

Dear Members: We are sharing with you the Consolidated Reply of the urgent query on Maternity and Allied Services in Floods. We thank all the members for responding to the query. This discussion has been very enriching and due to the enthusiasm members have shown, we will keep it on for a few more days. We encourage members to continue discussing this important topic Thanks.



Disaster Management Community



Health

Maternal and Child Health Community



Solution Exchange for the Disaster Management Community Consolidated Reply

Query: Maternity and Allied Services in Floods – Experiences; Referrals

Compiled by [G. Padmanabhan](#) and [Meghendra Banerjee](#), Resource Persons and [Nupur Arora](#) and [Deeksha Sharma](#), Research Associates

Issue Date: 30 September 2008

From G. Padmanabhan, United Nations Development Programme, New Delhi and Meghendra Banerjee, Solution Exchange, World Health Organisation (WHO), New Delhi

Posted 22 September 2008

Dear Members,

Bihar Floods have displaced and stranded at least 3 million people in northern Bihar and the situation continues to worsen. Several people are accommodated in relief camps, which are crowded. A woman in her final stages of pregnancy in a flood relief camp of Supaul district in Bihar told this to an assessment team -

"...There are no maternity services in my relief camp. I will be referred to the nearest camp (around 4 kms away) with a maternity hut, but I will not go there as my husband who is in the village will come looking for me here and there is no one to take me there..."

The teams observed that there was hardly any scope for delivering maternity services. In absence of doctors, older women helped the pregnant women with deliveries. Despite the presence of health centres/ camps in the relief camps visited, there was no special provision for pregnant and lactating mothers or any post-natal care.

One effort that has caught our attention is Mobile Maternity Homes set up by Govt. of Bihar, where more than 30 pregnant women have received treatment. Inspired by this idea, we propose that the MCH and Disaster Management Community create a list of possible services that can be offered to women and children in emergencies, to protect their health and various rights in such disastrous situations, along with a list of agencies that provide various services.

This list will become handy not only for the current Bihar flood, but also prepare us in the future with better information and resource planning. With flood threats looming over Orissa and Assam, your responses and experiences will be timely and of immense use to the Central and State Government departments, other relief agencies that are responsible for provision of medical services in emergencies.

This list can be made available through concerned departments/ministries of Central and State Govt. of India and other portals for ready reference across the country, and can be maintained electronically and continuously updated over a period of time.

In view of the above, we request the members of both communities to share with us their insights and experiences on:

- Possible services that can be offered to pregnant and lactating women and children in flood situations, and any foreseeable difficulties and challenges in organising those services
- List of donor agencies that provide or are interested to provide such services
- NGOs and others who have available resources technical and otherwise interested in collaborating

Looking forward to your help.

Responses were received, with thanks, from

1. **Mahesh Arora, Anubhooti Society, Jaipur ([Response 1](#); [Response 2](#))**
2. **[Kusum Gopal](#), United Nations Educational, Scientific and Cultural Organization (UNESCO), Tanzania**
3. **[Zahir Abbas](#), GoI-United Nations Development Programme (UNDP) Disaster Risk Management Programme, Silchar, Assam**
4. **[Dinesh Agarwal](#), United Nations Population Fund (UNFPA), New Delhi**
5. **[Salathiel R. Nalli](#), Development Consultant, Hyderabad**
6. **[Abid Siraj](#), The United Nations Children's Fund (UNICEF), Ajmer**
7. **[Rajesh Sood](#), Centre for Health Promotion India, Himachal Pradesh**
8. **[Prafulla Kumar Dash](#), Municipal Corporation of Delhi, New Delhi**
9. **[Alok Lodh](#), Movement Against AIDS (MAD), Bihar**
10. **[Ravishwar Sinha](#), Independent Consultant, New Delhi**
11. **[Manoj K. Naresh](#), Independent, Jaipur**
12. **[Sufia Askari](#), The United Nations Children's Fund (UNICEF), Patna**
13. **[Sunanda Gupta](#), University of Illinois, Chicago, USA**
14. **[Venkatesh P.](#), Medical College, Bangalore**
15. **[Uday Pathak](#), Mahavir Vatsalya Aspatal, Patna**
16. **[Sunita Abraham](#), Christian Medical Association of India, New Delhi**
17. **[V. R. Raghavan](#), Satyam Foundation, Hyderabad**
18. **[Thein Thein Htay](#), Ministry of Health, Myanmar**

19. [V. K. Anand](#), National Consultant (Child Health Development), World Health Organisation
Country office, India
20. [J. P. Dadhich](#), Breastfeeding Promotion Network- India (BPNI), New Delhi

Further contributions are welcome!

[Summary of Responses](#)
[Comparative Experiences](#)
[Related Resources](#)
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Summary of Responses

Ensuring medical services during emergencies is a pertinent issue. Following the Kosi River floods in Bihar, various assessment teams have reported that despite the presence of health centres/camps in the relief camps, there are no special provisions for pregnant women, lactating mothers or any post-natal care available. To support efforts towards addressing this problem, the MCH and Disaster Management Community plan to create a list of possible health services for women and children in emergencies, to protect their health and rights, along developing a list of agencies that provide these services.

Members agreed provision of quality intra-partum care and immediate post-partum care needs to be a priority from the relief and recovery phase. Ensuring adequate maternal and child nutrition is essential; however, it is often desperately neglected aspect of maternal, newborn, and child health especially in disaster situations like floods.

While suggesting possible services that can be offered to pregnant and lactating women, and children in flood situations, respondents shared various experiences from other disasters and suggested additional services to include on the list. In [Assam](#), the state government owns fully equipped Boat Clinics and Mobile Medical Units, which are made functional during floods. As part of the 2007 relief efforts following the floods in [Uttar Pradesh](#), UNICEF provided cost effective eco-friendly toilets and sanitary napkins and now UNICEF has given ten maternity tents with midwifery kits to the three most flood-affected districts in [Bihar](#). Respondents also shared that during [cyclone Nargis](#), breastfeeding counseling was given to mothers in cyclone-hit areas to enable them to start breastfeeding again.

