

Factors Effecting Low Birth Weight Neonatal Maternal Teaching Hospital in Al-Najaf City

Maysoon M. Mohsen, Prof, Shukria Shadhan Jeid

Maternity Health Nursing Department, Faculty of Nursing, University of Kufa.

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Abstract- Background: the birth weight of an infant is the single most important determinate of its chances of the survival, health growth and development.

Methodology: A descriptive and analytic study was conducted for the purpose of identifying the factors affecting the weight of newborn babies in Al-Najaf Al-Ashraf Health Directorate / Al- Zahra 'a Maternity and Pediatric Teaching Hospital from For the period of 3 January 2019 to 20 March 2019. A purposive sample of (100) women was selected from Al Zahra Maternity and Pediatric Teaching Hospital. Data collected through the interview of women. questionnaire format which was designed and classified into five parts: part(I) socio-demographic, part (II) reproductive characteristics, part (III) factors related to newborn, part (IV) Past history for women, part (V) psychosocial status.

Results: The result of the study revealed that the age of mother was ranged between (21-27) years, and the majority of women are from rural area and highest percentage of them were graduates of primary school and less, most of them were housewives with low socioeconomic status. The result also indicated that there were six important variables contribute to the occurrence of low birth weight and including age of mother, anemia, urinary tract infection, Number of Previous Preterm Labor, Gestational Age, psychological status.

Conclusion: Researcher concluded that maternal factors (personal, history disease, psychological and social factors) and fetus factors (sex, genatic) can effect the weight of babies.

Recommendations: According to these finding, it is recommended to emphasize on prenatal care as early as possible and improve health services presented to mothers during pregnancy that the nurse must take the role in reducing the incidence of LBW.

Index Terms- LBW, birth weight, mother, neonatal.

I. INTRODUCTION

Healthy newborn is the wealth of our country is one of the WHO slogans. We are going get a health baby when the mother is health; health of the newborn is closely related to mother health. Low birth weight (LBW) is one of the major problems within the developing world. The WHO characterizes LBW as birth weight less than 2,500g irrespective of the gestational age (Rajashree, *et al.* 2015) . Sixty percent of low birth weight infant are premature and 40% are with intrauterine growth retardation of which 35% are placental dysfunction and other 5% are anemia. Newborn infant can now be categorized as appropriate for

gestational age, small for gestational age and expansive for gestational age. about one third of low birth weight infant are small for gestational age while two third of them are appropriate for gestational age and preterm, but in developing countries 7% of low birth weight newborn are small for date (Alazzawi, 2011), Worldwide approximately half of the LBW are born in south central Asia, where 27% of all babies born weight is less than 2500grams at birth. The occurrence of LBW is twofold in beneath developed nations 16.5% as compared to developed nations 7% (Jehan, *et al.*, 2009) (4) In addition, the LBW rate are unequal among distinctive nations, depending upon numerous factors such as socioeconomic condition, poor nutrition, instruction level , and health condition of mother (Khan, *et al.*, 2015). The prevalence of LBW from 2005 to 2010, in same of these districts is India 28%, Bangladesh 22%, Ethiopia 20%, Niger 27%, Mauritania 34%, Nepal 21% and Pakistan 32% (WHO, 2011) Rate of LBW in Saudi Arabia (Riyadh) is (7.1%, 7.4% and 8.2%) and Syria (6.6%), and Iran (5.2%)). The prevalence of LBW in Eastern Mediterranean countries varies greatly with economic status of these countries. Very low rates are found in Bahrain, Cyprus, Kuwait, and Qatar and united Emirates, while very high rates prevail in Afghanistan, Djibouti and Somalia (Vahdanina, *et al.*, 2008) In Iraq, rate of LBW is (31%) in western Iraq (Al-anbar) is lower than that reported in eastern Iraq (Diyala) (51.8%) (8) and the center of Iraq (Baghdad) is (50%) (7) in 2005 and 2006, respectively (Al-diwan, *et al.*, 2006).

