JGPEMN
ISSN 2091-279X
eISSN 2362-1168

SHORT COMMUNICATION

Strengthening neonatal care in a district hospital of Nepal: experience from scholarship bonding

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Date of submission: 22 Sep 2025

Date of acceptance: 9 Dec 2025

Date of Publication: 31 Dec 2025

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How to cite:
Twanabasu S. Strengthening neonatal care in a district hospital of Nepal: experience from scholarship bonding. J Gen Pract Emerg Med Nepal. 2025 Dec; 12(20):71-73.

Online information
DOI:
https://doi.org/10.59284/jgpeman375

OPEN ACCESS

Abstract

Introduction: Neonatal mortality remains a major contributor to under-five deaths in Nepal. A large proportion of neonatal deaths can be prevented by improving the quality of care for small and sick newborns (SSNBs). The objective of this manuscript is to share the experience of improving neonatal care at Dhading Hospital during a government postgraduate (PG) scholarship bonding period.

Intervention: Interventions included staff capacity building through a special newborn care unit (SNCU) orientation package, allocating dedicated nurses to the SNCU, strengthening referral pathways, integrating Infant and Family Centered Developmental Care (IFCDC), optimizing infection prevention and infrastructure, and ensuring robust data collection and reporting.

Outcomes: Referral rates decreased as SNCU care improved. Staff confidence in managing critically ill neonates increased. IFCDC practices were successfully integrated, infection prevention measures improved, and data reporting into the district health information system (DHIS 2) was established.

Conclusion: Scholarship bonding can significantly help bridge gaps in neonatal care. Even within resource-limited district hospitals, simple system-strengthening interventions can lead to meaningful improvements in neonatal survival.

Keywords: Education; Infant; Level II care unit; Medical; Neonatal; Nepal; Newborn

INTRODUCTION

In Nepal, medical students who receive government scholarships, including those pursuing postgraduate degrees, are required to complete a period of service in government health facilities after their studies.[1] The duration of bond service is usually two years. Scholarship bonds are mandated to address workforce shortages better and ensure a return on public investment. Mandatory bonding has notable drawbacks, including working with limited supervision and difficulty in adapting to a government structure. However, PG-bonded physicians can utilize the bonding period for leadership and practice development. This article aims to present the experience of improving neonatal care during the PG bond period at Dhading hospital, a district hospital in the periphery with limited resources.

Global evidence suggests that up to 44% of neonatal deaths can be averted by providing quality care for small and sick newborns (SSNBs).[2] Although Nepal has reduced under-five mortality in recent decades, neonatal deaths remain disproportionately high, contributing nearly 60% of all under-five mortality.[3] Addressing the needs of small and sick newborns (SSNBs) is critical, as evidence shows nearly half of neonatal deaths can be prevented with quality inpatient care.[4,5]

I worked at Dhading Hospital from the 28th of Poush 2079 to the 28th of Bhadra 2081, for a period of 16 months, as part of my PG bond. When I began my scholarship bond, I realized that neonatal care was significantly underdeveloped. A level II care unit, the Special Newborn Care Unit (SNCU), was semi-operational. I recognized the significant gaps in the neonatal care being provided and undertook targeted efforts to implement potential improvements. This experience demonstrates the challenges, strategies, and results of enhancing neonatal care in a district hospital.

Challenges Identified

- Human resources: Labour room nurses covered SNCU on a rotating basis without any specialised neonatal training; there were no trained SNCU nurses.
- Capacity gaps: Most nurses had not undergone national newborn training or specialized orientation on SNCU care.
- Infrastructure and equipment: Basic equipment was either lacking or underutilized.
- Infection prevention: Practices such as gowning, shoe changing, and hand hygiene were not enforced despite having infrastructure in place.
- Data management: SNCU data were recorded in hospital registers but not reported into the District Health Information System (DHIS2).

