

Press Release

40% reduction in neonatal mortality in just 21 months through Simplified treatment of Possible Serious Bacterial Infection along with supportive supervision of home based new born care in Lucknow District

*Preliminary Results of Implementation Research Project
of
King George's Medical University, U.P., Lucknow*

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- Initially all sick new-born referred to the district hospital and many parents refused referral.
 - Now all the doctors in PHCs /CHCs of 4 implementation block of Lucknow district are examining and treating sick young infants in their health facilities
 - Through this project* simplified treatment is being provided to sick young infants in their homes if their parents refuse referral
 - ASHAs are identifying sick newborns in their homes.
 - ANMs and doctors are referring sick newborns after giving pre-referral (PRD) drugs.
 - **This has resulted in 40% reduction in neonatal mortality rate in the 4 implemenation blocks in <2 years**
 - **This is a demonstartion of proof of principle.**
 - **This model of supportive supervision and simplified treatment of PSBI where referral is refused has to be expanded to the entire state.**

This project was started in June 2017 and lasted till 2019 (21 Months).It ran in four blocks of Lucknow district (Sarojininagar, Kakori, Mall and Gosainganj) covering population of 8.56 lakhs in 780 Village. This area had 4 CHC and 14 PHC . In these health facilities there were 57 medical doctor, 142 ANMs and 780 ASHA workers. All of them were given skills training for the execution of Home Base New Born care (HBNC) and to provide WHO Simplified Treatment for Possible Serious Bacterial Infection (PSBI). Similar training was also given to

the health functionaries of the other 4 rural blocks of Lucknow. Besides, all the pediatricians posted in Lucknow district in 2017 attended 3 days skills workshop on training of trainers.

During duration of the project, there were 24448 live births giving a crude birth rate of 19.1 per 1000 of population.

As a part of the HBNC program, ASHAs visit newborns in their homes on Day 1 (only for home deliveries), 3, 7,14,21,28 and 42. The proportion of neonates visited in the first week increased from 78% to 86%. The proportion of sick young infants increased from 4% to 11%. This was possible through supportive supervision by project staff during field visits of ASHAs and reinforced skills. This increased confidence in ASHAs and helped them work with motivation.

There were 1129 cases of PSBI of which 90.6% were identified by ASHA/ ANM and only 9.2% went directly go to CHC/PHC/SC. All these cases were advised to go to district hospital for treatment. However, 819/1129 (72.5 %) did not agree for referral to the district hospital for treatment. These were treated by WHO simplified treatment at their homes. In this regime Inj. Gentamycin is given once a day and Oral Amoxicillin DT twice a day for up to 7 days. For receiving Inj Gntamyecin the parents took their neonate to CHC/PHC and in few cases ANMs went to their homes and gave the Injection. Among these 819 cases there were just 14 deaths (1.4%).

There were 118 very sick children who were either convulsive or not feeding at all or no movement at all. These agreed to go to District hospital for treatment. Among these 118 cases there were 18 deaths (15.2%).

However 223 refused all treatment or went to the private for treatment. Among these 223 ases there were 223 deaths (47%).

Thus combining all 1129 PSBI cases there were 139 deaths.

Among 24448 live births 276 were sick since birth. Among these 276 with perinatal asphyxia 213 died (77%) and 55 were premature.

So combining 213 deaths among those sick since birth, 139 deaths due to PSBI and 30 other classified deaths (Jaundice, Diarrhoea and Sudden death), there were 382 neonatal deaths giving Neonatal Mortality Rate of 15.6 for 1000 live births.

Causes of neonatal deaths in Rural Blocks of UP:

- 55.7% (sick since birth- about $\frac{3}{4}$ had perinatal asphyxia and $\frac{1}{4}$ prematurity),
- 36.4% PSBI
- 7.9% other causes (congenital malformations, severe jaundice, diarrhea, sudden infant death etc).

Neonatal Mortality Rate of rural Uttar Pradesh in 2015 reported to be 26/1000 live births. This would translate into 633 expected deaths in the birth cohort. However in this birth cohort there 382 death. Hence through project we averted 251 deaths, which is equal to a 40% reduction in neonatal mortality rate.

What is simplified treatment?

New born can have sign of Critical Illness(Unable to feed , convulsion and no movement at all) or Clinical severe infection (Not feeding well, less than normal movement, severe chest in drawing, hot to touch, cold to touch) or can have severe pneumonia (Fast breathing in 0-7 Days).

If they refuse to go to district hospital then -

Simplified treatment of Critical illness (CI) is Inj.Ampicillin BD, Inj. Gentamycin OD and Oral Amoxicillin DT/Syrup BD for up to 07 Days.

Simplified treatment of Clinical Severe Infection (CSI) is Inj. Gentamycin OD and Oral Amoxicillin DT/Syrup BD for up to 7 Days.

Simplified treatment of Severe Pneumonia (SP) is Inj. Gentamycin OD and oral Amoxicillin DT/Syrup BD for 7 days.

This gentamycin was give either in SC, PHC and CHC. However 7 ANM gave Simplified Treatment by giving injection to their home for 7 Days.

Of the 118 sick neonates that went to district hospital, pre-referral dose was given by 75 ANM (52.8%) and 57 by 44 medical officers.

Through the project we provided Inj. Gentamycin and oral amoxicillin DT and supportive supervision in the field during HBNC Visit. If this can be replicated this is very cost effective in reducing neonatal mortality.

***Project details**

This work was done for a project funded by the World Health Organization (WHO), Geneva in collaboration with GOI and Government of Uttar Pradesh. It was executed in King George's Medical University Lucknow, from Department of Pediatrics. Prof. Shally Awasthi is the Principal Investigator. Co-investigators are Prof. Monica Agarwal from Department of Community Medicine and Prof. GG Agarwal, former Head, Department of Statistics, Lucknow University.

For further information:

Contact Prof. Shally Awasthi (9839221244)