Newborn child low weight at birth is the result of numerous interrelated causes. The primary cause for the LBW infant is the preterm birth. Other determinates for the LBW are destitute maternal sustenance status, lack gestational weight gain, hereditary composition of mother, and short maternal stature due to mother's own childhood diet (Hain, *et al.*, 2012). Apart from the higher probability of neonatal mortality, LBW babies in afterward periods of life confront more dangers of destitute cognitive development, disabled insusceptibility, and chronic medical conditions and neurodegenerative diseases (Cerda, *et al.*, 2008) LBW children increased dangers of multiple problem throughout their lives. To avoid this birth deformity an expected mother can take important steps to diminish the chances of bringing a LBW infant. The most basic thing a mother can do is to have standard check-up and follow nutritional diet, as lack of micronutrients can cause serious problem in newborn child development and maternal health conditions. In addition, anticipating mother ought to dodge smoking, illicit drugs, other drugs and alcoholism, as they are another leading cause for LBW(Elmohandes, *et al.*, 2010) .

II. METHODOLOGY

A descriptive and analytic study was conducted for the purpose of identifying the factors affecting the weight of newborn babies in Al-Najaf Al-Ashraf Health Directorate / Al- Zahra 'a Maternity and Pediatric Teaching Hospital from For the period of 3 January 2019 to 20 March 2019. Non-probability A purposive sample of (100) women, at labour was selected and who attended for delivery at who have selected from Al Zahra Maternity and Pediatric Teaching Hospital. Data collected through the interview of women. questionnaire format which was designed and classified into five parts: part(I) socio-demographic, part (II)

reproductive characteristics, part (III) factors related to newborn, part (IV) Past history for women, part (V) psychosocial status.

III. THE STATISTICAL ANALYSIS

The data of the (100) participant were entered and analyzed by means of the statistical package for social sciences (SPSS), v. 19. percentages, means, frequencies and standard deviation were obtained by descriptive statistics.

IV. RESULTS

Table (1) distribution of study sample by their demographic data

Variables	Items	Study group Total = 100	
		Frequency	Percentage
Age / Years	14-20	30	30.0
	21-27	32	32.0
	28-34	29	29.0
	35-41	9	9.0
Family Income	Sufficient	29	29.0
	Barely Sufficient	32	32.0
	Insufficient	39	39.0
Residency	Urban	42	42.0
	Rural	58	58.0
Family Type	Nuclear	40	40.0
	Extended	60	60.0
Consanguinity	Related to family	35	35.0
	No related to family	65	65.0
Smoking	Active	20	20.0
	Passive	80	80.0
Levels of Education	illiterate	13	13
	Read and write	19	19
	Primary	38	38
	Secondary	12	12
	Institute and above	18	18
BMI	Underweight	3	3.0
	Normal Weight	21	21.0
	Overweight	43	43.0
	Obese = 30 or greater	33	33.0
Physical Activity	< 2 hours	69	69.0
	> 2 hours	31	31.0
Occupational Status	House wife	79	79.0
	Employee	21	21.0

Table (1) show a statistical distribution of study sample by their socio-demographic data, it explains that the highest percentage of the women sample ages between (21-27) years old (32%), those who live rural residents (58%), those with extended family type (60%), those whose husbands are not relatives (65%), Those are primary school graduate (38%), those whose monthly income is barely sufficient (39%), and those who are housewives (79%).

Table (2) : Correlation between low birth weight and women's reproductive data

Data	Chi Square	P value	Significance
Age at Marriage / Years	15.52	0.004	HS
Gravidity	52.35	0.000	HS
Delivery	11.64	0.003	HS
Abortion	38.76	0.000	HS
Number of Previous Preterm Labor	19.56	0.001	HS
Number of Previous LBW	19.56	0.001	HS
Previous Infertility	26.14	0.000	HS

NS : Non-significant ; HS : High Significant p<0.01

Table (3) : Contributing factors of women for low birth weight

Data	Correlation Coefficient	P value	Significance
Age mothers/ Years	0.74	0.004	HS
Number of Previous LBW	0.72	0.001	HS
Gestational Age / Weeks	0.74	0.003	HS
UTI	0.56	0.04	HS
Anemia	0.64	0.03	HS
Psychosocial status	0.67	0.02	HS

NS : Non-significant ; S : Significant p<0.05 ; HS : High Significant p<0.01

Table (6), show contributing factors of women for low birth weight, it shows that the main contributing factors of women for low birth weight are : age mother, number of previous LBW ; gestational age / weeks ; anemia ; UTI ; Psychosocial status .

