DEDER GENERAL HOSPITAL

NEONATAL INTENSIVE CARE UNIT (NICU)

STG UTILIZATION MONITORING REPORT

Neonatal Sepsis Management

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Purpose

Since EBC was launched in 2014 it was mentioned that monitoring Utilization to STG was necessitated as mentioned in EBC document to make sure that clients was treated as per the protocol and there is uniformity of the care provided for the all clients. Deder General Hospital has also followed this and conducting the Monitoring of STG adherence.

Introduction

Neonatal sepsis remains a leading cause of morbidity and mortality in newborns, particularly in resource-limited settings. Prompt diagnosis, evidence-based management, and consistent documentation are critical to improving outcomes. This report evaluates compliance with neonatal sepsis management protocols at the **Deder General hospital** to identify strengths and gaps in care delivery.

AIM

- To ensure that DGH NICU teams have working knowledge and Utilization to Neonatal Treatment Guideline.

Objective

- To assess the level of compliance with neonatalsepsis management protocols
- To identify areas requiring quality improvement
- To enhance patient outcomes and adherence to standards of care.

Methodology

- **Data Collection**: Retrospective review of 10 medical records (MRNs) of neonates diagnosed with sepsis during the period of **June 01-30, 2017E**.C
- **Criteria Assessed**: Compliance with 13 key indicators for neonatal sepsis management, including timely diagnosis, laboratory tests, initiation of antibiotics, and caregiver follow-up documentation.
- **Analysis**: Compliance rates were calculated for each indicator, and gaps were identified to inform actionable recommendations.

Table 1:CRITEREA AND STANDARDS

S.No	Standards
1.	Diagnosis documented within 24 hours of suspicion.
2.	Maternal/neonatal risk factors noted in records.
3.	Blood culture collected before antibiotics.
4.	CRP, CBC, or lumbar puncture performed if indicated.
5.	Empirical antibiotics started within 1 hour.
6.	Antibiotics aligned with standard guidelines.
7.	IV fluids documented as per protocol.
8.	Nutritional support provided when indicated.
9.	Oxygen or respiratory support when indicated.
10.	Vital signs recorded consistently.
11.	Family counseling documented.
12.	Neonate discharged only after stability.
13.	Follow-up plan documented for caregivers.

Result

The unit demonstrated **exceptionally high compliance** with neonatal sepsis management standards during the reporting period, achieving an **overall compliance rate of 96%** (115 out of 120 applicable criteria met) **(figure 1).** This indicates a strong adherence to established protocols across nearly all measured aspects of care. Eleven out of the twelve individual standards achieved perfect 100% compliance, reflecting consistent application of critical practices like timely diagnosis, antibiotic administration, fluid management, vital sign monitoring, discharge criteria, and family communication.

Despite the strong overall performance, a **significant gap** was identified in **Standard 3: Performing indicated tests like CRP & CBC**. This standard had only a **50% compliance rate** (5 compliant, 5 non-compliant), making it the sole major outlier. This indicates that in half of the relevant cases, essential diagnostic tests were not performed when clinically indicated. Given the critical role of CRP and CBC in diagnosing, monitoring, and guiding treatment for neonatal sepsis, this represents a crucial area requiring immediate investigation and intervention to improve diagnostic completeness.

The data highlights remarkable consistency in nearly all other facets of care. Standards related to timeliness (diagnosis within 24 hours, antibiotics within 1 hour), treatment appropriateness (antibiotic alignment, IV fluids, nutritional/respiratory support), monitoring (vital signs), and discharge/follow-up processes (stability before discharge, documented follow-up plan, family counselling) all achieved 100% compliance. This widespread excellence underscores a robust system for managing neonatal sepsis according to guidelines, with the critical exception of diagnostic testing completeness which needs targeted focus (Table 3).

