

## Neonatal Sepsis and Associated Factors among Neonates Born in Dessie Comprehensive Specialized Hospital May 2024

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### Abstract

**Background:** Neonatal sepsis is a severe blood bacterial infection in neonates at the age of equal to or less than 28 days of life, and it's still the major significant cause of death and long-term morbidity in developing countries. Clinical presentation is non-specific and includes fever, respiratory distress, lethargy, impaired or refusal of feeding, jaundice, absent Moro reflex, hypothermia, convulsions, bleeding disorder and bulging fontanel. So, newborn survival is an issue of great concern to the world, especially to developing countries. Care for the neonate often receives little attention in maternal and child health programs. So, it is important to do additional research regarding this title, typically on associated factors.

**Objective:** To assess the Prevalence of neonatal sepsis and associated factors among neonates born in Dessie Comprehensive Specialized Hospital.

**Method:** Institution-based cross-sectional studies were employed. The study subjects were selected using a systematic sampling method 362 neonates were planned, and 333 were collected. The data was collected by interviewing and using a chart review method. The data was entered and exported to S.P.S.S. version 25.00 for clearing and analysis, and Logistic regression analyses were employed to identify factors associated with neonatal sepsis. Using 95% CI, variables with a p-value <0.05 were identified as statistically significant factors.

**Result:** In this study, 333 study participants were involved, making a response rate of 91.9%. The Majority [34.8%] of the study participants were in the age group of 25-29 years with mean and S.D. age of 29.3±5.59 years, respectively. Two-thirds of the study participants were married, and 30.6% were in primary education. Most [70.6%] of the study participants had a household monthly income of <5000 ETB. Two-thirds of the study participants were multiparous, 27.9% of the study participants have a history of abortion, and 28.8% of the study participants have two living children. Sixty-two percent of the study participants had A.N.C. follow-up, and S.V.D. delivered 72.1% of the study participants. One-fourth of the mothers had a history of U.T.I., 54.1% of the participants had a maternal history of foul-smelling liquor, and 22.5% had M.S.A.F. during labor and delivery. Sixty-six percent of the participants' deliveries had a history of PROM, 43.2% of the participants had a PROM duration of >18 hours and 37.8% of the labor duration was > 24 hours. Regarding the specific characteristics of the neonate, 35.4% of the neonate were low birth weight and 18.3% were delivered in the preterm phase of gestation. More than twenty-three percent of the neonates were developing birth asphyxia. Factors associated with neonatal sepsis were mother having U.T.I. during pregnancy [AOR=1.2, 95%CI=1.01, 3.21], had M.S.A.F. liquor during labour and delivery [AOR=8.4, 95%CI=2.05, 34.02], maternal liquor of PROM [AOR=3.7, 95%CI=2.47, 18.37], duration of PROM during delivery of >18 hours compared to duration of PROM <18hours [AOR=11.5, 95%CI=3.42, 38.92] and low birth weight and preterm.

## Introduction

### Background

Sepsis is a life-threatening condition caused by a dysregulated host response to infection. It is a leading cause of death and disability worldwide. Neonatal sepsis is a severe blood bacterial infection in neonates at the age of equal to or less than 28 days of life, and it's still the major significant cause of death and long-term morbidity in developing countries. Clinical presentation is non-specific and includes fever, respiratory distress, lethargy, impaired or refusal of feeding, jaundice, absent Moro reflex, hypothermia, convulsions, bleeding disorder and bulging fontanel. So, newborn survival is an issue of great concern to the world, especially to developing countries. Care for the neonate often receives little attention in maternal and child health programs. So, it is important to do additional research regarding this title, typically on associated factors.

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Neonatal sepsis is a life-threatening condition. Studies have shown that the incidence of neonatal sepsis is high in developing countries. In a study conducted in Dessie Comprehensive Specialized Hospital, the incidence of neonatal sepsis was found to be 7.8% [7].

Based on the study, the incidence of neonatal sepsis was 7.8% (E.O.S.) [7]. The study also found that the incidence of neonatal sepsis was higher in males (8.2%) than in females (7.4%) (L.O.S.) [8]. The study also found that the incidence of neonatal sepsis was higher in term neonates (8.2%) than in preterm neonates (7.4%) [9].

The study also found that the incidence of neonatal sepsis was higher in neonates born in Dessie Comprehensive Specialized Hospital (8.2%) than in neonates born in other hospitals (7.4%) [10,11].

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### Statement of the problem

Global incidence of neonatal sepsis is 1.3-3.9 per 1,000 live births. In Dessie Comprehensive Specialized Hospital, the incidence of neonatal sepsis was 7.8% [18]. A study conducted in Dessie Comprehensive Specialized Hospital found that the incidence of neonatal sepsis was 4%, 56% and 84% in neonates with APGAR 1 < 2.5, APGAR 1 ≥ 2.5 and APGAR 1 < 2.5 and APGAR 1 ≥ 2.5, respectively [19-20]. The study also found that the incidence of neonatal sepsis was 5.29-8.73 per 1,000 live births in Dessie Comprehensive Specialized Hospital [21,22].

The study also found that the incidence of neonatal sepsis was 26% in Dessie Comprehensive Specialized Hospital [23]. The study also found that the incidence of neonatal sepsis was 26% in Dessie Comprehensive Specialized Hospital [24].

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2015-2019, the incidence of neonatal sepsis was 33.8-78% (33.8% W.a.a, 64.8% G.a.a, 76.8% M.a.a, 77.8% S.a.a, 78.3% A.a.M) [28-32].

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### Significance of the study

The study also found that the incidence of neonatal sepsis was 33.8-78% (33.8% W.a.a, 64.8% G.a.a, 76.8% M.a.a, 77.8% S.a.a, 78.3% A.a.M) [42]. The study also found that the incidence of neonatal sepsis was 33.8-78% (33.8% W.a.a, 64.8% G.a.a, 76.8% M.a.a, 77.8% S.a.a, 78.3% A.a.M) [43].

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27.9%. . . . . a . . . . . (Ta 4).

**e determinants of neonatal sepsis**

95% . . . . . A . . . . . P . . . . . M.S.A.F., PROM,  
U.T.I., a . . . . . , G.A. a . . . . .  
D . a . . . . . PROM, B . . . . . , G.A. a . . . . .  
a . . . . . a . . . . . a . . . . .  
a . . . . . a . . . . . C.S. a 97% . . . . .  
a . . . . . a . . . . . S.V.D. (AOR=0.03, 95%CI=0.001, 0.04)  
S . . . . . a . . . . . a 7.8-AOR=0.8-



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