnancy is one in which the life or health of the mother or fetus are compromised or threatened by a conjugate or disorder unique to pregnancy. Risk factors may be pre-existing factors before or during the prenatal visit or can develop later in the current pregnancy. Nearly 50% of all maternal complications and 60% of primary cesarean come from a high-risk group [5].

Thus, our study was assigned as targets to determine the prevalence of high risk pregnancy and the factors associated with the occurrence of a risk pregnancy in women in the city of Lubumbashi.

2. Material and Method

2.1. Study Type

This study is descriptive cross prevalence and factors underlying risk pregnancies in the city of Lubumbashi.

2.2. Study Population

The target population for this study consisted of all women admitted and treated in the Gynecology and Obstetrics Service of the General Hospital of Katuba Reference for a period of three months from March to June 2017. To be included in this study, the following conditions should be met in women who delivered in

the selected structure for our study and a complete medical file. Pregnant women do not meet all the criteria listed above have not been retained.

2.3. Sample Size and Sampling

Our sample is comprehensive. We selected all women in labor who attended the Gynecology obstetric service structures mentioned above. The sample was made up of all pregnancy collected during the study period 384 women in labor.

2.4. Management and Data Collection

The different information about patients or pregnant women were collected on individual holdings records or survey forms previously established and used as data carrier.

2.5. Statistical Analysis

The collected information was entered with Excel 2015 Office and were analyzed using the software Statistical Package for Social Science (SPSS) Version 23. Regarding the statistical test, we used the p-value of the chi square test of Pearson and Fisher exact. A statistically significant difference was accepted if p is less than or equal to 0.05. The evaluation of risk factors was made based on the following parameters: risks related to land (Age less than 18 or greater than 35 years, Height: less than 152 cm); Risk general history (hypertension, diabetes), risk obstetrical history (Recurrent miscarriages, premature deliveries, uterine malformation known, confinement of dysmature and perinatal deaths); risks related to pathology confirmed pregnancy (Twin pregnancy, hemorrhages of the 2nd and 3rd quarters). The values of all high-risk factors were added and a total score determined whether the pregnancy was “no risk” to “medium risk” or “high risk” as a result and have been classified as: No risk with score 0 - 3, medium Risk with the score 4 - 9, with the high risk score of 10 or >10.

2.6. Ethical Considerations

While it is true that any study to be conducted on human beings requires respect for human right. Our study has been spared. All pregnant women had received information about the research object. We are reassured that the good understanding and we asked their consent after the free and informed choice when all mental faculties are in place. All pregnant women were treated fairly. We reassured them of anonymity and confidentiality of information.

3. Results

It appears from this **Table 1** that 19.8% of new mothers were aged over 35 years and 3.4% were under 18 years. The average age was 28.8 ± 7.2 years. Thirteen percent of new mothers were high parity and 24.7% were primiparous. The average parity was 3.3 ± 2.7 ; Seventy-two birth (18.8%) were major multigravidae and 65 (16.9%) were primigravida. In connection with the level of education 22,

Table 1. Characteristics of women surveyed.

Age	Effective (n = 384)	Percentage
<18	13	3.4%
18 - 35	295	76.8%
>35 years	76	19.8%
Parity		
nulliparous	17	4.4%
primipare	95	24.7%
few previous deliveries	120	31.3%
multiparous	102	26.6%
great multipare	50	13.0%
gravity		
gravida	65	16.9%
Paucigeste	119	31.0%
multigravida	128	33.3%
great multigravida	72	18.8%
Educational level		
No	88	22.92%
Primary	28	7.29%
Secondary	167	43.49%
University	101	26.30%
Marital status		
living alone	27	7.03%
Common-law	357	92.97%

92% of new mothers were illiterate and 7.29% had a primary level and 7.03% of new mothers living alone (single, widowed) and 92.97% were in union.

It should be noted that the prevalence of high-risk pregnancy was high in 11.5% of cases, moderate in 21.6%. Overall, pregnancies were high or moderate risk of 33.1% (**Table 2**).

It appears from this **Table 3** that age over 35 years, multiparity, the high parity, the multigestity and the large multigestity were significantly associated with a risk pregnancy OR: 181 [43.08 - 762.99], OR : 16.04 [6.44 - 40.00] OR: 232.39 [58.60 - 971.36] OR: 5.15 [2.06 - 12.87] OR: 78.67 [25.77 - 240.15].

