Research Article
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Maternal socio-demographic and obstetric determinants for low birth weight in maternity hospitals in Asmara, Eritrea: a cross-sectional study

Abstract

Background: Birth weight of the neonate is a good proxy indicator of the newborn's chances for survival, growth, health and psychosocial development. This study is aimed at determining the maternal socio-demographic and obstetrical factors for low birth weight (LBW) and its prevalence.

Methods: A cross-sectional analytical study was employed using questionnaires and birth weight measurement of the neonate on 806 mother-neonate pairs.

Results: The prevalence rate of low birth weight at the selected hospitals at the study period was 9.1% (95% CI = 7.1% - 11.0%). LBW was associated with marital status, sex of the neonate, partner employment status, socio-economic position of the household, number of ANC visits, gravidity, utilization of modern Family Planning (FP) methods and illnesses during current pregnancy.

Conclusion: This study identified various socio-economic, demographic, obstetric and health service utilization factors. It is therefore recommended that multifaceted and coordinated measures to address these issues are required to reduce LBW to its lowest level.

Keywords: maternal socio-demographic risk factors, obstetric risk factors, low birth weight, asmara, Eritrea

Volume 11 Issue 3 - 2022

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Received: October 25, 2022 | **Published:** November 03, 2022

Abbreviations: ANC, antenatal care; AOR, adjusted odds ratios; CI, confidence interval; COR, crude Odds ratios; DHS, demographic and health surveys; EIT, eritrea institute of technology; EPHS, Eritrean population and health survey; FP, family planning; IUGR, intra-uterine growth restriction; LBW, low birth weight; LMP, last menstrual period; NBW, normal birth weight; NSO, National statistics office; PCA, principal component analysis; SD, standard deviation; SPSS, statistical package for social sciences; UNICEF, United Nations children's fund; WHO, World Health Organization

Introduction

Low birth weight (LBW) has been defined by the World Health Organization (WHO) as weight at birth of less than 2,500 grams.[1] Infants weighing less than 2,500 g are approximately 20 times more likely to die than heavier babies.[2] LBW mainly results from preterm birth (before 37 weeks gestation) or due to Intra-Uterine Growth Restriction (IUGR) or both.[3] Neurodevelopmental handicaps, congenital anomalies and susceptibility to infections are some of the consequences of LBW which may place substantial stress on the family.[4,5]

More than 20 million infants worldwide are born with LBW, 95.6% of them in developing countries. LBW levels in sub-Saharan Africa and Eastern Africa are around 15% and 13.5%, respectively. Among the more developed regions, North America averages 8 per cent, while Europe has the lowest regional average at 6 per cent.[6]

In Eritrea almost 90% of women attended antenatal care service for the most recent birth, while the rate of assisted delivery at health facility remains at 34 percent.[7] In addition, the annual Ministry of Health of Eritrea report for 2015 indicates that the overall health facility based LBW was 7.6%.[8] Moreover, the three Demographic and Health Surveys (DHS) conducted by National Statistics Office (NSO) in the years 1995, 2002 and 2010 revealed that the prevalence of LBW in Eritrea declined from 21 percent to 7 percent.[7,9,10] However, a report released by United Nations Children's Fund (UNICEF) puts the LBW for Eritrea for the years 2008 – 2012 as 14 percent.[11]

In Eritrea, apart from periodic reports released by MOH and DHS, the issue of birth weight and its determinants has not received much needed attention. In addition, the current changes in factors and the pathways through which they affect LBW in Eritrea are not completely understood. Therefore, this study is planning to include those maternal factors and aimed to fill the gaps in the earlier research in Eritrea.

Material and methods

Study design

Health facility based cross-sectional analytic quantitative study design was used to describe and analyze the maternal determinants and prevalence of LBW in Asmara, capital city of Eritrea.

Study area

This study was conducted in four maternity hospitals in Asmara; namely, Orotta National Maternity Referral Hospital, Edaga Hamus maternal and child health hospital, Biet Mekea community hospital and Sembel public-private hospital. These hospitals give services 7 days a week and 24 hours a day, with annual number of reported deliveries for the year 2016 at around 11,500.

Study population and study unit

The study population comprised pairs of mothers and their neonates who attended the maternity care services at hospitals in Asmara. The study units were mothers and their respective newborns available during the data collection period at the selected study sites.

Inclusion and exclusion criteria

All mothers that gave birth in the maternity hospitals in Asmara and their neonates were included, while mothers with unknown last menstrual period (LMP) were excluded from this study.