V. DISCUSSION

The results of the present study show that the high percentage of participant is at age sample of (21-27) years. that the majority of the study subject's age were between (18-34) years old. This study documented that women at the reproductive ages of 18 years or less and 35 years and over were more prone to deliver LBW babies. Mothers less than 18-years-old are prone to have physical and emotional maturity issues which may contribute to their elevated incidence of LBW infants, As fore residency, the present study 58% living in rural residential area. the risk of effect of living in rural area in producing LBW and IUGR babies, the women there were more liable to have maternal malnutrition, inadequate medical services inadequate antenatal care for adolescent pregnancy, and more parity with less spacing. In addition to the presence of diseases which are higher in rural area such as malaria. This result matches with the result of (Dandekar, et al., 2014). In addition, the level of education, the present study indicates 38 %f primary school. These results are in agreement with (Karamzad *et al.*, 2016)This result of the study which emphasized the level of education and this positive effect on of the knowledge of the mother. Concerning the monthly income, the 39%of study is barely sufficient. This result agrees with (Bililign,*et. al.*, 2018) in their study who mentioned that the majority of study is barely sufficient. Regarding passive smoking, the majority80% of study are exposed to passive smoking .This result agrees with (Yawer and Swidan, 2015) they reported that

high percentage of are passive smokers, that active and passive smoking are linked clearly with LBW and prematurity. In addition, smokers have effect of LBW due to potential decrease maternal nutrition (smoking affects the mother appetite) .Concerning the body mass index, the 43% of study is overweight. This result agrees with (Al Bayati and Mahmood, 2018) who mentioned that the majority of study are overweight, the weight is gained in the later stage of the pregnancy. Mothers weights during pregnancy were calculated and it was found that overweight and obese mothers were at higher risk of having LBW baby's as compared to the underweight and normal mothers. Tables (2) the reveals that there is high significant association between low birth weight and reproductive characteristics of study sample in relating (age at marriage, gravidity, parity, still birth, abortion, previous preterm labor, previous infertility, LBW). This result agrees with (Gogoi, 2018) they mentioned in their study that, there is a relationship between low birth weight and reproductive characteristics. The present study reveals that there is high significant association between low birth weight and past history of study sample in related to (DM, hypertension, renal disease, anemia, placenta previa, abruption placenta, premature rupture of membranes, hyperemesis gravidarum, oligohydramnios and UTI). The results of the present study are supported by other studies that indicated significant association between past history and low birth weight (Al-Hiali, *et al.* 2010); (Khan, *et al.*, (2014) . Concerning to psychological status, association between psychological status (daily stressor and anxiety) and low birth weight which agrees with (Bililign, *et al.*, 2018); (Jassim, 2009) who reported that women who lived in stressed situations such as death in the family, divorce during pregnancy, loss of a job and financial difficulties had a significantly increased risk of having a low birth weight. (Isiugo-Abanihe and Oke, 2011) reported that

the low income women who suffered from high levels of stress and anxiety throughout their pregnancies were more likely to deliver prematurity and their babies were more likely to be born with low birth weight even when born full term.

VI. CONCLUSION

According to the study finding and discussion, the study concluded the most LBW women are from rural residential areas and other factors effect on the low birth weight including maternal factors (personal, biological, nutritional, history of disease, psychological and social factors, anemia, UTI, gestational age), fetus factors (sex of baby, genetic factors) and placental, uterus factors can effect the weight of the babies.

VII. RECOMMENDATIONS

According to these findings, it is recommended to emphasize on prenatal care as early as possible and improve health services presented to mothers during pregnancy that the nurse must take the role in reducing the incidence of LBW and the further studies should be done to find the national prevalence of LBW among Iraq women through accurate registration.

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AUTHORS

First Author – Maysoun M. Mohsen, Maternity Health Nursing Department, Faculty of Nursing, University of Kufa.

Second Author – Prof, Shukria Shadhan Jeid, Maternity Health Nursing Department, Faculty of Nursing, University of Kufa.