

# Socio Metric Characteristics and Neonatal Birth Weight among Women in Akoko South West Local Government Area of Ondo State

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**Abstract** The study investigated socio metric characteristics and neonatal birth weight among women in Akoko South west local Government area of Ondo State. This study made use of five randomly selected health facilities in Akoko south west Local Government Area engaging in delivery of babies. Consequently, a total of 250 women (patients) cards were sampled using simple randomly sampling technique, consisting of women that delivered babies between July 2017 and April 2018. The study was carried out using descriptive survey research design of ex-post facto. A questionnaire was used to obtain relevant information from the cards obtained. This study revealed that 25.2% of the respondents had low birth weight. The study revealed that age, parity and level of education have significant relationship with pattern of neonatal birth weight among women in Akoko south west. While maternal religion was not significant. Based on these, it is suggested that health education programs should also target towards creating awareness about proper age for marriage and conceiving Improvement in socio-economic indices, and better quality ANC services.

**Keywords** Maternal, Maternal Health, Neonatal, Mortality and Morbidity, Pregnancy and Body Mass Index (BMI)

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## 1. Introduction

Socio or social refers to relation with others or things in the society as metric deals with measurement of things, while neonatal simply refers to the period of time that immediately following birth especially one less than one month old. Health features have changes across women in child bearing age and are affecting both maternal and neonatal outcomes. Women are entering maternity with a higher body mass index (BMI) and age hence at a high initial body weight. On the other hand, obesity, a growing global health problem, is affecting a high percentage of young women with a negative impact on their own maternal health [1]. They further revealed that indicators showed respectively a prevalence of 4.5% and 53.7% of women having a pregnancy body mass index in the underweight and overweight categories respectively. Weight gain indicators during pregnancy are as a result of pre-pregnancy body mass index are and gestational weight gain (GWG). During the last decades, researchers study the influence of those parameters on the

development of maternal and neonatal complications such as gestational diabetes, pregnancy induced hypertension, caesarean and preterm delivery. The main contributors of this excess adiposity are the intake of high energy foods and sedentary lifestyles [2].

Pregestational body mass index and gestational weight gain had increased worldwide and women characteristic had changed regarding their weight gain [3]. Birth weight is the first weight of the foetus or infant obtain after birth and should be measured during the first hours of birth, before the appreciable postnatal loss of weight occurs. Also, the large proportion of home births creates huge gap in birth weight information. This widespread problem is a reflection of the lower socio-economic status of rural and sub urban women affecting their nutritional status. At both ends of the age spectrum, the relationship between age and adverse offspring outcome may be in opposite directions, with the association between having a baby as a teenager and adverse perinatal outcomes possibly being explained by low socio-economic position and the generally higher socio-economic position/pattern of older mothers concealing a biological effect of older maternal age or poor offspring outcomes [4]. [5] Stated that it has been well established that increased maternal education, income, and social status contribute to increase in birth weight as well as reduced risk for low or very low birth weight offspring.

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Published online at <http://journal.sapub.org/phr>

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It has been observed that maternal religion attendance is protective against low birth weight. In fact, each unit increases in the frequency of religion attendance reduces the odd of low birth weight. The religion attendance protect against negative birth outcomes like low birth weight and infant mortality [6]. A large and ever expanding body of research indicates that religious attendance tends to favor health and longevity within individuals [7, 8]. Previous research has identified several explanations that are at least theoretically viable [9]. Low birth weight is influenced by many socio-economic factors like habitat, urban and rural education birth order, substance abuse by mother, religion, age of mother, nutritional status of mother body mass index, hemoglobin level among others [10].

Maternal parity is a well-recognized predictor of infant birth weight, with the lowest birth weight observed among children born to multiparous women [11]. The society is over charged with this low birth weight among the women at different categories of age. This problem is due to different factors or reasons which unfortunately affect the foetus and the children at different states of their lives [12]. The prevalence of low birth weight in Nigeria has been put previously at 16%, 12% and 14% [13, 14]. Every single day, Nigeria loses about 2,520 under-five year olds. This may be associated with the incidence of low birth weight in the country, thus making the country the second largest contributor to under-five mortality in the whole world [15].

In view to correct these negative occurrences, there is need to find out the relationship between socio metric characteristics and neonatal birth weight among women, the need to generate such data is the problem of this study. Based on this background, the researchers wish to assess the socio metric characteristics and neonatal birth weight among women in Akoko South West Local Government Ondo State.