Sample size determination and allocation

According to Vittinghoff and McCulloch as cited by Ronán M Conroy,[12] based on their recent simulation studies on sample size determination , in the study of multivariable logistic regression analysis, at least 5 events per predictor variable was recommended. Therefore, the maximum number of predictor variables considered in this study were 14 and consequently 73 low births were included, which were achieved from a total of 806 deliveries.

Sample selection

All those who fulfilled the inclusion criteria were included in the sample until the required sample size is achieved. A total of 1726 deliveries were conducted during the study period, of which 806 (46.7%) were included in the sample taking the consecutive births within one hour after delivery.

Data collection techniques and tools

A questionnaire that comprises demographic information of the mother and her spouse; household assets and characteristics; obstetric and maternal health data; were used. Antenatal card and hospital delivery records were also reviewed. Birth weight of the neonates were taken using standard procedures.

Training of data collectors, supervisors and Pretesting

Six experienced nurse-midwives from the selected health facilities and two reproductive health and public health professionals from the colleges of health sciences and medicine were selected as data collectors and supervisors, respectively. A three day training and pretesting sessions were conducted on the methods of data collection, orientation on the proposed questionnaire, interview techniques and recording of anthropometric measurements. Moreover the data collection tools were tested on five percent of the sample size on two different health facilities that provide similar health services; and based on the findings of the pretest necessary modifications were made on the data collection tools.

Data collection

The data collection was conducted from November 15, 2017 to January 31, 2018 on the selected health facilities by the trained data collectors and supervisors.

Study variables

The data collection tool was designed to have three parts that include demographic characteristics (address, age, religion, ethnicity, marital status, etc...); obstetric and health characteristics (gravidity, parity, illnesses during pregnancy, previous birth weight and size of the neonate, etc...); and neonatal birth weight measurements.

Data processing and analysis

After data was edited, it was entered on SPSS version 20 for cleaning after which it was exported to STATA version 12 for data analysis. Descriptive analysis was utilized using frequencies, proportions, and means. Bivariate logistic regression method was applied to test the presence and strength of association between the explanatory variables and outcome variables, after which a multivariable logistic regression method was implemented.

In addition, Principal Component Analysis (PCA) was employed to determine the socio-economic position of the study subjects using the house hold wealth index as a proxy. Initially 18 variables related to availability of durable household assets, housing characteristics and type of fuel used for household cooking purposes were collected. These variables were standardized using means and standard deviations extracted from a nationally representative data from EPHS 2010. Finally, these values were multiplied by the factor weight calculated from EPHS 2010 and added together to form the socio-economic position of the household which were categorized into three levels.

Results

Socio-demographic characteristics of the study participants

All the proposed number of woman and neonate pairs were included in the study. The prevalence rate for low birth weight neonates in the selected health facilities during the study period was 9.1 % (95% CI = 7.1% - 11.0%). The mean birth weight (in grams) for the Normal Birth Weight (NBW), LBW and overall was 3240.6(Standard Deviation (SD) = 421.7), 2169.4(SD = 279.9) and 3143.6 (SD = 513.1), respectively (Table 1).

Table 1 Socio-demographic distribution of the study participants by birth weight status, Asmara maternity hospitals, 2018

Variables	NBW		LBW		Total	
	n	%	n	%	n	%
Age group in years						
< 20	29	80.6	7	19.4	36	4.5
20 – 35	634	91.1	62	8.9	696	86.4
> 35	70	94.6	4	5.4	74	9.2
Address(Zoba)						
Maekel	714	91.1	70	8.9	784	97.3
Debub	12	85.7	2	14.3	14	1.7
Anseba	3	100	0	0	3	0.4
Debubawi Keih Bahri	1	50	1	50	2	0.3
Gash Barka	3	100	0	0	3	0.4
Marital Status						
Married	691	91.9	61	8.1	752	93.3
Single	42	77.8	12	22.2	54	6.7
Sex of the neonate						
Male	386	93.5	27	6.5	413	51.2
Female	347	88.3	46	11.7	393	48.8
Maternal level of education						
Junior and below	229	89.8	26	10.2	225	31.6
Secondary and above	504	91.5	47	8.5	551	68.4
Paternal level of education						
Junior and below	153	87.4	22	12.6	175	21.7
Secondary and above	580	91.9	51	8.1	631	78.3
Maternal Employment						
Housewife	580	91.8	52	8.2	632	78.4
Employed	95	87.2	14	12.8	109	13.5
Self-employed	27	90	3	10	30	3.7
Unemployed	31	88.6	4	11.4	35	4.3
Paternal Employment						
Employed	661	91.2	64	8.8	725	90
Unemployed	34	81	8	19.1	42	5.2
Others	38	91.4	1	2.6	39	4.8

Citation: Andemariam Z, Karuppusamy S, Ghebreyohannes G, et al. Maternal socio-demographic and obstetric determinants for low birth weight in maternity hospitals in Asmara, Eritrea: a cross-sectional study. *MOJ Public Health.* 2022;11(3):199–205. DOI: 10.15406/mojph.2022.11.00400

Table Continued...

