Adverse neonatal outcomes and associated risk factors in public and private hospitals of Mekelle city, Tigray, Ethiopia: unmatched case-control study

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Abstract

Background & Objective: The adverse neonatal outcomes are the major public health concerns and causes of high neonatal mortality in developing countries with 1.76 million deaths in 2013. Adverse neonatal outcomes have a significant effect on perinatal survival, infant morbidity, and mortality as well as the risk of developmental disabilities and illnesses throughout future lives. Hence, the objective of this study was to identify adverse birth outcomes and associated risk factors in public and private hospitals of Mekelle city, Tigray, Ethiopia.

Method: Institutional based unmatched case-control study was conducted from December 3rd to June 28th, 2015. Neonates who had adverse outcome were cases with their index mothers and those neonates who hadn't had adverse outcome were controls with their index mothers. Case-control incidence density and systematic random sampling techniques were used to select cases and controls respectively. Socio-demographic information on potential neonatal risk factors and clinical data were taken from the mothers and medical records. Data were checked for completeness, consistency and entered into Epi Info v7 and then analyzed using SPSS v23. Binary and multivariable logistic regression analysis was carried out to determine the association and the possible risk factors for adverse neonatal outcomes respectively. Results were presented using result statements, graphs, tables and charts.

Results: In this study, six different types of adverse neonatal outcomes were identified. Among them, low birth weight [30 (57.7%)], preterm birth [28 (53.9%)] and low Apgar score [28 (53.9%)] were the majorities. Based on the multivariable logistic regression analysis, rural place of residence [AOR=5.992, 95% CI (1.011-35.809)], low monthly income [AOR=4.364, 95% CI (1.050-18.129)], middle monthly income (AOR=4.364, 95% CI (1.050-18.129), and emergency cesarean section [AOR=9.969, 95% CI (1.023-7.148)] were the potential risk factors for adverse neonatal outcomes.

Conclusions: The adverse neonatal outcomes and the risk factors identified in this research have a negative impact on the neonate and mothers health. Thus, it needs emphasis to tackle the problems and save the life of the newborn through better and strengthened ANC follow-up accesses for health care, and income generation activities for all reproductive-age women in general and pregnant women in particular.

Biography

Hailemariam Mekonnen Workie has completed his BSc in Nursing from Haramaya University and MSc in Pediatrics Health Nursing from Addis Ababa University School of Allied Health. He is the Coordinator, Lecturer and Researcher of Neonatal and Pediatrics Health Nursing Department at Haramaya University, a premier academic organization. He has won more than 6 big projects and published more than 2 papers in reputed journals and has been serving as Reviewer of *PLOS-One*.

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