### Research Question

1. What is the pattern of neonatal birth weight among women in Akoko South West of Ondo State?
2. What is the relationship between Age, Religion, Parity and level of education of mother and pattern of neonatal birth weight among women in the study Area.

### Research Hypotheses

1. Age will not have any significant relationship with pattern of neonatal birth weight among women in Akoko South West.
2. Religion will not have any significant relationship with pattern of neonatal birth weight among women in Akoko South West.
3. Parity will not have any significant relationship with pattern of neonatal birth weight among women in Akoko South West.
4. Education will not have any significant relationship with pattern of neonatal birth weight among women in Akoko South West.

### Method of the study

Descriptive survey research design of ex-post facto type was adopted for the study. The population of the study comprised of all women who are in child bearing age in Akoko South West Local Government Area of Ondo State. The sample for this study comprises two hundred and fifty (250) women. Fifty (50) women cards were randomly selected from each of the five health facilities which were randomly selected from the population to participate in the study. The sample was drawn from July 2017 to April 2018 from the selected five health facilities. The research instrument for the study is questionnaire. The research instrument was given to two experts who made necessary suggestions to ensure the face and content validity, corrections were effected and the final copy was produced. The reliability of the instrument was assumed to be one. This is because the researcher generated the data from the medical record of the health facilities. This record is not expected to change over time. The questionnaire was personally administered by the researchers, data collected from the study was analyzed with SPSS using frequency count and percentages to answer the research questions while inferential statistics were used to test the hypotheses. Alpha was set at 0.05 level.

## 2. Result and Discussion

**Research question 1:** What is the pattern of neonatal birth weight among women in Akoko South West Local Government Area of Ondo State.

**Table 1.** Descriptive statistics on pattern of neonatal birth weight among women in Akoko South West Local Government Area of Ondo State

Weight	Frequency	Percent	Valid Percent	Cumulative Percent
1kg-1.5kg	6	2.4	2.4	2.4
1.6kg-2.0kg	57	22.8	22.8	25.2
2.1kg-2.5kg	78	31.2	31.2	56.4
<b>Valid</b>				
2.6kg-3.0kg	63	25.2	25.2	81.6
3.1kg-3.5kg	40	16.0	16.0	97.6
3.6kg-4.0kg	6	2.4	2.4	100.0
<b>Total</b>		<b>100.0</b>	<b>100.0</b>	

Table 1 revealed that 6 (2.4%) of the babies weight were between 1kg-1.5kg, (22.8%) of the babies weight were between 1.6 kg-2.0kg, 78 (31.2%) of the babies weight were between 2.1kg-2.5kg, 63 (25.2%) of the babies weight were between 2.6kg-3.0kg, 40 (16.0%) of the babies weight were between 3.1kg-3.5kg and 6 (2.4%) of the babies weight were between 3.6kg-4.0kg.

Research question two was answered through the following hypotheses.

**Hypothesis One:** Age will not have any significant relationship with pattern of neonatal birth weight among women in Akoko South West Local Government Area of Ondo State.

**Table 2.** Correlation analysis of the relationship between Age and Pattern of neonatal birth weight among women in Akoko South West

		Age	Weight
Age	Pearson Correlation	1	.444*
	Sig. (2-tailed)		.000
	N	250	250
Weight	Pearson Correlation	.444**	1
	Sig. (2-tailed)	.000	
	N	250	250

\*\* Correlation is significant at the 0.01 level (2 –tailed)

### Interpretation

Table 2 revealed a correlation value of (.444), which is significant (.000) at alpha level of 0.01, meaning that there is significant relation between age and pattern of neonatal birth weight among women in Akoko south west. Therefore, the hypothesis which states the age will not have any significant relationship with pattern of neonatal birth weight among women in Akoko south west is rejected.

**Hypothesis 2:** religion will not have any significant relationship with pattern of neonatal birth weight among women in Akoko south west.

**Table 3.** Correlation analysis of the relationship between religion and pattern of neonatal birth among women in Akoko south west

Variable		Religion	Weight
Religion	Pearson Correlation	1	.059
	Sig. (2 –tailed)		.355
	N	250	200
Weight	Pearson Correlation	.059	1
	Sig. (2 tailed)	.355	
	N	250	250

Table 3. Revealed a correlation value of (.059), which is not significant (.355) at alpha level of 0.05, meaning that there is no significant relationship between religion and pattern of neonatal birth weight among women in Akoko south west. Therefore, the hypothesis which states that religion has no significant relationship with pattern of neonatal birth weight among women in Akoko south west is retained.

