**Risk factors for the development of neonatal sepsis in a neonatal intensive care unit of a tertiary care hospital of Nepal**

Sulochana Manandhar 1,2, Puja Amatya 3, Imran Ansari 3, Niva Joshi 1, Nhukesh Maharjan 1,

Sabina Dongol 1, Buddha Basnyat 1, Sameer M. Dixit 4, Stephen Baker 5 and Abhilasha Karkey 1\*

1 Oxford University Clinical Research Unit, Patan Academy of Health Sciences, Kathmandu, Nepal

2 Centre for Tropical Medicine and Global Health, Medical sciences division, Nuffield Department of Medicine, University of Oxford, Linacre College, Oxford, UK

3 Department of Pediatrics, Patan Academy of Health Sciences, Patan Hospital, Kathmandu, Nepal

4 Center for Molecular Dynamics Nepal, Kathmandu, Nepal

5 Cambridge Institute of Therapeutic Immunology & Infectious Disease (CITIID) Department of Medicine, University of Cambridge, Cambridge, UK

**\*Correspondence**

Dr Abhilasha Karkey

akarkey@oucru.org

**Additional file 1 Clinical features, risk factors and screening algorithm for sepsis (based on NICU protocol of Patan hospital)**

|  |
| --- |
| Clinical features of sepsis |
| Hypothermia (<35.5˚C) or, Hyperthermia(>37.7˚C)  | Reduced digital capillary refill time |
| Respiratory rate >60 breaths/min | Movement only when stimulated |
| Difficulty in feeding or no feeding | Bulging fontanelle |
| Cyanosis | Mottled skin |
| Grunting | Lethargic |
| Severe chest in-drawing |  |
| Risk Factors for sepsis |
| Maternal risk factors  | **Fetal risk factors**  |
| Pre-mature rupture of membrane (>18 hours) | Low birth weight (<2.5 K.G) |
| Fever during late pregnancy | Preterm (<37 weeks of gestation) |
| Urinary tract infection during late pregnancy | Requiring instrumental delivery |
| Sepsis during late pregnancy | Requiring perinatal suctioning  |
| Multiple per vaginal examination (>3 times) | Requiring perinatal resuscitation |
| Chorioamnionitis |  |
| Foul smelling vaginal discharge |  |
| Sepsis screen algorithm |
| Blood | **Abnormal value** |
| Total leukocyte count (TLC) | <7,000 /mm3 |
| Absolute neutrophil count (ANC) | Low counts as per Manroe chart(37) |
| Immature/total neutrophil | >0.2 |
| C-reactive protein (CRP) | >6 mg/dl |
| Urine routine microscopy (catheter sample)*Suggestive of urinary tract infection* |
| WBC count (in centrifuged sample) | >5 cells/ high-power field |