

ABSTRACT

Infant survival refers to a state of continuing to live or exist within the first year of life despite the difficult conditions, such as unhygienic conditions and infant complications. One of the significant indicators of infant survival is a country's infant mortality rate (IMR). According to UNICEF report of 2016, the global IMR is estimated at 32 per 1000 live births. In Sub-Saharan Africa the IMR is estimated at 58 per 1000 live births, whereas in Ethiopia it's estimated at 41 per 1000 live births. According to the MOH report of 2016, the IMR in Hargeisa District, Somaliland, stands at 75 per 1000 live births. This rate is high as compared to other districts in the region, the country, as well as the global rates. Among the factors that can affect infant survival include: maternal factors such as high parity and short birth intervals; infant factors such as low birth weight and prematurity; and environmental factors such as untreated drinking water and poor sanitation. The general objective of this study was to investigate the factors influencing infant survival in Hargeisa District, Maroodi Jeex Region, Somaliland. The specific objectives were to determine the maternal factors influencing infant survival in Hargeisa District, to determine the infant factors influencing infant survival in Hargeisa District, to establish environmental factors influencing infant survival in Hargeisa District, and to establish the relationship between maternal factors, infant factors, environmental factors and infant survival in Hargeisa District. A comparative cross sectional study, comparing mothers whose infants died under the age of one year (cases) and mothers whose infants survived up-to the age of one year (controls) was adopted. The study population consisted of 875 cases and controls in Hargeisa District registered at Hargeisa Group Hospital. The hospital was purposively selected because it also serves as the District mortality surveillance and response center, which keeps a register of infant mortalities that occur in Hargeisa District. A sample size of 210 mothers consisting of 105 cases and 105 controls was determined using Fleiss and Fisher sample size formulas. One hundred and five cases were selected from the Hargeisa District Infant Mortality Register using simple random sampling. For each case, one control was selected from the maternal and child health register and the controls were matched to a case with the closest date of delivery and residence. Data was collected using a structured questionnaire. To test association between dependent and independent variables, Pearson's Chi-Square test was used, while conditional logistic regression analysis was used to generate adjusted odds ratios of association. Findings suggest that on maternal factors, low level of education ($\chi^2=10.202$, $df=3$, $p=0.017$), low level of family income ($\chi^2=15.649$, $df=3$, $p=0.001$), short birth interval ($\chi^2=10.705$, $df=5$, $p=0.030$), high parity ($\chi^2=10.694$, $df=2$, $p=0.005$), and not attending antenatal care ($\chi^2=17.523$, $df=2$, $p<0.001$) affected infant survival. On infant factors, only low birth weight ($\chi^2=20.500$, $df=2$, $p<0.001$) was found to affect infant survival. Regarding environmental factors, only the source of drinking water from wells ($\chi^2=4.667$, $df=1$, $p=0.031$) affected infant survival. There was a negative significant association between not attending antenatal care visits (AOR = 3.779, 95% CI=1.133-12.609, $p=0.031$), birth weight below 1500gms (AOR = 1.175, 95% CI=0.338-4.084, $p=0.001$), and infant survival, and a positive significant association between secondary school level of education (AOR=0.390, 95% CI=0.153-0.996, $p=0.049$), parity of 1-3 (AOR=0.371, 95% CI=0.145-0.950, $p=0.039$) and infant survival. Strategies to reduce infant mortality should focus on the relevant predictors established in the models based on bivariate and conditional logistic regression analyses. The findings may help the Ministry of Health, policy makers and health related organizations to develop appropriate and cost effective programs such as health education programs targeting mothers on the importance of antenatal care visits, how to treat drinking water, and the importance of family planning methods to reduce high parity and short birth intervals, hence aid in reduction of infant mortality in Hargeisa District.