Discussing the various the maternity and allied services that can be provided during disasters, respondents created a **comprehensive list of services** (for before and during) and suggestions for how to ensure proper maternal and child healthcare during emergencies. Before a disaster, members advised humanitarian agencies involved in disaster management and health related work do the follow:

- Update/create list of women and children in areas they are working in, with support from existing national level health programmes
- Map areas with no maternal and child health care services
- Identify facilities that provide proper ante-natal care and delivery facilities
- Organize special visits before the anticipated flood/rainy season to ensure the complementation of immunizations and to conduct a risk assessment
- Advise and encourage pregnant women to seek admission in close by maternity care hospitals when a disaster related warning has been issued
- Prepare portable maternity centres, which can immediately be made functional, including the provision of ready to move sterilized equipment and delivery kits
- Train volunteers, Auxiliary Nurse Midwives (ANM) and Anganwadi workers on maternal and child care

During a disaster, respondents felt there are two broad type of activities needed 1) infrastructural arrangements to support the provision of maternal and child healthcare services and 2) essential medical services. The infrastructure preparations required are:

- Have pre-fabricated labour rooms staffed by the skilled birth attendants attached to relief camps with services, like referral transport to district hospitals in the event of life threatening obstetric complications, adequate arrangements for infection prevention and disposal of hospital waste
- Ensure mobile medical units are staffed by skilled birth attendants to care for women in the second stage of labour
- Have transport vehicles ready at camp sites for transferring women to a higher level health facilities for women in labour
- Set up special camps for pregnant women and lactating mothers with proper water and Sanitation facilities, food and appropriate medical facilities
- Identify traditional birth attendants and train them in modern birthing methods so that they can help during emergencies
- Ensure mobile and static medical teams are available along with ambulance services
- Identify ambulance services and other means of transport and positioning them with control room (District Magistrate's office)

The specific medical services needed during a disaster mentioned by members were:

- Provide supplementary immunization activities for the treatment of measles and polio, and the provision of Vitamin A supplementation and oral rehydration therapy
- Offer treatment for infections and post-partum hemorrhaging
- Provide counseling for breastfeeding, health and hygiene
- Ensure adequate attention is paid to maternal nutrition by providing adequate dietary intake for pregnant women (including appropriate supplementation, i.e. iron, folic acid, other micronutrients and calcium), as well as sufficient food for children and lactating mothers
- Establish an integrated disease surveillance project (IDSP) and containment plan for early detection and prevention of outbreaks in flood-affected districts

While discussing the above services, respondents also identified difficulties and challenges in organising those services, particularly for victims in remote flooded areas. To help address these obstacles, they suggested using Boat Clinics and Mobile Medical Units to deliver health services and mentioned how the [International Committee of the Red Cross](#) has successfully used this approach during emergencies. Additionally, they suggested, taking support from the Army to secure safe boats and/or helicopters to rescue victims from difficult to reach areas.

Finally, members listed [organisations](#) that can provide such services and have the available resources.

Comparative Experiences

Uttar Pradesh

Providing Water and Sanitation Services Post-Disaster (from [Abid Siraj](#), UNICEF, Ajmer)

UNICEF, during the 2007 floods in eastern Uttar Pradesh provided cost effective eco-friendly toilets. They also provided medicine and nutritious food that catered to the needs of women in the relief camps. In addition, UNICEF supported organisations to provide sanitary napkins and worked closely with the state health department to supply chlorine, bleaching/temiphose, and anti-malarial activity.

Bihar

Maternity Tents with Midwifery Kits Provide Healthcare, Saharsa, Supaul, Purnia, Araria and Khagaria (from [Sufia Askari](#), UNICEF, Patna)

UNICEF along with the Government of Bihar in an effort to provide essential maternal health services the displaced population established 10 maternity tents with midwifery kits in the three most affected districts. So far, 110 deliveries, 95 anti-natal checkups up including 45 TT vaccination and 75 post-natal checkups have been done in these maternity huts.

Assam

Mobile Medical Units (from [Zahir Abbas](#), *GoI-UNDP Disaster Risk Management Programme, Silchar, Assam*)

The Assam government as part of their disaster preparedness effort have equipped mechanized boats clinics, with modern amenities like labs, examination tables, doctors, ANMs, pharmacists and medicines. They have also organized Mobile Medical Units which have modern amenities, including a lab, x-ray, an ultra sound machine, medicine, exam tables, and tents. In addition, the State has allotted a 20% buffer stock of medicine to the districts at risk of flooding, to ensure satisfactory preparedness.

International

Myanmar

Post-Disaster Breastfeeding Counselling (from [Thein Thein Htay](#), *Ministry of Health, Myanmar*)

During cyclone Nargis lactating mothers had a lot of psychological stress. After the cyclone, they were provided with breastfeeding counseling to help them start breastfeeding their babies. This made a lot of difference and almost all the nursing mothers returned to breastfeeding. Moreover, some mothers who lost their babies, nursed babies who lost their mothers.

Country

Boat Clinics and Mobile Medical Units (from [Mahesh Arora](#), *Anubhooti Society, Jaipur*)

ICEC during emergencies used boat clinics and mobile medical units to deliver health services to victims in remote flooded areas. The boats collected messages from the affected people who come forward for health queries and brought back to the base operational area. These were then replied to the person addressed to. This proved to be a useful way of keeping the affected victims family and friends in adjoining villages connected.

Related Resources

Recommended Documentation

Guidelines for the Operationalisation of Mobile Medical Unit (in Northeastern States, Himachal Pradesh and J&K) (from [Dinesh Agarwal](#), *UNFPA, New Delhi*)

Guidelines; National Rural Health Mission, Ministry of Health and Family Welfare

Available at http://mohfw.nic.in/NRHM/Documents/Mobile_Medical_Unit.pdf (PDF, Size: 156 KB)

Guides states in planning and setting up Mobile Medical Units (MMU) to provide health care in underserved areas, can be used for providing maternity and allied services during floods

National Rural Health Mission, State Health Action Plan, Assam (2007-08) (from [Zahir Abbas](#), *GoI-UNDP Disaster Risk Management Programme, Silchar, Assam* and [Prafulla Kumar Dash](#), *Municipal Corporation of Delhi, New Delhi*)

Action Plan; State Health Society, Government of Assam; May 2007

Available at http://health.nic.in/NRHM/Final_State_PIP/NE/Assam_PIP.pdf (PDF, Size: 1.55 MB)

Provides details of activities planned for promoting Mobile Medical Units and Boat clinics to render public health services to women and children in flood affected areas

1.4 Million People Affected by Flooding in Bihar (from [Sufia Askari](#), UNICEF, Patna)

News; UNICEF; 27 August 2008

Available at http://www.unicef.org/infobycountry/india_45371.html

Shares that in collaboration with the local government & partners, UNICEF is providing essential supplies to meet the maternity & health needs of vulnerable groups in flood-affected areas

UNICEF Galvanizes Partners for Flood Relief to Children and Families in Uttar Pradesh (from [Abid Siraj](#), UNICEF, Ajmer)

News; UNICEF; 15 August 2007

Available at http://www.unicef.org/infobycountry/india_40607.html

Briefs about UNICEF's efforts in collaboration with local partners to deliver quality health services including maternity and allied services during floods to improve maternal and child health

From [JP Dadhich](#), Breastfeeding Promotion Network- India (BPNI), Delhi

Infant Feeding in Emergencies: For Emergency Relief Staff-Oriented and Reference.