Variables	NBW		LBW		Total	
	n	%	n	%	n	%
Religion						
Orthodox	607	91	60	9	667	82.8
Muslim	23	95.8	1	4.2	24	3
Catholic	17	94.4	1	5.6	18	2.2
Protestant	86	88.7	11	11.3	97	12
Ethnicity						
Tigrigna	691	91	68	9	759	94.2
Tigre	22	84.6	4	15.4	26	3.2
Saho	16	94.1	1	5.9	17	2.1
Afar	4	100	0	0	4	0.5
Socio-economic position (SEP)						
Lower	226	86.9	34	13.1	260	32.3
Middle	248	91.5	23	8.5	271	33.6
Upper	259	94.2	16	5.8	275	34.1
Total	**733**	**90.9**	**73**	**9.1**	**806**	**100**

Majority of the study participants (86.4%) were in the age range of 20 – 35 years, whereas the lowest percentage fall in the age category of less than 20 years (4.5%).Almost all (97.3%) of the study participants came from zoba Maekel, while the rest 2.7% came from all other regions of the country except Semenawi Keih Bahri. Around 93% of the mothers were married. The proportion of male neonates was almost equal to that of the females (51% vs. 49 %).

Sixty eight percent of the mothers and 78.3% of their partners completed high school level and above, whereas 31.6% and 21.7% of the mothers and their partners had junior or below level of education, respectively. Almost three fourth (78.4%) of the mothers were house wives, while 90% of their partners were employed.

Eighty-two percent of the study subjects practice Orthodox religion followed by Protestants (12%), Muslims (3.0%) and Catholics (2.2%). It was also shown that around 94% of the mothers were from the Tigrigna ethnic group. In addition, to determine the socio-economic position of the respondents, analysis was done that categorized them into three levels (Table 1).

Risk factors for low birth weight

To determine the association between the independent variables and the dependent variable, birth weight status, binary logistic regression was performed and Odds Ratios along with 95% confidence interval was calculated. All associations were considered to be statistically significant at $p < 0.05$.

Socio-demographic risk factors for low birth weight

As it is shown in Table 2, out of the socio-demographic variables included initially, 8 were selected for bivariate logistic regression analyses; among these variables 4 showed statistically significant association with the dependent variable, namely: maternal age, marital status, paternal employment status and socio-economic position ($p < 0.05$). The other three variables: maternal education, paternal education and maternal employment were not significantly associated with the LBW ($p > 0.05$).

Table 2 Socio-demographic factors associated with LBW using bivariate and multivariable logistic regression analysis, Asmara maternity hospitals, 2018