It is apparent from this **Table 4** that the history of diabetes (OR = 6.32 [1.26 - 31.78]), perinatal mortality (p = 0.006) and repeated abortions (p = 0.023) were significantly associated with pregnancy risk.

It is apparent from this **Table 5** that hypertension (OR = 17.21 [2.13 - 139.18]), the third-trimester bleeding (OR = 8.57 [1.79 - 40.98]) and diabetes (p = 0.013) were significantly associated with a risk pregnancy.

Table 2. Risk pregnancy prevalence in women surveyed.

Type of risk	Effective	Percentage
No	257	66.9%
Moderate	83	21.6%
High	44	11.5%
Total	384	100%

Table 3. Association between the characteristics of women and prevalence of high-risk pregnancy.

Women Features	Status of pregnancy		OR [95% CI]	P
	moderate or high risk	No risk		
Age of woman				
<18	3 (23.1%)	10 (76.9%)	1.47 [0.39 - 5.53]	0.57
18 - 35	50 (16.9%)	245 (83.1%)		
35 years	74 (97.4%)	2 (2.6%)	181 [43.08 - 762.99]	<0.0001
Civil status				
Married life	118 (33.1%)	239 (66.9%)	0.99 [0.43 - 2.26]	0.98
only life	9 (33.3%)	18 (66.7%)		
Parity				
nulliparous	5 (29.4%)	12 (70.6%)	6.18 [1.63- 23.35]	0,003
primipare	6 (6.3%)	89 (93.7%)		
few previous deliveries	16 (13.3%)	104 (86.7%)	2.28 [0.86 - 6.08]	0.091
multipare	53 (52.0%)	49 (48.0%)	16.04 [6.44 - 40.00]	<0.0001
great multipare	47 (94.0%)	3 (6.0%)	232.39 [58.60 - 971.36]	<0.0001
gravidity				
gravida	6 (9.2%)	59 (90.8%)		
paucigeste	13 (10.9%)	106 (89.1%)	1.21 [0.44 - 3.34]	0.72
multigravida	44 (34.4%)	84 (65.6%)	5.15 [2.06 - 12.87]	<0.0001
great multigravida	64 (88.9%)	8 (11.1%)	78.67 [25.77 - 240.15]	<0.0001
Size of the mother in meter				
<1.50	2 (18.2%)	9 (81.8%)	0.44 [0.09 - 2.07]	0.29
≥1.50	125 (33.5%)	248 (66.5%)		

4. Discussion

Pregnancy is considered a physiological and unique period in the lives of women. However, an unpredictable disease of the mother or fetus can complicate pregnancy. Pregnancy is defined as “high risk” if the possibility of an adverse outcome is higher.

Table 4. Association between the woman's history and prevalence of high-risk pregnancy.

History of women	Status of pregnancy		OR [95% CI]	p
	moderate or high risk	No risk		
Diabetes				
Yes	6 (75.0%)	2 (25.0%)	6.32 [1.26 - 31.78]	0,030
No	121 (32.2%)	255 (67.8%)		
hypertension				
Yes	2 (66.7%)	1 (33.3%)	4.10 [0.37 - 45.61]	0.53
No	125 (32.8%)	256 (67.2%)		
macrosomia				
Yes	2 (40.0%)	3 (60.0%)	1.35 [0.22 - 8.21]	0.88
No	125 (33.0%)	254 (67.0%)		
perinatal mortality				
Yes	5 (100.0%)	0 (0.0%)		0.006
No	122 (32.2%)	257 (67.8%)		
Habitual abortion				
Yes	4 (100.0%)	0 (0.0%)		0,023
No	123 (32.4%)	247 (67.6%)		

Table 5. Association of pathologies during pregnancy and prevalence of high-risk pregnancy.