Module-v1; WHO, UNICEF, LINKAGES, IBFAN, ENND; March 2001

Available at www.enonline.net/ife/view.aspx?resid=1

Explains why IFE is an important concern, discusses challenges, and suggests how to support breastfeeding and reduce dangers of artificial feeding

Infant Nutrition During A Disaster: Breastfeeding and Other Options

Brief; American Academy of Pediatrics; 2007

Available at <http://www.aap.org/breastfeeding/PDF/InfantNutritionDisaster.pdf> (PDF; Size: 810 KB)

Shares actions a pediatrician need to take to support breastfeeding during disaster, explaining disadvantages of formula and recommending human milk, as safest food for infant

Discussion paper on infant and young child feeding in the context of current initiatives to address moderate acute malnutrition in children under 2 years

Discussion paper; IFE Core Group, Emergency Nutrition Network; September 2008

Available at <http://www.solutionexchange-un.net.in/drm/cr/res22090802.pdf> (Size: 56 KB)

Summarizes whole issue of infant feeding in emergency in the context of Global Strategy for IYCF and urge members n emergency nutrition sector to take action on conclusions

After the Floods: The Health Services' Responsibilities (from [Deeksha Sharma](#), Research Associate)

Editorial; by Sandhya Srinivasan; Indian Journal of Medical Ethics; October-December 2005

Available at <http://www.issuesinmedicalethics.org/134ed108.html>

Highlights the ethical responsibility of service providers to extend preventive and curative health care, and share essential, truthful and useful information to public, when dealing with a crisis

Recommended Organizations and Programmes

Anubhooti Society, Jaipur (from [Mahesh Arora](#))

79, Gaurav Nagar, Civil Lines, Jaipur 302006, Rajasthan; Tel: 0141-2225814

Ready to coordinate with pharmaceutical companies, medical representative for providing for maternity and allied services to population impacted during the floods

From [Abid Siraj](#), UNICEF, Ajmer

Art of Living

webmaster@artofliving.org;

<http://www.artofliving.org/Initiatives/Service/TraumaRelief/tabid/79/Default.aspx#sec1>

Provides emergency materials and maternity and other allied services needed in disaster hit areas

Hindustan Latex Family Planning Promotion Trust (HLFPPT), Noida

B-11, Sector- 59, Gautam Budh Nagar, Noida 201301 Haryana; Tel: 0120-4231060/1/2; Fax: 0120-4231065; hr@hlfppt.org; <http://www.hlfppt.org/newinitiatives.htm>

Implements projects to improve access to reproductive health care services and during the flood relief efforts in Uttar Pradesh distributed sanitary napkins in collaboration with UNICEF

United Nations Children's Fund (UNICEF), New Delhi (from Abid Siraj and Sufia Askari)

73 Lodi Estate, New Delhi 110003; Tel: 91-11-2469-0401/1410; Fax: 91-11-2462-7521/9-1410; newdelhi@unicef.org; http://www.unicef.org/india/emergency_4245.htm

Involved in emergency preparedness and response, providing maternity and allied services to ensure fulfilment of the rights of children and women during humanitarian crises, including floods

From [Alok Lodh](#), Movement Against AIDS, Bihar

Movement Against AIDS (MAD), Bihar

Sinha House, Bankers Colony, Near FCI Godown Railway Crossing, PO: MIC Bela, Sherpur, Muzaffarpur 842005, Bihar; Tel: 0621- 2272683; maa@maaindia.org

Technical support group providing mobile medical teams for rapid assessment in health consultancy, maternal and other allied services in the disaster hit areas

United Nations Development Programme (UNDP), New Delhi

55 Lodhi Estate, New Delhi 110003; Tel: 11-46532333; Fax: 11-24627612; webadmin.in@undp.org; http://www.undp.org.in/index.php?option=com_content&task=view&id=20&Itemid=78

Supports the Govt in improving maternity and other allied services by setting up an institutional framework for disaster preparedness, response, prevention and mitigation

From [Sunita Abraham](#), Christian Medical Association of India, New Delhi

Christian Medical Association of India (CMAI), New Delhi

A-3, Local Shopping Centre, Janakpuri, New Delhi 110058; Tel: 011-25599991, 25599992, 25599993; Fax: 011-25598150; cmai@cmai.org, cmaidel@vsnl.com; <http://www.cmai.org/activities/index.html>

Involved in mobilizing medical teams from member institutions in disaster hit areas; interested in collaborating for larger relief to improve the provision of maternal and allied services

Church's Auxiliary for Social Action (CASA), New Delhi

Rachna Building, 4th floor, 2 Rajendra Place, Pusa Road, New Delhi 110008; Tel: 25730611/ 2, 25731218/ 9, 25761579, 25767231; Fax: 91-11-25752502; aloke@casa-india.org, sanjeev@casa-india.org; http://www.casa-india.org/link_listing.php?link_auto_id=67

NGO working on Bihar floods,

Help Age India, Patna

House No # 28A, Patliputra Colony, Patna 800013, Bihar; Tel: 0612-2273271; patna@helpageindia.org; <http://www.helpageindia.org/index.htm>

Engaged in development work across the country and also during disaster situations works to provide support and healthcare to disadvantaged persons

From [Mahesh Arora](#), Anubhooti Society, Jaipur

Indian Federation for Red Cross and Crescent Societies (IFRC), New Delhi

Red Cross Building Red Cross Road, New Delhi 110001; Tel: 91-112-371-64-24; indcross@vsnl.com; <http://www.ifrc.org/what/disasters/response/tsunamis/index.asp>

Indian Red Cross programmes include promoting humanitarian principles and values, disaster response, disaster preparedness and healthcare in the community

National Disaster Management Authority (NDMA), New Delhi

Centaur Hotel, Near IGI Airport, New Delhi 110037; www.ndma.gov.in

Develops a holistic, multi-disaster and technology-driven strategy for disaster management including preparedness at all levels through collective efforts of the Government and NGOs

Breastfeeding Promotion Network India (BPNI), New Delhi (from JP Dadhich)

BP-33 Pitampura, New Delhi 110088; Tel: 011-27343608; Fax: 011-27343606; bpni@bpni.org;
<http://www.bpni.org/training.html>

Coordinates and facilitates training of health professionals and community health workers providing maternity and allied services, counseling mother on breastfeeding during disasters.