**Hypothesis 3:** Parity will not have any significant relationship with pattern of neonatal birth weight among women in Akoko south west.

**Table 4.** Correlation analysis of the relationship between parity and pattern of neonatal birth weight among women in Akoko south west

Variable		Parity	Weight
Parity	Pearson Correlation	1	.415
	Sig. (2 –tailed)		.000
	N	200	200
Weight	Pearson Correlation	.415	1
	Sig. (2 tailed)	.000	
	N	250	250

Table 4 revealed a correlation value of (.415), which is significant (.000) at alpha level of 0.05, meaning that there is significant relation between parity and pattern of neonatal

birth weight among women in Akoko South West. Therefore, the hypothesis which states that parity has no significant relationship with pattern of neonatal birth weight among women in Akoko south West is rejected.

**Hypothesis 4:** Level of Education will not have any significant relationship with pattern of neonatal birth weight among women in Akoko South West.

**Table 5.** Correlation analysis of the relationship between level of education and pattern of neonatal birth weight among women in Akoko South West

Variable		Parity	Weight
Level of Education	Pearson Correlation	1	.181
	Sig. (2 –tailed)		.004
	N	200	200
Weight	Pearson Correlation	.181	1
	Sig. (2 tailed)	.004	
	N	250	250

Table 5 reveal a correction value of (.181), which is significant (0.004) at alpha level of 0.05, meaning that there is significant relationship between level of education and pattern of neonatal birth weight among women in Akoko South West. Therefore, the hypothesis which states that level of education has no significant relationship with pattern of neonatal birth weight among women in Akoko South West is rejected.

### Discussion of the Findings

The study on pattern of neonatal birth weight among women in the study area shows that 25.2% of the respondents have less than 2kg low birth weight. This agrees with (UNICEF 2011, 2017) which observed that prevalence of low birth weight in Nigeria has been put previously at 16%, 12% and 14%, thus making the country the second largest contributor to under-five mortality. This study was carried out in rural area hence the high prevalence of low birth weight. Further research covering rural and urban area may be needed to further confirm the position of UNICEF.

On age and neonatal birth weight it was revealed that age has significant relationship with pattern of neonatal birth weight among women in Akoko South West. This agrees with Chem et al (2007) who asserted that several studies have reported increased risks of low birth weight among offspring of adolescent mothers; that is women less than 20 years. More recently, the concern about adverse perinatal outcomes has also shifted towards older mothers as the number of births to women 35 years and older is increases.

On religion, finding revealed that there was no significant relationship with neonatal birth weight. This disagrees with the view of Burdette et al., (2012) who asserted that religion protect against negative birth outcomes like low birth weight and infant mortality. This difference might be as a result of other factors that were not revealed by the study under review.

This study revealed a significant relationship between parity and neonatal birth weight. The was in line with Shah (2010), who affirmed that there were few epidemiological

reason behind such association. Some differences observed in birth weight by parity may be partially due to selection bias in prior cross-sectional studies, as some nulliparous women do not go on to have other children.

Level of education was discovered to have significant relationship with neonatal birth weight. This agrees with Ericson *et al* (1993) who established that increased maternal education, income and social status contributes to increase in birth weight as well as reduced risk of low or very low birth weight offspring. Also he said that education brings about enlightenment thus, an eyes-opener for the women on how to have healthy babies as they adhere to medical advice during their antenatal period.

### 3. Conclusions

There is significant relationship between age, parity and level of education. While there was no significant relationship between religion and neonatal birth weight.

### 4. Recommendations

The following recommendations are made:

1. Health education programs should also target towards creating awareness about proper age for marriage and conceiving.
2. Height is an un-modifiable characteristic but mothers should be counseled regarding importance of adequate pre-pregnancy weight and weight gain during pregnancy through healthy eating habits.
3. Public health professionals and policy makers to implement strategies or intervention programs to reduce the prevalence of LBW in the future.
4. Improvement in socio-economic indices, and more and better quality ANC services.
5. Religious leaders should be educated on factors related to neonatal birth weight so that they can in return educate members of their assemblies.
6. Women education should be encouraged as this will enhance improvement of neonatal birth weight.

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