

RISK FACTORS OF NEWBORN HYPOTROPHY GENERAL HOSPITAL OF REFERENCE KINDU MANIEMA

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ABSTRACT

The SGA refers to newborns weighing less than the 10th percentile for gestational age. The notion SGA refers to low birth weight for a pregnancy to term. It is a major public health problem because of its magnitude and its strong association with morbidity and mortality.

He acted transverse analytical study conducted in 2012 at the maternity HGR Kindu. This study has identified 77 cases of SGA births recorded in 1450 on a frequency of 5.3%. This work confirms the close association between socio-economic factors (maternal age below 18 years and above 35 years primiparity and multiparity, the unemployed and farmer, the fact of living alone); obstetric factors (Inter reproductive space, history of FPN and the low frequency of antenatal care) and clinical factors (size less than 150 cm, a MUAC less than 24 cm and pathologies during pregnancy) and SGA. L'SGA is a major public health problem and reflecting the pregnancy monitoring level in the middle and its prevention must consider all the risk factors identified in this study.

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INTRODUCTION

The SGA refers to newborns weighing less than the 10th percentile for gestational age. The notion SGA refers to low birth weight for a pregnancy. Low birth weight (LBW) is a major public health problem in resource-limited countries and in so-called developed countries industrialized. It is defined by the World Health Organization (WHO) as a birth weight below 2500 g strictly, regardless of the term of pregnancy (Djamila-Mecheri Touati, 2011).

It is a major public health problem because of its magnitude and its strong association with morbidity and mortality. In 2004, according to UNICEF estimates, over 20 million children are born with LBW in the world, accounting for 15.5% of all births. Most of these low birth weight (96%) occur in developing countries where the proportion (16%) is twice that of developed countries (WHO, 2004).

Moreover, the birth weight is a good indicator of the state of health and nutritional status of the mother before and during pregnancy. It is also an important predictor of child survival and its further development. There is a close association, in the short term between the level of NPF, fetal and neonatal mortality and infant morbidity. Of the 11.6 million deaths of children under 5 in 1995 occurred in developing countries, 6.3 million (53%) were associated with low birth weight (Wardlaw, 2004). In the medium term, the FPN is associated with cognitive and physical development gap with reduced intellectual capacity of children. They are also prone to chronic and cardiovascular diseases related to diet in adulthood. In addition, the management of the health system in

developing countries children born with a growth deficit is generally insufficient or inadequate, due to its high cost. It then follows in significant consequences for companies in terms of loss of human capital and economic productivity (ACC / SCN, 2000).

Several risk factors including demographic factors (maternal age, socio-professional level, gender, education level, marital status); obstetric factors (multiple pregnancies, space between births, childbirth history of FPN) and clinical factors (mother's size, nutritional status, diseases of pregnancy such as malaria and hypertension) are associated with the occurrence of gestational age.

This study aims to identify the main risk factors for SGA in the middle of study to consider the applicable strategies in ANC to reduce the incidence of low birth weight and reduce the morbidity and perinatal mortality

MATERIAL AND METHODS

The study was conducted during 2012 at the maternity HGRK of 1,450 infants born alive at term, 77 showed growth retardation at birth. He acted transverse analytical study. Data were collected from EIC registers, the register of birth, Partograph, plugs consultations and statistical documents HGRK. The following variables were used: socio-demographic variables: maternal age, parity, socio-professional level, marital status, educational level of the mother); obstetric variables: interval between births, birth history of the FPN, CPN Frequency) and clinical - variables: native size, nutritional status assessed by the PB, Pathologies during pregnancy. These data were pooled and analyzed by logistic regression to assess the weight of each risk factor. The statistical significance was set at 0.05

III. RESULTS

3.1. Frequency of SGA

It appears from this table that the prevalence of SGA in our study is about 5.3%.

Table I. Prevalence of SGA

	Effective	Percentage
SGA	77	5.3
normal weight	1373	94.7
Total	1450	100

3.2. SGA and socio-demographic characteristics

It appears from this table that maternal age below 18 years and above 35 years primiparity and multiparity, the unemployed and farmer, marital status (celibacy, divorce and widowhood) and level of study primary or less are associated with the occurrence of gestational age.

Table II: Association between SGA and maternal sociodemographic variables

dependent variable	independent variables	Prevalence ratio	95%	p
SGA N = 77	Maternal age <18 years (n = 35)	5.5	2.5 to 12.2	<0001
	Maternal age > 35 years (n = 33)	5.0	2.4 to 10.6	
	Primiparity (n = 36)	5.5	2,6 11,5	<0,001
	Multiparity (n = 34)	5.3	2.6 to 10.9	
	Unemployed (n = 35)	3.6	2,1 6,3	<0,001
	Farmer (n = 20)	2.3	1.6 to 3.3	
	Single (n = 25)	5.5	1,5 19,7	<0.01
	Divorced (n = 20)	4.5	1.5 to 13.9	
	Widow (n = 25)	4.6	1.5 to 14.4	
	primary or < (N = 52)	2.2	1.3 to 3.6	<0.01

3.3. SGA and obstetric characteristics

In connection with obstetric variables, it was found that the space between births less than 12 months and between 12 to 24 months, history of low birth weight and a monitoring frequency CPN less than 3 consultations were associated with the occurrence fetal growth retardation.