Variables	NBW	LBW	Total	COR	P	AOR	P
	n (%)	n (%)	n (%)	(95% CI)	Value	(95% CI)	Value
Maternal age in years							
< 20	29(80.6)	7(19.4)	36(4.5)	Ref.		Ref	Ref
20 - 35	634(91.1)	62(8.9)	696 (86.4)	0.41(0.17 – 0.96)	0.041	0.52(0.21- 1.3)	0.159
> 35	70(94.6)	4(5.4)	74 (9.2)	0.24(0.06 – 0.87)	0.03	0.30(0.08-1.2)	0.081
Marital status							
Married	691(91.9)	61(8.1)	752(93.3)	Ref.		Ref	
Single	42 (77.8)	12 (22.2)	54 (6.7)	3.2(1.6-6.5)	0.001	2.2(1.1-4.6)	0.036
Sex of the neonate							
Male	386(93.5)	27(6.5)	413(51.2)	0.53(0.32- 0.87)	0.012	0.51(0.31-0.85)	0.01
Female	347(88.3)	46(11.7)	393(48.8)	Ref.		Ref	
Maternal Education							
Junior and below	229(89.8)	26(10.2)	255(31.6)	1.2(0.74- 2.0)	0.44	-	-
Secondary and above	504(91.5)	47(8.5)	551(68.4)	Ref.		-	-
Paternal Education							
Junior and below	153(87.4)	22(12.6)	175(21.7)	1.6(0.96 - 2.8)	0.069		
Secondary and above	580(91.9)	51(8.1)	631(78.3)	Ref.			- -
Maternal employment							
House wife	580(91.8)	52(8.2)	632(78.4)	Ref.		-	-
Employed	95(87.2)	14(12.8)	109(13.5)	1.6(0.88 - 3.1)	0.121	-	-
self-employed	27(90.0)	3(10.0)	30(3.7)	1.2(0.36 – 4.2)	0.732	-	-
unemployed	31(88.6)	4(11.4)	35(4.3)	1.4(0.49 – 4.2)	0.508	-	-
Paternal employment							
employed	661 (91.2)	64(8.8)	725(90.0)	0.41(0.18-0.93)	0.032	0.40(0.17-0.92)	0.03
unemployed	34(81.0)	8(19.0)	42(5.2)	Ref.		Ref	
Others	38(97.4)	1(2.6)	39(4.8)	0.11 (0.01-0.94))	0.044	0.13(0.02-1.1)	0.064
Socio-economic Position							
Lower	226(86.9)	34(13.1)	260(32.3)	2.4(1.3-4.5)	0.005	1.9(1.0-3.7)	0.045

Citation: Andemariam Z, Karuppusamy S, Ghebreyohannes G, et al. Maternal socio-demographic and obstetric determinants for low birth weight in maternity hospitals in Asmara, Eritrea: a cross-sectional study. *MOJ Public Health.* 2022;11(3):199–205. DOI: 10.15406/mojph.2022.11.00400

Table Continued...

Variables	NBW	LBW	Total	COR	P	AOR	P
	n (%)	n (%)	n (%)	(95% CI)	Value	(95% CI)	Value
Middle	248(91.5)	23(8.5)	271(33.6)	1.5(0.77-2.9)	0.229	1.3(0.66-2.6)	0.454
Higher	259(94.2)	16(5.8)	275(34.1)	Ref.		Ref	-
Total	**733(90.9)**	**73(9.1)**	**806(100.0)**				

Single mothers were found to be almost 2 times at risk of delivering LBW neonates as compared to married mothers (AOR= 2.2; 95% CI= 1.1-4.6 ; p = 0.036). Similarly, male neonates were 49 % less likely to be LBW as compared to their female counterparts (AOR= 0.51; 95%= 0.31-0.85; p = 0.010).Neonates born from mothers whose partners were employed were 60% less likely be LBW in comparison to the neonates born from mothers whose husbands were unemployed (AOR = 0.40; 95% CI= 0.17-0.92; p = 0.030).The odds of delivering a LBW neonate was twice as likely for a mother with lower socio-economic status than a mother at higher socio-economic status (AOR= 1.9; 95% CI= 1.0-3.7; p = 0.045).

Obstetric risk factors for low birth weight

As indicated in Table 3, the odds of delivering LBW neonate was twice for mothers attended ANC clinic less than 4 visits as compared to those who visited more than or equal to 4 visits (AOR= 2.0; 95% CI= 1.2 – 3.5 ; p = 0.009).Primigravida mothers were observed to have almost two and one half times more risk of delivering LBW than do multigravida mothers, keeping all other variables constant (AOR= 2.6; 95% CI= 1.6 - 4.4; p = 0.0001).Mothers who were not used to take modern FP methods prior to their current pregnancy were having almost five fold risk of delivering LBW neonates than those who took modern FP methods (AOR= 4.8; 95% CI= 1.7-13.6; p = 0.003). Mothers with history of illnesses during their current pregnancy were prone to deliver LBW neonates slightly higher than 2 times relative to their counterparts who did not experience such a problem (AOR= 2.3; 95 CI% = 1.3-4.2; p = 0.005).Though statistically significant on bivariate analysis, to avoid reduction in final sample size, birth weight of the previous neonate was not included in the multivariable logistic regression analysis as it was not relevant for primigravida women.