From Nupur Arora, Research Associate

All India Institute of Medical Sciences (AIIMS), New Delhi

Ansari Nagar, in front of Safdarjung Hospital at the crossing of Ring Road and Aurobindo Marg, New Delhi; Tel: 91-11-26588500/799; Fax: 91-11-26588663/41; <http://www.aiims.edu>

Responded to medical emergencies during to disaster relief efforts for the 2001 Gujarat Earthquake and other emergencies

Rotary International, United States

One Rotary Center, 1560 Sherman Ave., Evanston, IL 60201, USA; <http://www.rotary.org/membership/>

Worldwide organization of professional leaders that provides humanitarian service, has been active for providing relief and setting medical camps during various disasters.

St. John's Medical College Hospital, Bangalore

Johnnagar, Bangalore 560034 Karnataka

Disaster Relief and Training Unit has been responding to disasters in the Indian Peninsula since the early 1970s providing health care to victims.

National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore

Hosur Road, Bangalore 560029 Karnataka; <http://www.nimhans.kar.nic.in/>

Was involved in the 2004 Tsunami relief efforts for providing psychosocial support working with communities in the Andaman and Nicobar Islands

Indian Federation for Red Cross and Crescent Societies (IFRC), New Delhi

Red Cross Building1 Red Cross Road, New Delhi 110001; Tel: 91-112- 371-64-24; indcross@vsnl.com;
<http://www.ifrc.org/what/disasters/response/tsunamis/index.asp>

Programmes include promoting humanitarian principles and values, disaster response, disaster preparedness and healthcare in the community

Community Health Cell, Bangalore

359, Srinivasa Nilaya, Jakkasandra 1st Main, 1st Block, Koramangala, Bangalore, Karnataka 560034; Tel: 91-080- 25531518; <http://www.sochara.org/>; Contact: Dr. Ravi and Thelma Narayana

Worked during Himachal earthquake, Gujarat earthquake, Orissa cyclone and Indian Ocean Tsunami for providing health services, especially for women and children

From Deeksha Sharma, Research Associate

CARE India, New Delhi

27, Hauz Khas Village, New Delhi 110016; Tel:91-11-26566060/26564101; Fax:91-11-26564081/26529671; <http://careindia.org/ManageProgramKey/VisitProgramDetail.aspx?ProgramKeyID=103>

Empowers vulnerable and marginalized sections, and engages in relief efforts during calamities by providing i.e. safe drinking water, access to health services, and other essentials

Save the Children, Bal Raksha, Bharat, New Delhi

4th Floor, Farm Bhawan, 14-15 Nehru Place, New Delhi 110019; Tel: 91-11-4229-4900; Fax: 91-11-4229-4990; info@savethechildren.in; http://www.savethechildren.org/emergencies/asia/india/floods_08/

Saves and transforms lives in aftermath of emergencies and provides immediate relief to affected families including children with food, shelter, medical assistance

World Vision India, Chennai

16, VOC Main Road, Kodambakkam, Chennai 600024 Tamil Nadu; Tel: 91-44-24807070; Fax: 91-44-24807242 ; indiasponsors@wvi.org; <http://www.worldvision.in/?1297>

Works towards creating lasting change in lives of children, families and communities, and streamlines relief response in by providing survival kit and other services in flooded districts

Project Concern International/India, New Delhi

B-7 Extension/110A, Safdarjung Enclave, New Delhi 110029; Tel: 91-11-46058888; Fax: 91-11-26187545; proconin@pciindia.org; <http://www.pciindia.org/html/BiharFloods.html>

With a mission to prevent disease, improve community health, and promote sustainable development supports the fulfillment of immediate health care needs of flood victims

Oxfam India, New Delhi

2nd Floor, 1 Community Centre, New Friends Colony, New Delhi 110065; Tel: 91-0-11-4653 8000; Fax: 91-0-11-4653 8099; delhi@oxfamindia.org; <http://www.oxfamindia.org/floods-bihar>

Focuses on livelihoods, essential services, and humanitarian work; with partners delivers emergency shelter, hygiene items, and allied health services to disaster struck families

From Meghendra Banerjee, Resource Person

Plan India, New Delhi

E-12, Kailash Colony, New Delhi 110048; Tel: 91-11-46558484; planindia@plan-international.org; http://www.planindia.org/early_child.aspx

With a child-centred approach to emergencies and disasters, its resources and facilities on ground helps in responding to health services and allied needs of disasters affected communities

Adventist Development and Relief Agency (ADRA) India, Gurgaon

45 Kusum Marg, H-Block, DLF-1, Gurgaon 122002, Haryana; Tel: 91-0-124-405-6634; Fax: 910-124-405-6635; info@adraindia.org;

<http://www.adraindia.org/news.php#ADRA+India+Responds+to+Floods+in+Bihar>

Provides community development and emergency management services to respond to critical health and allied care needs of families affected during disasters

Lutheran World Service India, Kolkata

84, Dr. Suresh Sarkar Road, Kolkata 700014 West Bengal; Tel: 91-33-2284-9200/9730/9731; Fax: 91-33-2244-3062; lwsiv@vsnl.com; http://www.lwsi.org/html/proj-disaster_res.html

Implements various programmes for effective emergency relief by providing allied services to affected families, and their rehabilitation

Confederation of Indian Industry (CII), New Delhi

The Mantosh Sondhi Centre, 23, Institutional Area, Lodi Road, New Delhi 110003; Tel: 91-11- 24629994-7; Fax: 91-11-24626149/24633168; ciico@ciionline.org; http://cii.in/menu_content.php?menu_id=1283
Renders advisory services and technical assistance on social development to industry and involved in mobilizing medicines and other allied services for flood affected population in Bihar

World Health Organization (WHO) India, New Delhi

Sustainable Development and Healthy Environment- Cluster, 534, "A" Wing, Nirman Bhawan, Maulana Azad Road, New Delhi 110011; Tel: 91-11-23061955, 23062179, 23063632, 23061993; Fax: 23062450; wrintia@whoindia.org; http://www.whoindia.org/EN/Section33/Section34/Section204_1675.htm
Collaborates with government agencies to put health on top of national sustainable development agenda and helping relief-affected regions by providing health kits and other essential services

Samajik Shaikshanik Vikas Kendra (SSVK), Patna

Lok Shakti Bhawan, Opposite Ajay Nilayan Apartment, Nageshwar Colony, Boring Road, Patna 800001 Bihar; Tel/Fax: 91-612-2522077, 91-94310-25801; ssvkindia@gmail.com;
<http://www.ssvk.org/disasterresponse.htm>
Strengthens disaster coping mechanisms of targeted communities by involving in emergency relief operations and providing essential items, extension of medical and other allied services

Recommended Portals and Information Bases

National Rural Health Mission (NRHM), Ministry of Health and Family Welfare, Government of India (from [Ravishwar Sinha](#), Independent Consultant, New Delhi)

http://mohfw.nic.in/NRHM/RCH/Background_new.htm
Provides information to improve healthcare, manage and control public health services including maternity and other allied services during disaster situations

