Prevalence of Low Birth Weight in Mbuji-Mayi City, Democratic Republic of Congo

**Kanyiki Katala Moise[1]*, Banza Ndala Deca Blood[1], Ciamala Mukendi Paul[2],
Mukendi Mukendi Jean Réne[2], Kanyeba Mulumba Odette[1], Kabulo Kasongo Benjamin[3],
Kabumba Kabumba François[4], Kabamba Nzaji Michel[5]**

[1]Higher Institute of Medical Techniques of Mbuji-Mayi, Community Health Section of Epidemiology Option, Mbuji-Mayi, Democratic Republic of Congo
[2]Higher Institute of Medical Techniques of Mbuji-Mayi, Nursing Section, Teaching and Administration Option in Nursing, Mbuji-Mayi, Democratic Republic of Congo
[3]Official University of Mbujimayi, Faculty of Medicine, Department of Pediatrics, Mbuji-Mayi, Democratic Republic of Congo
[4]Official University of Mbujimayi, Faculty of Medicine, Department of Surgery, Mbuji-Mayi, Democratic Republic of Congo
[5]Faculty of Medicine, Department of Public Health, University of Kamina, Kamina, Democratic Republic of Congo
Email: *kanyikikatala@gmail.com

Abstract

Low birth weight is a major public health problem, both in developed countries and developing countries, by its magnitude and its strong association with morbidity and mortality. The aim in this study was to determine the prevalence of low birth weight in Mbuji-Mayi. This is a descriptive study conducted in the city of Mbuji-Mayi in three health zones targeted by the study which DUILU, Dibindi and KANSELE among natal women and their newborns respectively registered for the period of one month, from 1 June to 30 June 2015. Data were collected in an integrated way. The following observations were made: in the study period, 1266 women were interviewed. After analysis: the prevalence of low weight was 14.3%; gestational age at birth superior to 36 SA represented 89.9% and 50.6% of newborns were female.

Subject Areas

Public Health

Keywords

1. Introduction

The low birth weight (LBW) is defined by the World Health Organization as a birth weight less than 2500 g at [1]. The United Nations Children's Fund esti-

mates that nearly 20 million children are born with low birth weight each year worldwide, about 15% of all live births. Over 95% of cases occur in developing countries [2].

It is a major public health problem, both in developed countries and developing countries, by its magnitude and its strong association with morbidity and mortality. The two main causes of underweight at birth are premature birth and intrauterine growth restriction (IUGR) or a combination of both [3].

In developing countries where malnutrition is common, about 80% of underweight are due to growth retardation intrauterine largely due to maternal malnutrition. In contrast, in industrialized countries, preterm birth is the leading cause of FPN. About two thirds of low birth weights are also premature [4].

The resulting complications are varied, ranging from metabolic disorders to neurological and sensory disorders, sometimes irreversible [5]. The risk of death is 20 times higher in infants of low weight than those whose weight is greater than 2500 g. The more the birth weight, the smaller the risk of death increases. These infants are a vulnerable group because the problems they pose are also linked to requirements inherent in their care. Low birth weight is a leading cause of neonatal mortality and morbidity [2].

Africa, despite the efforts, still ranks the second high rates of low birth weight. Incidence of low birth weight (LBW) is still above the standard set by the WHO which is less than 10%. Northern Africa seems the most affected, with 15.3% in 2000. West Africa, including in Senegal, a study conducted by WHO, revealed an 18% rate in 2000. In Central Africa studies by WHO showed an incidence of 14% in Gabon, 14% in the CAR in 2000, 17% for Chad in 1997 and Cameroon in 1998 11% [6].

In the Democratic Republic of Congo, in a study conducted in 2012 on the factors associated with low birth weight, this category of children represented 8.7% over the whole of the country [7]. The results obtained by Milobyo Maniema during the period 2003-2004 showed that the proportion of low birth weight is not altogether different from that of other developing countries and remains high at 27% and 16.4% in Kipaka Kama, both areas of Maniema province [8]. The results of the study conducted in semi-rural Kamina who were "risk factors for low birth weight" show that 69 cases of newborn LBW deliveries are recorded on 483 or 14.3% [9].

In the Kasai Oriental province in general and the city of Mbuji- Mayi in particular, our research community is not spared by this scourge. Because by simple observation, we cannot doubt the precarious state in which women live their pregnancy.

The present study aims to determine the prevalence of newborns of low birth weight received in maternity hospitals in the city of Mbuji-Mayi to contribute to achieving the objective No. 4 of the Millennium Development Goals, namely two-thirds reduction in mortality of children under 5 years between 1990 and 2015 [10].

2. Material and Methods

We conducted a descriptive study in three health areas of the Health District

Mbuji-Mayi represent the administrative entity of the city of Mbuji-Mayi (Diulu, KANSELE and Dibindi).

We used the semi-structured interview technical face to face. This study focuses on a sample of 1266 women surveyed during one month, from 1 June to 30 June 2015. The following variables were selected for this study: Birth weight, sex of child, gestational age, maternal age, maternal education, marital status, parity, gravidity and attendance of antenatal care.

Were included in this study, all the women who gave birth a newborn less than 4500 g weight during the period fixed and in health areas targeted by this study; being able to speak French or Ciluba, the language in which the surveys were conducted freely and accepting an enlightened way to participate in the study. As an exclusion criterion, any woman has given birth to a newborn macrosomic (greater than 4500 kg weight) and does not meet the criteria of inclusion.

The collected data were coded, entered, processed and analyzed using SPSS 20. Descriptive analysis was performed using the proportions calculations.

