

**DEDER GENERAL HOSPITAL NEONATAL INTENSIVE CARE UNIT (NICU)**

**AUDIT CYCLE**

## CLINICAL AUDIT TO IMPROVE THE QUALITY OF CLINICAL CARE OF

**NEONATAL SEPSIS**

**By:** Usmail Abrahim Neonatal Nurse)- NICU head

### Dr. Tajuddin Abdi (MD, GynOBS specialist)-Team leader

**Advisors:**

 ***HQU TEAM***

**Deder, Oromia March, 2017 E.C**

**NICU case team Clinical Audit/QI team members:**

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **Name** | **Responsibility** | **Remarks** |
| **1.** | Dr. Taju Abdi (MD, Senior) | **Team leader** |  |
| **2.** | Ismael Abrahim | **Secretory** |  |
| **3.** | Abdurhaman Bakri | Member |  |
| **4.** | Abdurhaman Seid | Member |  |
| **5.** | Maserat Megarsa | Member |  |
| **6.** | Derartu Abdulaziz | Member |  |

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**The implementation status of the previous audit action plan**

Regarding the implementation status of the previous audit action plan, while most of the planned interventions have been successfully implemented, the persistent gaps in investigations and monitoring suggest partial implementation or challenges in sustaining improvements in these specific areas. Focused action is required to address these gaps effectively.

## INTRODUCTION

### The neonatal period is the most vulnerable time for children’s survival. Globally every year about 4 million children die in the ﬁrst 4 weeks of life, of which 99% of the deaths occur in low- and middle-income countries and of which 75% are considered avoidable [1]. Even though neonatal mortality shows a declining trend over the last 20 years from

50.6 per 1000 live births in 1998 to 28.9 per 1000 live births in 2017 [2], Ethiopia continuous to struggle with a prevalence of about 42% or 81,000 newborn deaths every year [1]. Thus all neonatal deaths in sub-Saharan Africa and southern Asia [7]. Even though there are some improvements to access essential preventive, primary child health care services and sector training [1], neonatal sepsis is still the major cause of newborn deaths resulting in more than one-third of all neonatal deaths [1, 8].

**Statement of problem**

Neonatal sepsis (NS) continues to pose significant morbidity and mortality despite the continued advancement in neonatal care ([9](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9424847/#B1), [10](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9424847/#B2)). Neonatal sepsis is classified into early- and late-onset depending on the timing of infection in days after birth ([11](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9424847/#B3)). Another classification includes hospital-acquired vs. community-acquired ([12](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9424847/#B4), [13](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9424847/#B5)).

The global incidence of NS varies, with a population-level estimate of 2,202 per 100,000 live births, with mortality rates ranging from 11 to 19% in high- and middle-income countries ([14](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9424847/#B6)) and 2.9 to 24 per 1,000 live births in low-income countries ([15](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9424847/#B7)). Advancement in obstetrical care and universal screening for Group B Streptococcus (GBS) to stratify risk for NS has helped reduce the incidence of sepsis even further ([16](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9424847/#B8)). Despite the reduction in NS in many countries, it still possesses a serious threat to neonates ([17](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9424847/#B9)). Neonatal bacterial infection affecting neonates admitted to the neonatal intensive care unit (NICU) further complicates their course in the hospital and increases the risk of morbidity and mortality ([18](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9424847/#B10))

General objective

**OBJECTIVE**

To improve the quality of clinical care provided for neonates admitted with the diagnosis of sepsis (suspected and proven)

Specific objectives

* To ensure neonates with suspected or proven sepsis are appropriately evaluated
* To ensure neonates with suspected or proven sepsis are appropriately investigated
* To ensure neonates with suspected or proven sepsis are appropriately treated
* To ensure neonates with suspected or proven sepsis are appropriately monitored
* To ensure neonates with suspected or proven sepsis receive appropriate discharge care

Study area & period

METHODS

The clinical audit was conducted in NICU of Deder General Hospital from January 21, 2017E.C to March 20, 2017E.C

Study design

Retrospective cross-sectional study

Source population

All charts of Neonates admitted to NICU

Study population

All neonates admitted with a diagnosis of neonatal sepsis to NICU

Inclusion criteria

All neonates admitted with a diagnosis of neonatal sepsis to NICU from January 21, 2017E.C to March 20, 2017E.C

Exclusion criteria

Death on arrival, those who are observed and sent back to mother or discharged within 24 hours

Sampling technique

A total of 19 medical records (client chart) of the last two months of reporting periods were sampled for the audit. The individual client charts were withdrawn by systematic random sampling.