Related Consolidated Replies

Mass Casualty Management, from Deepa Prasad, United Nations Development Programme (UNDP), Bhubaneswar (Experiences; Advice). Disaster Management Community. Issued 28 December 2007

Available at <http://www.solutionexchange-un.net.in/drm/cr/cr-se-drm-11110701-public.pdf>
(PDF, Size: 139 KB)

Shares experiences on existing Mass Casualty Management systems at city level, challenges faced to implement them and ways to improve in cities and hospitals

Strengthening Pre-Hospital Care Systems during Emergencies, from Deepa Prasad, United Nations Development Programme (UNDP), Bhubaneswar (Experiences; Advice). Disaster Management Community. Issued 28 February 2008

Available at <http://www.solutionexchange-un.net.in/drm/cr/cr-se-drm-05120701-public.pdf> (PDF, Size: 99 KB)

Shares experiences of linking volunteers with public health systems and suggestions to improve pre-hospital care systems and involving volunteers in Mass Casualty Incidents

Community Based Health Care and Psychosocial interventions Following Disasters – from Deepa Prasad, United Nations Development Programme, Bhubaneswar (Experiences; Examples). Disaster Management Community. Issued 28 March 2008

Available at: <http://www.solutionexchange-un.net.in/drm/cr/cr-se-drm-20020801-public.pdf> (Size: 154 KB)

Shares interventions on preventing disease outbreaks; strategies to involve volunteers in risk identification and community based initiatives for psychosocial care during disasters

Standardizing First Aid and Search and Rescue Kits, from From Adesh Tripathee and Eilia Jafar, International Federation of Red Cross and Red Crescent Societies (IFRC) - Regional Delegation of South Asia, New Delhi (Advice). Disaster Management Community. Issued 16 May 2008

Available at <http://www.solutionexchange-un.net.in/drm/cr-public/cr-se-drm-21040801-public.pdf> (PDF, Size: 114 KB)

Brings out suggestions on preparing standardized first aid kits for family, school and trained volunteers and lists down items for them

Responses in Full

Mahesh Arora, Anubhooti Society, Jaipur

Anubhooti Society Based at Jaipur is ready to coordinate with association of medical stores/wholesale Pharmaceutical companies distributors/Medical Representative associations for basic requirement of Iron Folic acid, calcium & inj Tetvac etc for pregnant & Lactating women impacted during the Bihar floods.

Kusum Gopal, United Nations Educational, Scientific and Cultural Organization (UNESCO), Tanzania

As we witness the tragedy that is happening in Bihar we need to bear in mind such events will continue to visit us unless we act immediately.

Mobile Medical units could also be water worthy and equipping good sized boats to traverse flood waters needs to be considered, in addition to ordinary rescue services. Thus, these boats will have many uses.

In eastern Uttar Pradesh where I have worked the Rapti caused many tragedies and loss of lives almost every monsoon.

And, further, we need to also build embankments and protect flood vulnerable areas - And planting trees.

Every year the monsoons happen on account of the phenomenal deforestation that took place under colonial rule and continues at an alarming pace, We need to seek the advice of ecologists and foresters and take preventive measures. Pernicious diseases such as malaria, cholera and tuberculosis would also be kept in check this way.

Zahir Abbas, GoI-UNDP Disaster Risk Management Programme, Silchar, Assam

In Assam, the State has two innovations i.e. Boat Clinic & Mobile Medical Unit.

- Boat Clinics are well built mechanised boats equipped with modern amenities like lab, examination table, Doctors, ANMs, Pharmacists and medicines. They provide ANC, PNC, Immunisation, and other general ailments services. These boat clinics cover the riverine areas of Brahmaputra River covering 5 districts which are prone to floods.
 - Mobile Medical Units are running in 10 districts of Assam. It has modern amenities too i.e. lab, x-ray, Ultra sound, medicines, examination table, tent, TV, etc.
 - For meeting the floods, The State has allotted 20% buffer stock of medicines to the districts.
-

Dinesh Agarwal, United Nations Population Fund (UNFPA), New Delhi

Provision of quality intra partum care and immediate post partum care should be priority right through relief and recovery phase. Following interventions can be explored depending on situation on the ground.

- Pre fabricated labour room (with two or more labour tables) attached to relief camps. These make shift labour rooms can be staffed by the skilled birth attendants and should have a back up referral transport to DHs in the event of life threatening obstetric complications which can not be managed locally. Adequate arrangements should be made for infection prevention and disposal of hospital waste material.
- Mobile medical units may be considered. . These may be of some help for the women who are almost in second stage of labour. These units will ensure delivery in properly equipped mobile unit by skilled attendants.. Women may not find this comfortable if they are required to be on labour table for longer duration in the mobile units.
- The last option could be having transport vehicles ready at the camp sites. Women should be transferred to a higher health facility in the event of any women showing signs of labour approaches medical unit.
- I am sure supplies (equipments, drugs and other expendables) will be made available in adequate quantities at these facilities.

Hope this helps.

Salathiel R. Nalli, Development Consultant, Hyderabad

I just came back from flood affected Bihar doing assessments in the flood affected areas. Though we collect details of Pregnant Women and Lactating women, responding to their needs as an individual agency is becoming quite difficult. We have found on an average, 3 pregnant women per 100 people living in the camps. And in one camp, two women gave premature birth to babies, where both the babies died. The hospitals are not in a position to provide maternal care to the affected people during the times of disaster.

For both Saharsa and Madhubani districts, we have found only one Mission Hospital in Madhepura, which has facility for Neonatal care. But that too unfortunately is closed due to flood waters entering in to the hospital campus. There were various agencies, who are providing medical care, but not specifically on Maternal and Neonatal care.

There is a need for setting up few camps specifically for pregnant mothers and lactating women with proper water and Sanitation facilities, food and appropriate medical facilities. In the absence of specific camps, their special needs would be difficult to address. We could encourage few agencies to specialize in setting up emergency maternity care in times of Disasters. On the other hand, donors also need to prioritize specific allocation of grants to the agencies that cater specifically to maternity and Allied services.

Abid Siraj, United Nations Children’s Fund (UNICEF), Ajmer

Good efforts to help those who are in great need. I would like to add upon few initiative had taken by UNICEF in last year flood relief in Eastern part of Uttar Pradesh.

- For sanitation they have made eco-friendly toilets which are very cost effective
- Art of living NGO with collaboration with UNICEF came out for relief work and provided urgent needed medicines and nutritional food
- HLLFFT with collaboration with UNICEF provided sanitary napkins.

Apart from that with close coordination with state health department supplied IFA, Chlorine, bleaching/temiphose, anti malarial activity like BDK oils provided and strictly monitor the entire relief programme.

