MANAGEMENT OF POSSIBLE SERIOUS BACTERIAL INFECTION (PSBI) IN YOUNG INFANTS (0-59 DAYS) WHERE REFERRAL IS NOT FEASIBLE IN SOMAARTH DDESS, PALWAL, HARYANA

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PSBI implementation Research
Community mobilization to nudge implementation: An anthropological perspective of implementation research on managing sick young infants with PSBI in SOMAARTH DDESS, Palwal (Haryana, India)
Implementation Site - SOMAARTH DDESS (Palwal District Haryana)

- **50 villages**
- **1,92,2017** population

- CBR 26/1000
- NMR 21/1000
- Inst. Delivery 80%

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<tbody>
<tr>
<td><strong>1</strong></td>
<td>District Hospital</td>
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<tr>
<td><strong>3</strong></td>
<td>CHCs</td>
</tr>
<tr>
<td><strong>3</strong></td>
<td>PHCs</td>
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<tr>
<td><strong>18</strong></td>
<td>Sub Centers</td>
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- **46** Medical Officers
- **46** ANMs
- **33** Staff Nurse
- **172** ASHAs
Coverage

5435 Pregnancy

669 Sick Infants

5270 Live Births

403 PSBI (±FB Only)

<table>
<thead>
<tr>
<th>Critical Infection</th>
<th>Clinical Severe Illness</th>
<th>Fast Breathing 0-6 days</th>
<th>Fast Breathing only 7-59 days</th>
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<tbody>
<tr>
<td>40</td>
<td>299</td>
<td>10</td>
<td>54</td>
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</table>

12.7% of Live Births
8% of Live Births
Implementation Research - Key Observations

Case Identified

- Haryana
- 5270 Live Births
- 403 PSBI (266 Other sickness)

Who Identified

- PSBI Cases (n=315)
- ASHA (13%)
- Mother/Family (86%)

Site of treatment

- PSBI Cases
  - Sub-center
  - Home: 37%
  - Govt. Hospital: 20%
  - Private: 43%
- Other Cases
  - Sub Center: 1%
  - Home: 55%
  - PHC/CHC: 34%
  - Govt Hospital: 10%
  - No treatment: 10%

Outcome

- Case Identification
  - Identification of sick young infants & mobilization to health facilities
  - 2015-2016: 1.1% (262/23,578)
  - 2016-2017: 1.7% (400/23,291)
  - 2017-2018: 12.6% (669/5270)

- Neonatal Mortality
  - 7-8 times increase in identification
  - 2015: 31
  - 2016: 21
  - 2017-2018: 18.7
  - Decrease in 18 months

Data of Palwal District (DHIS, 2018)
Data of SOMAARTH (50 Villages of Palwal) during implementation period
First Place of Care Seeking

Place of Treatment

Implementation Research - Key Observations (Care Seeking)

Co-participatory implementation

Full Scale Implementation Research
Implementation Research - Key Observations

Treatment Adherence

PSBI Cases who treated in Primary facility (n=126)
The Implementation Research framework emerged – At Glimpse

1. Preparatory Activities
   - Implementation research guideline finalization in partnership with MOHFW, State Programme Office & other technical experts
   - Engagement with local health administration
   - Engagement with community stakeholders
   - Study Tools and SOPs

2. Understand contextual realities
   - Formative baseline study to document-
     - Case seeking practices in community
     - Primary, secondary and tertiary level health service facilities
     - Knowledge attitude and practices by frontline workers and community health workers

3. Co Participatory Implementation
   - Implementation at restricted Geography
   - Documenting actual ground practices/determining gaps and barriers
   - Quarter 1
   - Quarter 2

4. Full Scale Implementation Research
   - Implementation in whole study Area
   - Nudging the Implementation
   - Quarter 3
   - Quarter 4
   - Quarter 5
   - Quarter 6