Pathology during pregnancy	Status of pregnancy		OR [95% CI]	P
	moderate or high risk	No risk		
hypertension				
Yes	8 (88.9%)	1 (11.1%)	17.21 [2.13 - 139.18]	0,001
No	119 (31.7%)	256 (68.3%)		
Diabetes				
Yes	3 (100.0%)	0 (0.0%)		0,013
No	124 (32.5%)	257 (67.5%)		
Bleeding in the third quarter				
Yes	8 (80.0%)	2 (20.0%)	8.57 [1.79 - 40.98]	0,003
No	119 (31.8%)	255 (68.2%)		
premature rupture of membranes				
Yes	4 (66.7%)	2 (33.3%)	4.15 [0.75 - 22.95]	0.096
No	123 (32.5%)	255 (67.5%)		
urinary infection				
Yes	9 (29.0%)	22 (71.0%)	0.81 [0.36 - 1.82]	0.618
No	118 (33.4%)	235 (66.6%)		

Our study showed that 11.5% of mothers had a high risk, 21.6% moderate risk and 66.9% low risk. Overall, pregnancies in high or moderate risk were of the order of 33.1%. Simarpreet, Mamta, Pooja *et al.*, In 2015, had been found that over a third of 35% of pregnant women were at low risk, a third of women 33% had a moderate risk, 30% had a high risk and only 2% had very high risk factors [6]. Results largely higher to ours as the studies conducted by Samar K. Hafez [3] were reported a prevalence of 63.3% of high-risk pregnancy while those Yassein *et al.* [7] found a prevalence of 63.8%. Bharti *et al.* also revealed a prevalence of high-risk pregnancy of 31.4% [8]. Note that this rate is actually so low compared to other studies, such as those Jain *et al.* Which are a proportion of 41.5% in Nepal and Al Teheawy with a rate of 46.2% in Saudi Arabia in 1992, 21% in Cameroon between 1982 and 1985. And that observed in Belgium, 21.8% in 2005. This difference may be due to the use of different tools to measure a high-risk pregnancy [9].

Multiparity the high parity, the multigestity and the large multigestity were significantly associated with a risk pregnancy OR: 181 [43.08 - 762.99], OR 16.04 [6.44 - 40.00] OR: 232.39 [58.60 - 971.36] OR: 5.15 [2.06 - 12.87] OR: 78.67 [25.77 - 240.15]. Support for this result was observed in a study in Erbil in 2012, which showed that there was a significant association between age and number of pregnancies (gravidity > 5). [10]

Our study found a statistically significant association between hypertension (OR = 17.21 [2.13 - 139.18]), Diabetes ($p = 0.013$), the third-trimester bleeding (OR = 8.57 [1.79 - 40.98]) and pregnancy in high or medium risk Note that preeclampsia, disorder hypertensive pregnancy is estimated to complicate 2% to 8% of pregnancies and is the leading cause of morbidity and maternal and fetal mortality. Pre-eclampsia may be present at any gestation but is more commonly found in the third quarter. Several risk factors have been documented, including: family history, Nulliparity, diabetes and obesity. High blood pressure (hypertension) during pregnancy is a major cause of morbidity and fetal mortality, neonatal but maternal.

For Akhtar, preeclampsia, pregnancy-induced hypertension and gestational diabetes were the main risk factors [11]. Note that when a woman has a problem during pregnancy, such as premature birth, birth defects, history of abortion, stillbirth or a previous caesarean, she will be more likely to have the same problem in the subsequent pregnancies. Many study in the world showed a statistically significant association between the disease during pregnancy and pregnancy status. According to the study by Jain, S Anand, S and Aherwar, R. 2014 [9].

5. Conclusion

Pregnancy risk occurs when a pregnant woman has a disease or condition sociobiological like high blood pressure, diabetes, alcoholism, obesity, etc., which affects the evolution of pregnancy that can lead to death maternal and/or perinatal. The cross-sectional descriptive study conducted in the city of Lubumbashi

showed that the prevalence of high-risk pregnancy was 33.1%. The high parity, multiparity, high multigestity, age greater than 35 years were significantly associated with a risk pregnancy. The risk factors of the most common pregnancy in our study were the top 4 parity, bleeding in the third quarter, HTA during the current pregnancy, history of abortion, perinatal death of history, in the lower age to 18 years and above 35 years. At this level, in terms of priorities, we must not forget that the most efficient measure to reduce this risk is not as much as the advancement of prenatal care with known limitations goal, but much more than that of midwifery, is to say at the time of childbirth but also to emphasize the need to better equip maternity draining the highest proportion of women at risk. But for health policy makers and in terms of priorities, we must not forget that the most efficient measure to reduce this risk is not as much as the promotion of prenatal care with known limitations, but that much more than care obstetric, that is to say at the time of delivery and the various levels of care.

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