Table 3 Distribution of obstetric and maternal health factors and their association with LBW, Asmara maternity hospitals, 2018

Variables	NBW	LBW	Total	COR	P Value	AOR	P Value
	n (%)	n (%)	n (%)	(95% CI)		(95% CI)	
Booked for ANC							
Yes	727(91.1)	71(8.9)	798(99.0)	Ref.	-	-	-
No	6(75.0)	2(25.0)	8(1.0)	3.4 (0.68 - 17.2)	0.137	-	-
Number of ANC Visits							
< 4	164(86.8)	25(13.2)	189(23.4)	1.8 (1.1- 3.0)	0.024	2.0 (1.2-3.5)	0.009
≥ 4	569(92.2)	48(7.8)	617(76.6)	Ref.	-	Ref.	
Gravida							
Primigravida	179(83.3)	36(16.7)	215(26.7)	3.0 (1.9- 4.9)	0.0001	2.6 (1.6-4.4)	0.0001
Multigravida	554(93.7)	37(6.3)	591(73.3)	Ref.		Ref.	-
Birth weight of the previous Child							
< 2500 grams	25(71.4)	10(28.6)	35(6.7)	7.4 (3.2-17.2)	0.0001	-	-
≥ 2500 grams	465(94.6)	25(5.1)	490 (93.3)	Ref.	-	-	-
Taken modern FP methods							
Yes	186(97.9)	4(2.0)	190(23.6)	Ref.		Ref.	
No	547(88.8)	69(11.2)	616(76.4)	5.9 (2.1 - 16.3)	0.001	4.8 (1.7-13.6)	0.003
Illnesses during pregnancy							
Yes	97(84.3)	18(15.7)	115(14.3)	2.1 (1.2-3.8)	0.009	2.3 (1.3-4.2)	0.005
No	636(92.0)	55(8.0)	691(85.7)	Ref.	-	Ref.	-
Total	**733(90.9)**	**73(9.1)**	**806(100.0)**				

Discussion

This study was conducted from November 16, 2017 up to January 31, 2018 at four maternity service delivering hospitals in Asmara. The prevalence rate of LBW at these health facilities, at the time of study, was 9.1 % (95% CI = 7.1% - 11.0%), which was lower than what was estimated by UNICEF for Eritrea[11] and by other studies estimated for some African, Asian and European countries;[13–22] but higher than the estimated prevalence revealed by EPHS 2010[7] for Eritrea, and UNICEF for developed and industrialized countries.[11]

Though the prevalence of LBW on this study was observed to be higher as compared to what was reported in EPHS 2010, Eritrea, taking into consideration that more high-risk delivering women attending the hospital might have overestimated the result. The difference in prevalence compared to other countries could be explained by differences in the sample size, study type, socio-economic development, health service delivery and other risk factors.

Consistent with the previous studies conducted in Nigeria,[15] Kenya,[23] Ethiopia[17,24] and Algeria,[25] controlling for the other variables, mothers who delivered male neonates were 46% less likely to deliver LBW as compared to mothers who delivered female neonates; but in contrast to what was revealed in Gambia.[26].The biological mechanisms by which the sex of the fetus influences pregnancy outcomes are not clear.

It was revealed, in this study, that single mothers were 2.8 times more likely to deliver LBW than their married counterparts. A study conducted in Northern Tanzania[16] and Gondar,[27] arrived at the same

result. This finding was also discussed by, Bernabe et al.,[4] that marital status is interrelated with other factors such as socio-economic level, age, culture and race. It can also be argued that single mothers might lack the support that could have been rendered by their partners during their pregnancy period which might have contributed to an increased rate of LBW.

In this study, it was revealed that mothers whose partners were employed and categorized under others were 67% and 88% less likely to deliver LBW, respectively, than their unemployed counterparts. This finding was supported in study conducted by Fikree and Berenades;[28] but no statistically significant association was revealed in studies done by Demelash et al.,[29] Sharma et al.,[30] and Bener et al.,[31] It is well recognized that mothers whose partners were employed have more economic power that enables them to purchase the basic necessities they need during their pregnancy.

Mothers who stood at lower socio-economic position were almost 2 times at risk of delivering LBW as compared to their counterparts at the upper socio-economic position. A study that utilized the same method of classification, conducted in Ghana,[32] produces similar result in a univariate analysis. In addition, numerous other studies[25,33–36] used different methods in determining the socio-economic level of their subjects; but their findings were in line with this study. However, the findings revealed by Bhaskar et al.,[37] was in contrast with this study. The lower socio-economic position of the subjects might have influenced the outcome of their delivery negatively by possibly depriving them attendance to maternal health services and minimizing their purchasing power for essential food items which might have resulted in nutritional deficiency that in turn could influence birth weight negatively.