A. Strengthening Birth Surveillance
   - Quarter 1
   - Quarter 2

B. Strengthening Identification of Sick newborn in Family and timely referral

C. Ensuring appropriate assessment and treatment of Sick infant

D. Improving care-seeking and community response
At Beginning of Implementation - What we experienced

Qualitative Research FINDINGS

- Doctors in PHC, CHC hesitated to ‘touch’ i.e., examine and manage sick newborns
- ANMs did not consider themselves as treatment provider
- Mothers had poor skills to identify danger signs in their young infants
- ASHAs gave little emphasis on “counseling of mothers” on danger sign, during infrequent & hasty home visits
- Sub centers, PHCs and CHCs have occasional stock-outs of drugs and supplies that are required for PSBI management.

Key Nudge Areas

- Knowledge to skill to competency transformation through confidence building
- Empowerment of mothers and communities for identifying their sick babies and seek care

Understand Community needs and practices
Understand Health system issues (Systemic challenges, KAP of service providers)
ASHAs’ awareness, perspective and practices

Knowledge

Correct Knowledge

Visits On Home delivery
Visits On Institutional delivery
Breast feeding
Colostrum feeding Should be given
Correct Position of Breastfeeding
Fever
low birth weight
very low birth weight
Hypothermia

What all are Danger Signs?

- Partially
- Feeding problem
- Sudden death
- Convulsions
- Hot to touch
- Cold to touch
- Fast breathing
- Jaundice
- Diarrhoea
- > 10 Pustules or a big boil
- Adequate > 5
- Not aware

Correct Breathing Position

- Breastfeeding
- Colostrum feeding
- Shoulder

Inspect the baby back
Inspect behind ear
Inspect for skin pustules
Inspect the umbilicus
Umbilicus red /Pus discharge
very low birth weight
low birth weight
Hypothermia
Mothers’ awareness, perspective and practices on care seeking

Danger sign counseling

When counseled:
- During both ANC and PNC: 16%
- During only PNC: 50%
- Not discussed: 34%

Counseling proportion:
- > 10 skin pustules:
  - ANC: 60%
  - PNC: 56%
- Jaundice:
  - ANC: 54%
  - PNC: 56%
- Diarrhea:
  - ANC: 56%
  - PNC: 56%
- Hot to touch:
  - ANC: 70%
  - PNC: 67%
- Cold to touch:
  - ANC: 52%
  - PNC: 49%
- Feeding problem:
  - ANC: 49%
  - PNC: 58%
- Fast breathing:
  - ANC: 54%
  - PNC: 40%
- Severe chest indrawing:
  - ANC: 16%
  - PNC: 23%
- Convulsions:
  - ANC: 8%
  - PNC: 26%
- Grunting:
  - ANC: 8%
  - PNC: 16%
- Movement only when stimulated:
  - ANC: 4%
  - PNC: 7%
- All signs:
  - ANC: 0%
  - PNC: 10%
Mothers’ awareness, perspectives and practices on care seeking

<table>
<thead>
<tr>
<th>Proportion of Respondents</th>
<th>Qualifiers</th>
<th>Adjectives Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 10 percent</td>
<td>&lt;1+</td>
<td>Very few</td>
</tr>
<tr>
<td>10 - 24 percent</td>
<td>1+</td>
<td>Some</td>
</tr>
<tr>
<td>25 - 49 percent</td>
<td>2+</td>
<td>Approx. half</td>
</tr>
<tr>
<td>50 - 75 percent</td>
<td>3+</td>
<td>Majority</td>
</tr>
<tr>
<td>76 - 89 percent</td>
<td>4+</td>
<td>Most</td>
</tr>
<tr>
<td>&gt; 90 percent</td>
<td>5+</td>
<td>Almost all</td>
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What are the symptoms of serious illness?