INTERVENTIONS

- Capacity Building:
  - Multiple rounds of SNCU orientation package training were conducted for nurses and doctors.[6]
- Regular continuous medical education (CME) sessions on neonatal care helped sustain learning.
  - Mentorship from a pediatrician strengthened confidence in managing SSNBs.
- Human Resources:
  - Hospital policy was revised to allocate dedicated nurses to the SNCU, ensuring consistent care.
- Quality of Care and Referral:
  - A radiant warmer was placed in the Emergency Room (ER) for immediate stabilization of SSNBs.
  - ER staff received orientation to assess and stabilize neonates before transfer to SNCU.
  - For consultation and easier referral coordination, a Viber group linked Dhading Hospital with outlying medical facilities.
- Infant and Family Centered Developmental Care (IFCDC):
  - Mothers were given unrestricted access to their babies, and a kangaroo mother care (KMC) chair was installed in the SNCU.
  - Posters in Nepali explained family-centered care, and audiovisual information, education, and communication (IEC) materials were displayed in waiting areas.
- Infection Prevention and Infrastructure:
  - Repaired the non-functioning wash basin and mandated hand washing, shoe removal, and gowning.
  - Each SNCU bed was equipped with separate items (e.g., stethoscope, hand rub) to reduce cross-infection.
- Data Collection and Quality Improvement:
  - Standard SNCU registers were adopted, and data were integrated into DHIS 2.[7]
  - Monthly data review meetings were conducted, and two quality improvement (QI) projects were completed.

RESULT

- Staff skills and confidence: Nurses developed confidence in assessing and initiating management of SSNBs while awaiting the pediatrician. Overtime, health care providers became comfortable handling even preterm neonates as small as 26 weeks and weighing as little as 800 grams, who earlier would have been referred to tertiary facilities.
- Referral practices: Babies were referred only when level 3 care is needed reducing the referral rate. When referral to level III facilities was required, coordination with doctors at level 3 care before referral ensured smooth transfers. It was mandated that transfer checklist be completed for every neonate requiring referral.
- Clinical outcomes: Clinical care at SNCU improved with majority of babies at SNCU discharged after clinical improvement.
- System strengthening: Immediate stabilization of sick

babies in the ER improved neonatal survival. Previously, even sick neonates used to be directly presented to SNCU without initial stabilization. The viber group enhanced communication with peripheral health facilities.

- Family-centered care: Implementation of KMC, unrestricted visitation, and parental involvement fostered bonding and improved feeding practices.
- Infection prevention: Hand hygiene and use of dedicated equipment reduced infection risks.
- Data use: Routine reporting into DHIS2 improved accountability, and review of SNCU data guided QI projects.

Reflections on Scholarship Bonding Experience

Working in a peripheral district hospital during scholarship bonding was both challenging and transformative. Adapting to a resource-constrained workplace for a pediatrician with tertiary care training required flexibility, innovation, and leadership. The experience provided following opportunities that might not be as apparent working in a large urban centers:

- Professional growth: Exposure to broader responsibilities, decision-making in limited-resource contexts, and developing problem-solving skills beyond routine clinical care.
- System strengthening: Opportunities to implement context-appropriate interventions that directly impacted neonatal outcomes such as staff training, structured protocols, family-centered care and standard infection-prevention practices.
- Leadership and teamwork: Working closely with nurses, medical officers, and local health workers nurtured collaborative leadership and improved inter-departmental coordination.
- Impact on the community: Improved neonatal services boosted hospital's reputation and community trust.

Personal fulfillment: The appreciation from the families following apparent improvement in the survival of small and sick babies reinforced the value of serving in periphery. This experience highlighted that scholarship bonding is not only a professional obligation but also a special opportunity to make a significant contribution to underserved populations while learning vital information about gaps in the health system, community needs, and the potential of context-driven solutions.

However, there appears to be an apparent disparity in the facilities provided to bonded doctors. The bonding period is often treated by authorities as a mere payback obligation for receiving a scholarship, leading to the denial of essential incentives, opportunities for professional development, and adequate accommodation. In reality, bonded doctors provide a significant contribution to strengthening government health services. It is therefore essential that the government adopts a more supportive and welcoming approach towards them.

CONCLUSION

Scholarship bonding should be regarded not merely as a period of compulsory service, but as an opportunity for bonded doctors to enhance their clinical practice and develop leadership skills. Likewise, the government should recognize bonded doctors as an integral part of the health system, capable of improving the quality of care delivered in government hospitals.

DECLARATIONS

Acknowledgement

All the health care providers of Dhading hospital, DPHO team, and stakeholders for the dedicated support and collaboration.

Conflict of Interest

None

Funding

None

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