Mothers who attended ANC clinic less than four times during their current pregnancy were found to have 87% higher risk to deliver LBW neonates than their counterparts who attended four or more times. Similar results were also found in a study conducted in Brazil,[38] Nepal[37] and Ethiopia.[27] The effect of frequency of ANC visit on LBW can be explained by the fact that mothers who attended the health facility more frequently might have been diagnosed early for pregnancy related health problems, and consequently received timely and appropriate medical management, nutritional counselling and other health promotional interventions that could have a positive impact on birth weight.

In agreement to what have been revealed in previous studies,[17,38] the odds for a primigravida woman to deliver a LBW neonate was 2.5 times than a multigravida woman. This can be explained that, as discussed by Bernabe et al.,[4] first pregnancy can be considered as an event where the uterine structures mature and resulted in more negative birth outcomes one of which is LBW. But subsequent pregnancies will end up in normal birth weight, except for pregnancies greater than four.

Access to modern family planning methods could have positive effect on the feto-maternal wellbeing by increasing the inter-pregnancy interval. Unlike other study.[18] mothers who ever used modern birth spacing methods prior to current pregnancy were 73% less likely to have LBW as compared to non-users. It is generally recognized fact that as the inter-pregnancy interval shortens; it results in inadequate replenishment of maternal nutrient stores and lead to reduced fetal growth.

Previous studies conducted demonstrated an association between maternal illnesses during pregnancy and LBW.[18,39–41] In our study, mothers who had experienced maternal illnesses were 2.5 times prone to have LBW neonates as compared to those who were not ill. Taking into consideration that ANC coverage was very high, these health problems might have been left undiagnosed or lately diagnosed and resulted to affect birth weight of neonates negatively.

In agreement with previous studies,[40] previous birth weight of the neonate was significantly related with LBW in bivariate analyses; but were not entered into further multivariable analyses to avoid reduction of the final sample size. Medical or non-medical factors responsible for LBW births in a previous pregnancy may operate during subsequent pregnancies, leading to an increased risk.

This hospital based study was conducted with a relatively larger sample size. In addition, the data collectors and supervisors were experienced and research oriented nurses and nurse midwives from the selected health facilities which could be considered as a strength of this study.

However, there were some limitations in the study. First; this study, being a health facility based, women who delivered at the hospitals might have some dissimilar characteristics with those who delivered at home, and hence bias might have been introduced. Second; three of the selected hospitals were national and regional referral hospitals, and women who came to these hospitals for delivery might have been with some complications which might have overestimated the LBW. Third; some of the variables that need to be recalled by the mother might have occurred sometime ago; and certain data that have been extracted from patient clinical and admission cards could be source of bias. Fourth; since the data was collected at a point of time in a year, bias could be introduced as a result of seasonal variations in LBW.

Despite its limitations, this study made a significant contribution in the determination of the prevalence of LBW and its associated scoio-demographic and obstetric factors in the selected maternity hospitals in Asmara.

Conclusion

This hospital based-study revealed that the prevalence of LBW in the selected hospitals was well below what was reported by UNICEF and numerous studies for sub-Saharan African countries; but it was higher than the developed countries. However, the prevalence of 9.1 % poses a threat to the immediate and future wellbeing of the neonates.

Nine variables were found to be independently associated with LBW at the final models; these were: marital status, sex of the neonate, paternal employment status, socio-economic position of the mother, number of the ANC visits, gravidity, utilization of modern FP methods, illnesses during current pregnancy. Except sex of the neonate, which is non-modifiable biological factor, all other variables could be considered as related to health service utilization and socio-demographic factors which are modifiable that could be altered through short, medium and long term health, educational and socio-economic interventions.

It is therefore recommended that multifaceted and coordinated measures to address these issues are required to reduce LBW to its lowest level. Health care professional should screen pregnant mothers for risk of LBW and provide appropriate health care service through preventive, promotive and curative health services. Extensive community and facility based studies on the determinats of LBW should be conducted to have an in-depth insight of the prevalence and associated factors of LBW.

Acknowledgments

We would like to thank Research and Planning Department of Ministry of Health, medical directors of the four hospitals, data

collectors, supervisors and the study participants for their cooperation and assistance during data collection.

Conflicts of interest

The authors declare that there is no conflict of interest.

Funding

None.

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Citation: Andemariam Z, Karuppusamy S, Ghebreyohannes G, et al. Maternal socio-demographic and obstetric determinants for low birth weight in maternity hospitals in Asmara, Eritrea: a cross-sectional study. *MOJ Public Health.* 2022;11(3):199–205. DOI: 10.15406/mojph.2022.11.00400