**Study Variables** Dependent variables: Perinatal Asphyxia

Independent Variables

ANC follow-up, Place of birth, mode of delivery,

**Data collection method**

#### Data extraction sheet was adapted from National clinical audit tool

Data Processing & analysis

Data from extraction sheets was manually verified and entered into the SPSS version 25 software for analysis. The software checked data types, sizes, classifications, and allowable values. Corrections were made, and the findings were presented in tables and figures.

**RESULT**

The clinical audit results for improving the quality of clinical care for neonatal sepsis reveal an overall performance of 98.8% against a target of 100%, indicating a 1.2% gap. Most criteria achieved 100% compliance, including proper identification, history-taking, physical examination, diagnosis, immediate treatment, discharge care, and provider documentation. However, two critical areas—relevant investigations on the day of admission and monitoring during the hospital stay—fell short, achieving 72% (8% gap) and 98.8% (1.2% gap), respectively. These gaps highlight areas requiring focused improvement to enhance the overall quality of neonatal sepsis care. **(Table1).**

Table 1**: ACTUAL PERFORMANCE ANDV PERFORMANCE AGAINST TARGET (%)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.no** | **Standards/criteria** | **Target** | **Actual performance** | **Performance against target** |
| 1. | Identification information is recorded for a neonate with sepsis | 100 | 100 | 100 |
| 2. | Appropriate history is taken for a neonate with sepsis | 100 | 99 | 99 |
| 3. | Appropriate physical examination is performed for a neonate with sepsis | 100 | 100 | 100 |
| 4. | Relevant investigations are done for a neonate with sepsis at day of admission | 80 | 72 | 90 |
| 5. | Appropriate diagnosis is made for a neonate with sepsis | 100 | 100 | 100 |
| 6. | Appropriate treatment is provided for a neonate with sepsis on the immediate admission day | 100 | 100 | 100 |
| 7. | Appropriate monitoring is done for a neonate with sepsis during hospital stay | 100 | 99 | 99 |
| 8. | Appropriate discharge care is provided for a neonate with sepsis | 100 | 99 | 99 |
| 9. | Identification of provider is documented for a neonate with sepsis | 100 | 100 | 100 |
| 10. | A neonate with sepsis died while being treated in the health facility | 15 | NA | 0 |
|  | Total standards met per chart | 880 | **869/880** |  |
|  | Percentage | 100% | **98.8%** | 1.2% |

##### Overall performance of improving the quality of clinical care for neonatal sepsis

**Figure 1:** Overall performance of improving the quality of clinical care for neonatal sepsis, March 2017E.C

**Graph showing score for each criterion/standard for management of neonatal sepsis, March 2017E.C**

**Figure 2: Score for each criterion/standard for neonatal sepsis management, March 2017E.C E.C**

**RECOMMENDATIONS**

1. Improve Relevant Investigations:

Table 1: **IDENTIFIED GAPS AND ACTION PLAN, March 2017E.C**

|  |  |  |  |
| --- | --- | --- | --- |
| **Issue** | **Proposed Action** | **Responsible Person(s)** | **Timeline** |
| Low compliance in relevant investigations (90%) | * Ensure necessary diagnostic equipment and reagents are available * Develop a checklist for required investigations to be completed within 24 hours of admission. | * Finance head (Obsa) and * NICU head (Usmail) | 3 months (From March,  2017-May ,2017E.C |

Table 2: **Implementation Status by Activity, March 2017E.C**

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **Planned Action** | **Target Completion** | **Current Status** |
|  | Improve documentation standards | Achieved | Significant improvements, 100% compliance. |
|  | Enhance diagnosis and treatment protocols | Achieved | Diagnosis and treatment protocols consistently met with 100% compliance. |
|  | Ensure relevant investigations are performed | May 2017 | Partial improvement; 90% compliance achieved due to resource or procedural gaps. |
|  | Strengthen monitoring during hospitalization | Achieved | Near-complete compliance; 96% achieved, with minor consistency gaps. |
|  | Improve documentation standards | Achieved | Significant improvements, 100% compliance. |
|  | Enhance diagnosis and treatment protocols | Achieved | Diagnosis and treatment protocols consistently met with 100% compliance. |

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