Moreover we as professional are ready to provide services if needed.

Rajesh Sood, Centre for Health Promotion India, Himachal Pradesh

Let us compare the disaster management services of Army with Civil administrators.

Though I am not an army person, I am impressed with the complete and meticulous planning along with the full logistical support, which enable them to deliver effectively. Moreover the hierarchy of command and authority ensures that every task is executed.

In the real situations, civil authorities miss out on these critical components - a lot of things are taken for granted, there is no system to discipline truants and authorities are concerned only with putting up a good show and concealing real situation. The Medical teams will reach with little supply and have nothing to offer except counseling.

Let us take lessons form the gaps in the two systems, and organise systems with clear understanding of roles, responsibilities and accountability. The logistics should be adequate and decision making immediate in case of shortage.

The approach I would like to put my money on at this stage (after the initial casualties) would be a health worker / paramedic based triage in the disaster affected points and referral to well equipped and 24 X 7 functional field hospitals with specialists and adequate supplies where continuum of care can be ensured. Speedy transport to expecting mothers to a hospital would be more effective than having mobile hospital go to the village.

Adequate supplies and transport for the outreach teams are essential in order to deliver primary health care including TT immunization, Iron folic Acid, Vaccines, Syringes, ORS, malaria chemoprophylaxis, Insecticide treated bed nets, This needs a well knit referral system and adequate number of transport vehicles (boats in this case).

Last but not the least, medical teams need to co-ordinate with other relief (Food/ nutrition, blankets etc) and operate in isolation of other relief work.

Prafulla Kumar Dash, Municipal Corporation of Delhi, New Delhi

Nutrition is a major risk factor for disease. This is one aspect that is most neglected in adverse situations like disasters. The evidence about the importance of maternal and child nutrition, the long-term effects of under-nutrition on development and health, is well documented. Nutrition is a desperately neglected aspect of maternal, newborn, and child health especially in disaster situations like flood. The reasons for this neglect are understandable but not justifiable. Under-nutrition is the largely preventable cause of over a third-3.5 million-of all child deaths worldwide. Stunting, severe wasting, and intrauterine growth restriction are among the most important problems. There is a golden interval for intervention: from pregnancy to 2 years of age. After age 2 years, under nutrition will have caused irreversible damage for future development towards adulthood. This needs to be borne in mind while planning any intervention for women and children, especially pregnant women in such situations,

When one considers specific actions to improve maternal and child survival, one is drawn to particular interventions; vaccination, oral rehydration therapy, and the treatment of infection and haemorrhage. There are proven effective interventions to reduce stunting and micro-nutrient deficiencies. According to strict criteria around admissible evidence, breastfeeding counseling, vitamin A supplementation, and zinc fortification have the greatest benefits. Attention to maternal nutrition through adequate dietary intake in pregnancy and supplementation with iron, folic acid, and possibly other micronutrients and calcium are

likely to provide value. But these interventions need additional programmatic experience about how to achieve full coverage.

Other maternal and child welfare services that can be a part of planning by the state and national bodies is to prepare in line with Assam's health care services through mobile units like mechanized boats and mobile vans. The services mentioned above should be the basic package and once the basics are taken care other services can be added.

Community preparedness is essential. Traditional dais identified, trained in modern birthing methods can be assets not only during flood but in normal situations also. There are many other health activities under taken in normal conditions to prepare the community for adverse situations.

Alok Lodh, Movement Against AIDS (MAA), Bihar

MAA is a voluntary agency working in North Bihar with its Chief Operations & Zonal Office at Muzaffarpur, which is on the transit axis to the Kosi region.

We are providing the following services:

- Health consultancy in flood prone areas
- Mobile Medical teams with doctors, nurses, paramedical staff, laboratory technicians
- Teams for Rapid Assessment in disaster areas.
- Surveillance unit for Disease Outbreak and first responder Units to support the unit
- Purchase, Logistic & ware housing support from Muzaffarpur esp. with medical consumables/ relief materials
- Monitoring of medical/ nutritional relief for quality assurance
- Operationalising micro clinics through community mobilisation (in process)
- Health education on use of Halazone tabs/ ORS/ sanitation/ safe drinking water/ waste disposal through various media including nukkad natak/ Street play
- Provisioning of volunteers trained under UNDP Disaster risk mitigation program

Through Rapid Assessments, our teams have noted the requirement for:

- Sustainable solutions to the need for workable/ safe micro environments for birthing including water proof bedding/ sheltering materials (Static delivery huts are fine but mobility is the need in the first 4-8 weeks of chaos)
- Safe referral of emergency cases
- Immunisation on a large scale
- Oral rehydration on a large scale
- Protection for the on coming winter months which will be effective early in North Bihar
- Increase use of Disposable Delivery kits
- Provisioning of temporary barrier contraceptives on a wide scale
- Facilitating DOTS on a large scale as TB is spreading due to close co habitation
- STI control
- Intensive counseling for the affected on a large scale particularly with the women of the family esp. focusing on Family Disaster Plans/ Family hygiene/ Water discipline/ Safe cooking/ Sanitation etc.
- Control of skin infections and infestations such as scabies/ ticks etc. on a large scale through distribution of small medicine sachets to every child & women.
- Scaling up the use of body soap. The camps are a very nice place to start Behaviour Change Communication as we have a captive audience on a large scale.
- There is a huge requirement for services of barbers on a large scale 14. There is a need to promote use of sanitary napkins and their safe disposal on a large scale as close co habitation is creating issues with processing of used/ soiled clothing.
- Care for the geriatric age group as well as special needs for the disabled. This may include creation of temporary safe houses for the crippled who cannot move.

- Provisioning of tooth brushes/paste/ traditional tooth sticks (Danth kathi) for oral hygiene on a large scale

These are to be addressed keeping in view the need for the next 4 months.

We also take this opportunity to share with you information about IRAF-NB (Information, resource & Advocacy Forum-North Bihar) of which we are one of the lead agency (health) in the region. The forum is a network of 28 NGOs in the region who are working in the field of Reproductive Health & HIV. The forum is debating on the issues of addressing RH issues in disaster prone areas as it is becoming critical in North Bihar.

As an implementing agency as well as through the IRAF we will be happy to associate for any collaborative effort in country.

Ravishwar Sinha, Independent Consultant, New Delhi

The pregnant and new mothers and children are the worst sufferers in any calamity and need the specialized priority care in any disaster management/response situation. Lessons learnt in the practical situation should be incorporated in any further disaster management planning.

The Government of Bihar and India must be complimented on setting up maternity care teams/camps. If we look at the occurrence of floods annually in India nearly 4- to six months every year it is occurring somewhere or the other. Some state and regions it is an annual event unfortunately. Severity may vary. However a pregnant woman/child, in a severe national calamity or just flooding is equally vulnerable and need priority attention.