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<thead>
<tr>
<th></th>
<th>Do not know</th>
<th>Some Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeding Related Symptoms*</td>
<td>2+</td>
<td>3+</td>
</tr>
<tr>
<td>Body temperature**</td>
<td>0@</td>
<td>5+</td>
</tr>
<tr>
<td>Movement of infants (voluntarily or when stimulated)**</td>
<td>4+</td>
<td>1+</td>
</tr>
<tr>
<td>Breathing (fast/chest in drawing)****</td>
<td>2+</td>
<td>2+</td>
</tr>
<tr>
<td>Abnormal movements/ Seizures/ Convulsions*****</td>
<td>4+</td>
<td>1+</td>
</tr>
<tr>
<td>Change in skin color******</td>
<td>2+</td>
<td>3+</td>
</tr>
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</table>

Some features
- Reduced feeding/prolonged crying/fever/vomiting
- Fever (hot to touch, feel cold)/reduced feeding/prolonged crying (restless ness or stomach ache)
- Decreased movements (lethargic/laying down/less movements)/difficulty in breathing
- Fast breathing/difficulty in breathing/cough/fever/pneumonia
- Seizures/lethargic
- Jaundice, color change with growth

@ No one mentioned about low temperature
Mothers’ awareness, perspectives and practices on care seeking

- **Wait & Watch**
  - Home Remedies
  - Traditional Healers

- **Recover on Own**
  - Cold, Cough, Diarrhea (Mild)

- **Village Doctors (RMP)**
  - Cold, Cough, Fever, Diarrhea, Pneumonia, Cholera
  - When not improving

- **Hospitals (Government, Private)**
  - When not improving

- **ASHA**
  - Advice & Referral

- **Occasionally Consult & Seek Advice**
  - Explore the availability of medicines from ASHA

- **In case of** (Fever, Cough, Vomiting, Diarrhea, Pneumonia)

*Difference: a). Severity; b). Availability of money; c). Mother’s Education @ ANM not mentioned.*
How we nudged the Implementation
Handholding and Confidence building – Community workers

1. Training Workshops of ASHAs
   - How to identify danger signs in young infants (0-59 days)
   - How ASHA can teach mothers to identify danger signs
   - 6 Training workshops (By District Health System)
   - 172 trained ASHAs

2. Strengthening timely HBNC visits
   - Encouraging ASHAs to perform HBNC visits timely and call follow up.
   - Working with PHC/CHC to improve On ground ASHA supervision
   - Monthly meeting with CHC/PHC to discuss HBNC visit related issues with ASHA coordinators

3. Support to mobilize sick infants to nearby health facilities
   - Social mobilization to improve ASHAs stake in community (ASHAs as key person to support appropriate care seeking)
   - Improving referral linkage between Medical officers at PHCs/CHCs and ASHAs by-
     - Monthly meeting to discuss specific referral issues
     - Improving case triaging – OPD arrangements

Early identification and prompt mobilization to nearby health facility
Handholding and Confidence building – Doctors / ANMs/Staff Nurse

1. Training workshops of doctors, nurses and ANMs
   - How to identify danger signs in young infants (0-59 days)
   - How to assess and give treatment
   - 3 days workshops by senior IMNCI training experts from Safdarjung hospital, Delhi
   - One day hands-on practical training at Safdarjung PICU on danger sign identification
   - 5 workshops (By District Health System)
     - 46 Doctors
     - 46 ANMs
     - 33 Staff Nurses

2. Enhance confidence of health service providers to manage sick young infants (post training hand holding)
   - IMNCI trained supervisors and paediatricians supported medical officers and nurses through periodic health facility visits
   - Strengthening PMSMA clinic for ANC / PNC counseling
   - Quarterly meeting in CMO office on Health facility performance and issues related to service provision and service delivery

3. Improving communications for responsible referral
   - Emphasizing to inform higher facility at the time of referral
   - Indicating Place of referral at the time of referral
   - Advocating for referral transport to super specialty hospital (Safdarjung), for critical cases
   - Using social media group for strengthening referral network
# Challenges Faced and Strategies Adapted