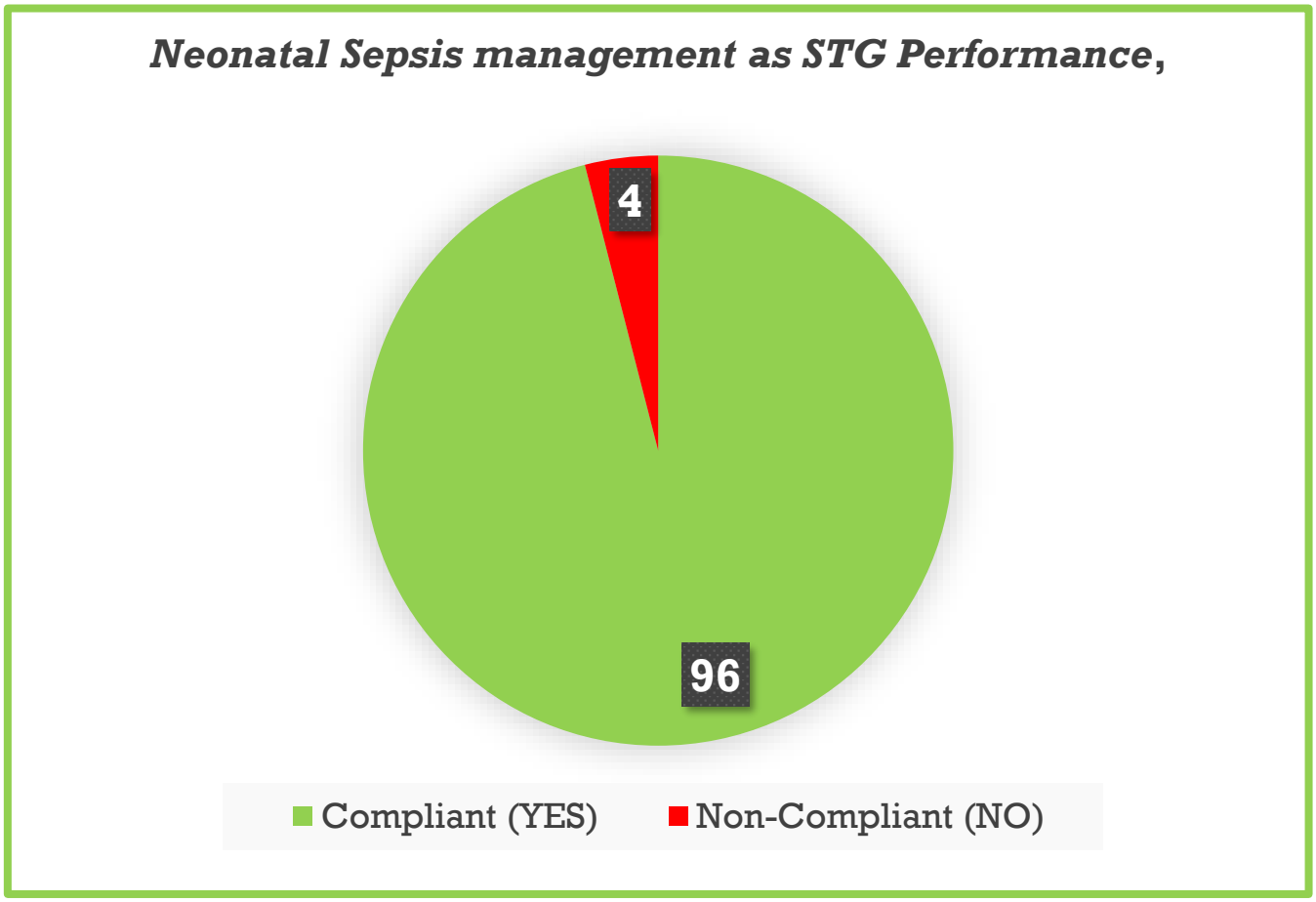

Figure 1: Neonatal Sepsis management as STG Performance, June 2017E.C

Table 2: Neonatal Sepsis management as STG Performance, June 2017E.C

S.N	Standards	Compliant	Non-Compli	Compliance Rate
1.	Diagnosis documented within 24 hours of suspicion.	10	0	100
2.	Maternal/neonatal risk factors noted in records.	10	0	100
3.	Test like CRP & CBC performed (if indicated)	5	5	50
4.	Empirical antibiotics started within 1	10	0	100
5.	Antibiotics aligned with standard guidelines	10	0	100
6.	IV fluids documented as per protocol.	10	0	100
7.	Nutritional support provided when indicated.	10	0	100
8.	Oxygen or respiratory support when indicated.	10	0	100
9.	Vital signs recorded consistently.	10	0	100
10.	Family counselling documented.	10	0	100
11.	Neonate discharged only after stability.	10	0	100
12.	Follow-up plan documented for caregivers.	10	0	100
	OVERALL	115/120	5/120	**96%**