Based on my field level experiences in managing emergencies I would like to make the following suggestions in the different phases of emergencies specially in the prone areas:-

PLANNING PHASE:

1. Based on the past experiences a geo-mapping of the flood prone/risk prone areas should be made.
2. In collaboration with the RCH/ICDS/NRHM programs an intensive updating the list of women and children. Coordinating with the Block/Panchayat office to specially identify the weaker sections of the society should be made. Spin off will be better NRHM AND RCH achievements
3. Special effort should be made to give them Ante natal care and identifying nearby delivery facilities.
4. Special focus to women and children in training and disaster planning process. Inclusion of ANM and AWW and their supervisors in the plan preparation and training.
5. Special visits before the anticipated flood /rainy season, completion of immunisation and supplements and assessment of their conditions and risks.
6. Advice and encouragement to pregnant women to seek admissions to adjoining maternity care hospitals.
7. Planners and policy makers should provide for maternity centres in relief camps that can safely and quickly be put up, including the provision of ready to move sterilized equipment and delivery kits.
8. Lining up of volunteers with special training in maternal care -- Public private partnership approach.
9. Provision of Nutrition rehabilitation centers in camps RUTF provision should be integral, as malnutrition is exacerbated by the hardships of the disaster situations and result in avoidable morbidity and mortality

RESCUE AND REHABILITATION PHASE

1. As per the planning and in cooperation with the local authorities at the ground level priority rescue of the pregnant women and children especially from the weaker sections should be prioritized. May I venture to suggest that before the likely time of floods they should be encouraged to take hospital admissions/ or in established care facilities before the likely period of floods---this is more or less predictable in many regions. Or these should be identified in their mother and child cards so as to smoothen their movement in emergency situations.
2. The food supplied in the calamity situations are not always very suitable to the special needs of the mothers and children, and making specific arrangements would alleviate their sufferings.
3. A register should be there to facilitate the tracking as families get disrupted and uniting families is a priority.
4. Whatever help or assistance is given should reach the mothers and children as a priority as they are the weakest and many instances of not being able to access the provisions are reported.
5. Medical and care teams should be assigned and facilitated in their movements and setting up work and stay.
6. Community level volunteers should be organized and recognized in care and service provision.
7. The local ANM and AWW should be involved at the earliest possible.
8. Involvement of the important social/religious/medical/care givers in the area is essential.

REHABILITATION phase

Lessons learnt should be discussed and documented and implemented on a priority through special teams. This needs strengthening.

There should be a social audit better understand the needs

The ongoing programs of RCH, NRHM, ICDS have all these provisions and if implemented in synergistic fashion would go a long way in meeting the goals of these programs and the intents of the Governments at the center and state. I would like to compliment all the NGOS and National and International agencies for their work against such odds.

Manoj K. Naresh, Independent, Jaipur

In reference to your query, I believe the following could be undertaken:

- Mapping of areas with no services
- ANC checks ups, counseling, mobile units – with mobile numbers for the non-targeted areas
- Identification of the women with the high risk signs/possible help in referral
- Counseling for the lactating women on health and hygiene/feeding
- Mass immunization campaigns (especially measles/Vita A) for the infants/children

In Bihar the scale of problem is of such a magnitude, that I think each state government should be requested to provide some form of medical services support. As correctly stated its difficult for the government/other NGOs/International agencies to cater to it.

Sufia Askari, United Nations Children's Fund (UNICEF), Patna

Due to breach in Kosi river embankment at Kusha in Nepal on 18th August 2008, the river changed its course and shifted over 120 km eastwards. As a result, large areas of northern Bihar have been inundated and millions of people have been displaced.

UNICEF has partnered with the Government of Bihar in an effort to provide essential maternal health services to these displaced population. UNICEF is supporting this endeavor by providing Maternity tents

with midwifery kits. Ten such centers have already been established in areas where displaced families are camping (3 in Saharsa and 2 each in Supaul, Purnia, Araria and 1 in Khagaria (Beldaur). 110 deliveries have been conducted till date in these maternity huts, 95 ANC check up including 45 TT vaccination and 75 PNC check up done in these maternity huts.

Other than this the health services needed during this kind of emergency and which is being provided as of today in these flood affected districts of Bihar are:

- Supplementary immunization activities for Measles, Polio and Vitamin A supplementation
- Mobile and Static medical teams with Ambulance services
- Establishing a comprehensive disease surveillance (IDSP) and containment plan for early detection and prevention of outbreaks in all the flood affected districts

Also a very novel innovation was providing a comprehensive training package to ASHA workers posted in these camps for undertaking activities like water disinfection, home visits for newborns, ensuring immunization activities and referrals. The activity is incentive based.

Also enclosing a snap of a maternity hut for reference of members. Please see the link <http://www.solutionexchange-un.net.in/drm/cr/res22090801.jpg> (Size: 3 MB)

Mahesh Arora, Anubhooti Society, Jaipur

The concept of Boat Clinics and Mobile Medical Units are an effective way of delivering much needed Health needs to the victims in the far flung flooded areas.

We can make these services more meaningful without adding much effort and cost.

For this I would suggest that messages from the affected people who come forward for health can be collected and brought back to the base operational area. Like, what ICRC does, these messages are sent to the person addressed to and reply (brief, to the point) is got written on the same Performa plain paper. This is a useful way of keeping the affected victims near & dear ones/relatives in adjoining villages, connected.

This may go a long way in not only giving welcome emotional support but also help in speeding up the over all recovery process.

Help from postal services in initial phases/NGO and people from the affected community, who can contribute, may also be involved.

Sunanda Gupta, University of Illinois, Chicago, USA

I have been reading with interest the suggestions for improving MCH services, particularly for women who are about to deliver and lack of provisions thereof.

In case of flood areas cut off from all secondary or tertiary services, like a woman needing a Cesarean section, it can be possible to have a liaison with the Army to provide safe boats or a helicopter lift to a suitable facility. The use of the Army is included in the NDMA and lower agencies as part of emergency management strategies as they have the equipment readily available to deal with the situation.

Venkatesh P., Medical College, Bangalore

Thanks for opening the invitation in an implied sense. I work in the Department of Community Medicine in a Medical College in Karnataka, as a Faculty. I've completed my post graduation in community health and I am interested in such relief activities in disaster situation.

The point I want to bring to your notice is I'm wishing to volunteer for such activities in Bihar, also provide necessary aid both medical and non-medical at the site. So I place a request that if at all any team is leaving from Bangalore towards Bihar, do intimate me in advance to join the team and put in quality effort in rehabilitation of people there in Bihar.