## Community Health Workers - ASHAs

<table>
<thead>
<tr>
<th>Challenges faced</th>
<th>Strategies adapted</th>
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<tr>
<td>Infrequent home visitation by ASHAs (HBNC)</td>
<td>• Consistent dialogue with ASHAs and regular follow up in monthly PHC meeting&lt;br&gt;• Generated social accountability through wall paintings &amp; community engagement</td>
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<tr>
<td>ASHAs hesitant in filling ANC register due to lack of training in filling forms (Maintaining record in informal registers)</td>
<td>• Separate village-wise training sessions organized by ANMs&lt;br&gt;• Improved communication skills of ASHAs (on danger sign counseling) during VHND VHSNC meeting&lt;br&gt;• Engaged Block social educators to train ASHAs on danger sign communication</td>
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<tr>
<td>During HBNC visits they do not teach mothers on how to identify danger signs</td>
<td>• Conveyed the issue to district officials;&lt;br&gt;• Participated in monthly meeting in PHCs and in CHCs and discussed specific cases and role of ASHAs (success and challenges) to nudge supervision support</td>
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<tr>
<td>Monitoring of field operation by system’s staff: - very limited monitoring visits by ASHA coordinators;</td>
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### Challenges Faced and Strategies Adapted

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<tr>
<td>Mothers were not able to recognize sick young infant but quickly were able to</td>
<td>In collaboration with district health system, TSU implemented a structured and contextually relevant social mobilization activities, utilizing existing</td>
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<td>learn it when tried during formative phase.</td>
<td>community platforms and institutions; The mobilization activities focused on four aspects (1) Identification of danger signs by the families &amp; mothers; (2) ASHAs</td>
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<td></td>
<td>home visitation schedule and her expected duties during home visitation; (3) Awareness on the availability of treatment facilities for sick young in PHCs and CHCs; and (4)</td>
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<td>dissemination of case-studies that recovered after availing treatment from public health facilities.</td>
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<tr>
<td>Care seeking behavior: frequently delayed and families were not sure where to</td>
<td>• Social accountability: Wall painting (@2/village) were done indicating ASHA’s schedule of home visitation, her telephone number and seven symptoms/signs of</td>
</tr>
<tr>
<td>take their sick young infants for treatment</td>
<td>sick young infants with advise to families/mothers to get in touch with ASHAs as required</td>
</tr>
<tr>
<td>Families &amp; mothers were neither aware of ASHA’s home visitation schedule nor</td>
<td>• Social mobilization to generate awareness &amp; demand services (Social Accountability)</td>
</tr>
<tr>
<td>about its purpose. Therefore many mothers and families did not value post-</td>
<td>• Adhikaar Yatra</td>
</tr>
<tr>
<td>natal home visitation made by AHSA.</td>
<td>• VHND and VHSNC meetings</td>
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<tr>
<td></td>
<td>• ANC clinics and special clinics like PMSMA</td>
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<tr>
<td>Community (Contd.)</td>
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Family had trust issues for public health sector particularly for their young ones at PHCs/CHCs; and had previous bad experience.

- Families were sensitized at different platforms (during ANC clinics, discharge after delivery, HBPNC visits, VHND meetings) to seek help from ASHAs incase they require facilitation for referral (even in the absence of male members)
- Community awareness meetings by PHC doctors on seriousness of sickness episodes and importance of hospitalization
- Discussing success stories (recovered cases) in VHND, VHSNC meetings and in other community meetings to build confidence on public health system.
Creating Demand and Social Accountability

Community Mobilization and Awareness Activities

1. Strengthening existing community platform
   - Village Health and Nutrition day (VHND)

2. Introduced PNC counseling for Women in advanced stage of pregnancy attending antenatal care clinics under PMSMA programme