This study was approved by related ethics committee besides and mothers sign informed consent and have a whole understanding of this study. Our study had no binding character. Any information collected from mothers has been and will remain confidential. Similarly, the names of participants will remain confidential and will not be mentioned in the presentation of results or associated to results in any way whatsoever.

3. Results

It appears from this table that the majority of women in our study were older than 20 years is 75.6%; 22.1% of them were of the lower level of study and 77.9% a higher level of education. Note that 92.2% of women in our series were married and 78.0% were multigravidae and 23.5% of first pregnancies. In connection with the parity, 78.0% of mothers were multiparous and 22.0% of first-time. The majority of mothers in this study followed the prenatal consultation (Tables 1-4).

Table 1. Distribution by birth weight.

Weight newborn	Effective	Percentage
Low weight (lower to 2500 g)	183	14.5%
normal weight (2500 g and more)	1083	85.5%
Total	1266	100%

Table 1 shows that the prevalence of children born with low weight was 14.5%.

Table 2. Distribution of cases according to the child's sex.

Gender Newborn	Effective	Percentage
Male	625	49.4%
Female	641	50.6%
Total	1266	100%

The majority of infants in this study were female or 50.6% with a sex ratio is 0.97 M/F.

Table 3. Distribution of cases according to gestational age at birth.

Gestational age	Effective	Percentage
Lower 36 SA	132	10.4%
Greater than or equal to 36 weeks	1134	89.6%
Total	1266	100%

Gestational age at birth less than 36 weeks is 10.4% against 89.9% of children born at term.

Table 4. Breakdown of cases according to the characteristics of mothers.

Characteristics	Effective	Percentage
The age of mothers		
≤20 years	309	24.4%
>20 years	957	75.6%
Civil status		
married	1167	92.2%
unmarried	99	7.8%
Study level		
Low level	280	22.1%
A higher level	986	77.9%
Gravidity		
primigravidae	298	23.5%
multigravidae	968	76.5%
Parity		
primiparae	279	22.0%
Multiparous (greater than or equal to 2)	987	78.0%
Monitoring EIC		
Yes	975	77.0%
No	291	23.0%

4. Discussion

The high proportion of children underweight at birth in developing countries is seen as an indicator of nutritional status of pregnant women as very important determinant of infant mortality. So one of the objectives of the WHO is to reduce rate underweight children, less than 10% by the year 2000 [11]. The prevalence of low birth weight in our study was 14.5%. These results are higher than those found by Sandrine E. (2012) over the whole of DR Congo 8.7% [7]. This prevalence is similar to that of Bwana Kangulu, who found 14.3% [9]. This prevalence was much lower than Mugisho (2007) 18%, 27% and 16.4% to Kipaka Kama found by MILOBYO (2004) [8]. Although higher than the average of developed countries 7% but this rate is below the average of countries in development 16% [2].

The proportion of newborns of low weight described in our study was higher than the WHO standard (minus 10%). Several studies have shown the influence of maternal diet during pregnancy on the weight of newborns [12]. The high

frequencies in developing countries in this category of children in general and in particular the Eastern Kasai could be explained by the multiplicity of unrecovered risk factors in developed countries. A study of Kusín *et al.* published in the Lancet in 1992 went further and showed that in a community in which women of reproductive age suffer from chronic energy deficiency as Kasai Oriental, the correction of this deficiency not only causes an increase in weight birth but also influences the growth of these children later [13]. In developing countries where malnutrition is common, about 80% of underweight are due to intrauterine growth restriction largely due to maternal malnutrition [4].

The majority of the newborns of this study is female (50.6%). The sex ratio is 0.97 (Table 2). These results corroborate with those of Ntsama E. (2011) found in gynecology and obstetrics and pediatric hospital in Yaounde where he showed that the majority of children series were female, the sex ratio was 0.92 [14]. Lower than that found by Norotiana Rabesandratana, Madagascar 1.2 and 1.4 Aboussad CHU Marakech Morocco [15].

Gestational age at birth (Table 3) less than 36 SA is 10.4% against 89.9% of children born at term. From Table 4 that 24.4% of mothers are aged up to 20 years against 75.6% of mothers whose age ranges from 21 years to 35 years. These results are consistent with those of Demmouche. These results are consistent with those of Demmouche qui revealed in 2015 that 72.8% of mothers had an age between 20 and 34 years [16]. Among the 1,266 women surveyed, 280 (22.1%) of them have a lower level of education and 986 (77.9%) of them have a higher level of education. The majority of mothers (92.2%) in our series are married and only (7.8%) unmarried. Most women in this study are multigravidae 987 women (78.0%) and 23.5% of first pregnancies are. Compared to the parity, 78.0% of MESRES are multiparous and 22.0% of first-time. The majority of mothers in this study followed the prenatal consultation.

5. Conclusion

Low birth weight is a public health issue that deserves special attention. With the objective of determining the prevalence of low birth weight in the city, we presented the study led to the findings that the prevalence of low birth weight remains above the WHO standard (less than 10%). The prevalence of this child category was 14.5%. The majority of the newborns of this study is female (50.6%). The sex ratio was 0.9. Gestational age at birth less than 36 weeks of gestation is 10.4%; 24.4% of mothers aged less than or equal to 20 years; 22.1% had a lower level of study; 92.2% of mothers in our series are married. Most women in this study are multigravidae. 78.0% of mothers were multiparous. At any time another study proves significant to determine the factors that explain this high frequency in the city of Mbuji-Mayi low birth weight.

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