Discussion

The neonatal unit demonstrated **highly commendable overall performance** in managing neonatal sepsis during June 2017 E.C., achieving an **impressive 96% compliance rate** (115/120) against the measured standards. This near-perfect execution across the vast majority of criteria (11 out of 12 standards at 100%) reflects a **strong, well-established system** for timely intervention, appropriate treatment, supportive care, monitoring, and discharge planning. Key life-saving interventions, such as initiating empirical antibiotics within one hour and ensuring antibiotic choice aligned with guidelines, were consistently performed, alongside meticulous documentation of risk factors, vital signs, fluid management, nutritional/respiratory support, and family communication. This level of widespread adherence suggests effective protocols, staff training, and a culture prioritizing critical aspects of sepsis management.

The Pervasive Weakness in Diagnostic Testing: However, the data reveals **one significant and concerning outlier: Standard 3 (Performing indicated tests like CRP & CBC)** languished at only **50% compliance**. This stark contrast to the otherwise flawless performance indicates a **systemic failure or barrier** specifically related to completing essential diagnostic investigations. The failure to perform CBC and CRP in half of the indicated cases represents a **major clinical risk**. These tests are fundamental for confirming sepsis diagnosis, assessing severity, monitoring response to therapy, and guiding decisions on antibiotic duration or escalation. Non-compliance here undermines the evidence base for treatment, potentially leading to missed diagnoses, delayed recognition of treatment failure, unnecessary prolonged antibiotic exposure, or failure to identify worsening conditions. This gap is particularly alarming given the unit's otherwise excellent performance in *initiating* antibiotics appropriately; the missing piece is confirming *why* they are needed and *how well* they are working.

RECOMMENDATIONS

1. Avail & Ensure CRP/CBC tests are performed promptly

Table 3: Performance improvement plan, June 2017E.C

Area of Improvement	Action Steps	Responsible body	Timeline
CRP/CBC/ availability	Ensure lab availability for urgent tests.	Laboratory Head, NICU Unit Head, pharmacy head	1 month

Table 4: *Implementation Status of previous performance improvement plan, June 2017E.C*

No.	Area of Improvement	Action Taken	Responsible body	Status	Remarks
1.	**Antibiotic Guideline Adherence**	Avail STG protocols	NICU head, Pharmacy	Completed	Printed STG protocols distributed to NICU/pharmacy. Digital copies shared via hospital portal. Antibiotic charts updated per guidelines.
2.	**Cross-Cutting Improvements**	Monthly interdisciplinary review meetings	NICU head	**Ongoing**	Meetings initiated in June 2017 E.C. Cases reviewed: 12. Attendance: 90% (NICU, Lab, Pharmacy).
3.	CRP/CBC/ availability	- Procured reagents for CBC	Laboratory Head, NICU Unit Head	**Pending**	There has been a national shortage of reagents.

References

1. World Health Organization (WHO). *Managing Possible Serious Bacterial Infection in Young Infants When Referral Is Not Feasible: Guidelines and Procedures*. Geneva: WHO; 2015.
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3. Seale AC, Blencowe H, Manu AA, et al. *Estimates of possible severe bacterial infection in neonates in sub-Saharan Africa, South Asia, and Latin America for 2012: a systematic review and meta-analysis*. The Lancet Infectious Diseases. 2014;14(8):731-741.
4. American Academy of Pediatrics (AAP). *Guidelines for Management of Neonatal Sepsis*. Pediatrics. 2018;142(6):e20182896.
5. Ethiopian Public Health Institute (EPHI). *Ethiopian Emergency and Essential Clinical Guidelines for Newborns*. Addis Ababa: EPHI; 2021.
6. UNICEF. *Strengthening Quality of Newborn Care: Strategies and Tools*. New York: UNICEF; 2019.

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- **Garee tajaajila NICU irraa**
- **Garee Qulquullina Tajaajila Fayyaatiif**

Dhimmi: **waa'ee Gabaasa STG protocol mon erguu ilaala**

Akkuma mata Dureerrattii ibsamuuf yaalameettii **STG protocol mon "NEONATAL SEPSIS"** Jedhamu kan **ji'a 1Offaa** bara **2017** xalayaa **Fuula 11** qabuu gaggeessituu kana waliin walqabsiifnee isiiniif eerguu keenya kabajaan isiniif beeksiifnaa.

Nagaya wajjiin!!