Uday Pathak, Mahavir Vatsalya Aspatal, Patna

Great Idea. I was in Singheshwar, 5 kms from Madhepura, setting up a medical relief camp in the mandir complex. The date was 18th of September 2008 - The PHC had 11 doctors but no supplies. Did not have them since before the floods. Eight doctors had arrived from Darbhanga who had nothing to do.

Surgical supplies had rust on them, 15 supply laden, tarpoline covered trucks stood on the road nearby, destined for a Relief camp that was supposed to have opened a week ago but hadn't; co-ordination was missing. A ton of bleaching powder had been dumped into the floodwaters to prevent cholera so there was none for the drinking water supply of the mandir.

Sunita Abraham, Christian Medical Association of India (CMAI), New Delhi

The Christian Medical Association of India (CMAI) has been involved in mobilizing medical teams from member institutions across the country and providing support to development work being done by CASA and Help Age India in Saharsa, and Madhepura districts.

Health care needs of women who wish to avoid becoming pregnant are also important in a post disaster situation. Health education on the importance of breastfeeding as the best option in a natural disaster situation needs to be stressed.

CMAI plans a primary health and nutritional support programme for children under 5 in the disaster hit areas in Bihar and we are interested in collaborating towards the larger relief situation.

V. R. Raghavan, Satyam Foundation, Hyderabad

Suggestions from members are very valid. I feel that there are one need to have the following

Skilled Paramedic (ANM/Trained Birth Attendant) to identify risk cases, some indicators like height and weight, symptoms of risks through visits by the trained personnel.

Provision delivery kits in all campsites with special room (hygienic) with privacy for delivery purpose. Delivery should be done only by a trained Dai. List agencies who can position para medic teams or trained birth attendants in these camps for next two to three months or till regular health services are restored.

Emergency Transport: Identify ambulance services and other means of transport and position all of them with Control room (District Magistrate's office). Place these vehicles in strategic places, where it can reach to any site with in 15 minutes. Provide mobile phones to the driver, with charging facility in the vehicle. Communicate a toll free number to all campsites and when ever required they can call this number for emergency transportation. In Andhra Pradesh, Gujarat and few other states, 108 services are meant for emergency transportation and is doing very good work. Similar model could be tried in Bihar.

Move all risk cases along with an attendant to hospitals located nearby. The state government to provide all facilities and finance their expenditure. Provide special cards to these risk cases (why can't to all pregnant women who are nearing expected date of delivery) and they can go to any hospital of their choice. All the cost will be reimbursed by the state.

Thein Thein Htay, Ministry of Health, Myanmar

I have been following the discussion with great interest. You have raised an important issue of breastfeeding for the babies of displaced women in Bihar. I just wanted to share with our experience of breastfeeding counseling for the Nargis affected mothers in cyclone-hit areas. Yes, of course, the affected mothers have a lot of psychological stress, but we have mainly focused on the counseling to the affected mothers to breastfeed their babies. What we found out was that counseling worked to make difference as almost all nursing mothers returned to be able to let their babies have breastfeeding. Some mothers with their babies lost gave wet nursing to other babies without mothers.

During my visit to the affected Delta region, many mothers were giving breast-feeding to their babies after overcoming their stressful experience with Nargis followed by stoppage of breast milk flow. As everyone knows that human milk is the best for an human baby, should we encourage the affected mothers to resume their breastfeeding.

If there is any company or funding source to provide formula milk, why don't we change this assistance to some activities on breastfeeding counseling or improving maternal nutrition. With this experience, we came to learn that there exists no diarrhea outbreak due to the contamination of milk bottle during bottle milk preparation. Availability of safe drinking water to prepare bottle-feeding will be another issue in the affected areas. Wet nursing is the other solution we found.

V. K. Anand, National Consultant (Child Health Development), World Health Organization (WHO) Country Office India, New Delhi

This is in relation to infant feeding query in flood relief camps in Bihar. This is a well known fact that breast milk output reduces in lactating mothers due to stress, exhaustion and may be starvation during disasters. However, we know that still breast milk is best for babies and we must ensure exclusive breast-feeding up to 6 months. The health workers must not be in a hurry to advise other feeding options to these mothers. First, they must try to ensure adequate rest, food and fluid intake for the mothers. Motivate the mothers to continue breast feeding and try to take help of other lactating women. Evidences are there that relaxation can be achieved in these mothers. If the milk output is reduced, then temporarily mothers can be asked to give freshly boiled and cooled any animal milk with added sugar by cup but only after giving breast milk first. If the baby continues to suckle at the breast slowly in all these mothers breast milk output will increase and then slowly the top milk can be stopped.

J. P. Dadhich, Breastfeeding Promotion Network- India (BPNI), New Delhi

While extreme stress or fear may cause milk to stop flowing, this response, like many other physiological responses to anxiety, is usually temporary and milk flow will generally resume when stress is reduced.

Safe havens/spaces for lactating women, where they can be sure to receive water and rations for themselves and help and assistance for relactation as needed, is the best intervention. When milk flow is supported, breastfeeding will also produces hormones that reduce tension, calm the mother and the baby and create a loving bond.

The lactating women needs skilled counseling by a trained personnel. There is a paucity of such help at the community level. There is a strong need to strengthen the community level health workers and

Anganwadi workers by imparting them appropriate training in the counseling on breastfeeding. Breastfeeding Promotion Network of India (BPNI) has developed such a course, which has been used in many states of India by the respective state governments.

There are only few identified indications for using the alternative to the mothers' milk:

- Mother has died or is unavoidably absent
- Mother is very ill (temporary use may be all that is necessary)
- Mother is relactating (temporary use)
- Mother tests HIV positive and chooses to use a breast milk substitute
- Mother rejects infant (temporary use may be all that is necessary)

In any such situation where safe drinking water is not freely available and where the general hygiene is compromised, milks other than mothers' milk will add to the health challenges being faced by the infants.

At any given time, the IMS Act (Indian legislation to protect, promote and support the breastfeeding) should be strictly adhered to.

Excellent documents on infant feeding during Emergencies have been published by the Emergency Nutrition Network (ENN), available at www.enonline.net/ife/view.aspx?resid=1.

Also, The American Academy of Pediatrics has come out with a brochure about the issue. It is available at: <http://www.aap.org/breastfeeding/PDF/InfantNutritionDisaster.pdf>.

I am also attaching a recent Discussion paper on infant and young child feeding, developed by the ENN, which also see the whole issue of the infant feeding in emergency in the context of the Global Strategy for IYCF.

Many thanks to all who contributed to this query!

If you have further information to share on this topic, please send it to Solution Exchange for the Disaster Management Community in India at se-drm@solutionexchange-un.net.in with the subject heading "Re: [se-drm] Query: Maternity & Allied Services in Floods - Experiences, Referrals. Additional Reply."

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