3. Wall paintings on Danger Signs and ASHA visit schedule

4. Aadhikaar Yatra – Awareness Rally by school Children

5. Community level dissemination meeting by top health authority on programme achievement

6. Full page display on revised danger sign in immunization card

7. Super village Challenge: Using Gamification to perform on WaSH and Health indicators
Challenges Faced and Strategies Adapted

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<th>Strategies adapted</th>
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<tr>
<td>Initially, cases were referred only to District hospital; Doctors at sub-district</td>
<td>IMNCI trained supervisors and district pediatricians/doctors visited primary care health facility to handhold the clinicians &amp; discuss treatment related issues with medical officers</td>
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<tr>
<td>level were hesitant to even examine the sick young infants; Inertia to fill up HBNC</td>
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<tr>
<td>related forms by personnel at all levels</td>
<td>Initial six months, research team also ensured their physical presence when a PSBI infant presented at PHC/CHC to instill confidence and create an environment for feasibility to manage PSBI in the community</td>
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<tr>
<td>Lack of communication between PHC/CHC and district hospital during referral</td>
<td>Technical Support unit was active through the life of the project</td>
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<td>With constant engagement with the district health administration, now the district CMO has issued note for PHC/CHC doctors, to inform District Hospitals while referring sick infants</td>
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<td>Social media group created to intimate referral of sick infants</td>
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<tr>
<td>Non-availability of doctors beyond working hours even in district hospital</td>
<td>MS of District hospital informed about availability of personnel and other hospitalization related issues on monthly basis.</td>
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<td>Monthly review for hospital admission in general &amp; PSBI related specifically strengthened by CMO and MS office</td>
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<td></td>
<td>Medical Superintendent and CMO office appointed dedicated workforces (6 IMNCI, and PICU trained nurse, 3 medical officers and 3 pediatricians) in SNCU on rotation</td>
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<tr>
<td>Governance and human resource management: Frequent change in leadership (CMO) and</td>
<td>Beyond the scope of TSU intervention</td>
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<td>strike by health personnel including ASHAs and Aanganwadi workers</td>
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Lessons

- PSBI was identified in approximately 8% cases
  - Made attempts to find solutions within the existing realities of manpower, supplies, & system support
  - Identification & management of PSBI
    - Most cases recognized by Mothers/ family
    - ASHAs became more active
  - Treatment
    - Public and private were providing almost equal
    - Almost all of those who received appropriate and timely treatment, survived
    - FB Only (7-59 Days) were successfully treated with oral amoxicillin and all recovered
  - Death in PSBI infants- 36
    - Died at home- 36% (Delayed care seeking and inappropriate care seeking)

- Mothers can identify the sick babies provided they are adequately and appropriately exposed to IEC
- Continuous handholding of MOs in PHC and CHCs helps in building confidence to manage young infants
- Village institutions VHND & VHSNC can play an important catalytic role and bring social accountability
Contextualized implementation of Government of India’s guideline on management of Sick Young infants (0-59 days) with Possible Severe Bacterial Infection (PSBI)

1. Early identification and prompt mobilization to nearby health facility
   - **A** Orientation of community Health workers (ASHAs) and Empowering Mothers
   - **B** Strengthening timely Post natal home visits by ASHAs
   - **C** Support to mobilize sick infants to nearby health facilities

2. Starting appropriate treatment without delay and treatment compliance
   - **A** Orientation and targeted skill building of doctors, CHOs, Nurses, ANMs (frontline health worker)
   - **B** Enhance confidence of service providers to manage sick young infants in the community
   - **C** Improving communications for responsible referral

3. Creating Demand and Social Accountability - Community Mobilization and Awareness Activities
   - **A** Empowering mothers & families to identify sick young infant
   - **B** Awareness on schedule of home visits and expected responsibilities of ASHAs during home visits
   - **C** Awareness on where to get appropriate treatment and necessity of treatment adherence

* Key Nudge areas
Thank You

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