Table III: Association between SGA and obstetric variables

dependent variable	independent variables	Prevalence ratio	95%	p
SGA N = 77	intergenetic space <12 months (n = 35)	4.2	1.7 to 10.5	< 0.01

intergenetic space 12 to 24 months (N = 30)	thirty	1.6 to 5.7	< 0.01
History of FPN (N = 62)	2.7	1.6 to 4.6	< 0,00 1
Frequency of ANC <3 (n = 50)	1.9	1,5 - 2,5	< 0,00 1

3.4. SGA and clinical variables

It appears from this table that a size of less than 150 cm, MUAC less than 24 cm, and a morbid condition during pregnancy (malaria and hypertension) were significantly associated with the occurrence of SGA.

Table IV: Association between SGA and clinical variables

dependent variable	independent variables	Prevalence ratio	95%	P
SGA N = 77	maternal height <150 cm (n = 55)	5.6	2.2 to 13.7	< 0,001
	nutritional status PB <24 cm (n = 57)	3.08	1.8 to 5.2	< 0,001
	Malaria of pregnancy (n = 59)	3.6	1.6 to 8.1	< 0,001
	Hypertension of pregnancy (n = 48)	1.7	1.1 to 2.8	< 0.05

DISCUSSION

The frequency of low birth weight infants of 5.2% is relatively low close to those seen in industrialized countries. Higher frequencies were noted in Maniema province Milabyo to Kipaka in the rural health zone of Kunda and Kama in the rural health zone Kampene respectively with a prevalence of 27% to Kipaka and 16, 4% to Kama(Kangulu, Umba, Nzaji, and Kayamba, 2014). But Rakotozanany in Madagascar (2003) found a frequency close to ours, or 7.8%(Ernest, 2004).

Maternal age <18 years and over 35 years was statistically associated with the occurrence of SGA. These results together walk with those of several other authors (Kangulu et al., 2014). This could be explained by competition for nutrients between the teenager growing and developing fetus as well as the low efficiency of placental function at this age. Parity including primiparity and multiparity were noted as risk factors for SGA in our study. Primiparity and multiparity are predisposing factors such as NPF also found several authors (Letaief, Soltani, Salem & Bchir, 2001). Speaking of primiparity, note that in our study medium, primiparae are mostly teenage growing. The risk in multiparous is justified by the fact that women in sub-Saharan Africa spend most of their life, or 35 to 50% of the childbearing years, to meet the obligations of pregnancy, childbirth and breastfeeding (WHO / AFRO, 2001).

Maternal depletion syndrome describes what happens when the female body is used without rest and without time to recover. Regarding the marital status of the mother, it was found that the single status is significantly associated with the occurrence of SGA ($p < 0.01$). This is consistent with those reported by other authors (Kangulu et al., 2014). Celibacy or living alone could negatively influence the nutrition of the mother or expose it to practice hard physical labor, which are diverted to nutrient intakes at the expense of fetal growth.

The SGA is also significantly associated with obstetric factors of mothers. This is the case of the inter birth interval < 12 months (OR = 4.2 95% CI 1.7 to 10.5 $p < 0.01$) and between 12 to 24 months (OR = 3, 95% 1.6 to 5.7 $p < 0.01$); history of deliveries of LBW (OR = 2.7 95% CI 1.6 to 4.6 $p < 0.001$) and reduced frequency CPN < 3 (OR = 1.9 95% CI 1.5 to 2.5 $p < 0.001$). Regarding the inter reproductive space, most published studies show that a short time between pregnancies associated with fetal hypotrophy. For these authors, the many and too close maternity greatly increase the risk of anemia but also nutritional deficiencies in the mother. (Rawlings, Rawlings, & Read, 1995); Mafina-Mienandi et al. in 2002 (Mafina Mienandi-M.-C, Ganga-Zandzou P.-S, Makoumbou P, H Malonga, Ekoundzola J.-R, 2002) and (Moyambe et al., 2013) in 2013.

In terms of prenatal monitoring, as several authors (Tietche et al., 1998) ; (Ndiaye Diallo Ba & Diagne, 2001), found that the number of ANC below 3 is associated with low birth weight. For them, this phenomenon can be explained by the fact that the lack of monitoring of pregnancy does not allow to act on the medical causes of treatable low birth weight or to monitor the results of systematic preventive measures against malaria, the anemia or nutritional deficiencies.

As for the size of the mother less than 150 cm, it appeared significantly associated with the occurrence of low birth weight. Indeed, our results showed that women under 155 cm in size are at 5.6 times the risk of giving birth to a child of low birth weight than those over 150 cm. This result is consistent with those reported in the literature and grateful the small size of the pregnant as a factor for gestational age (Bakkali, Azzouzi, & Khadmaoui, 2014). the poor nutritional status with a MUAC < 24 c (OR = 3.08 95% CI 1.8 to 5.2 $p < 0.001$) and the presence of diseases during pregnancy especially malaria (OR = 3.6 95% CI 1.6 to 8.1 $p < 0.001$) and hypertension (OR = 1.7 95% CI 1.1 to 2.8 $p < 0.05$) were also selected as factors risk of SGA. our observation matches those recorded by other authors consulted (Ramakrishnan, 2004), (Chabra & Bhandari, 1996) and (Meda et al., 1995).

CONCLUSION

After this study, it was found that socioeconomic factors (maternal age below 18 years and above 35 years primiparity and multiparity, the unemployed and farmer, the fact of living alone); obstetric factors (the space between births, history of FPN and the low frequency of antenatal care) and clinical factors (size less than 150 cm, a MUAC less than 24 cm and pathologies during pregnancy) were significantly associated with low birth weight neonatal. L'SGA is a public health problem that reflects the level of monitoring of pregnancy and its prevention in the midst of study must take into account all the risk factors identified in this study

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