

**Pregnant Mother and Baby Kits in Disaster Response:
The Case Study of 2018 Floods in North of Sri Lanka**

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Abstract

Pregnant mothers and neonates represent two important vulnerable groups in the aftermath of disasters. During population displacement due to floods in the North of Sri Lanka in 2018, there was a need to provide pregnant mother and baby kits to the affected pregnant mothers close to delivery and neonatal kits for the infants. This case study describes the efforts of the health sector in the provision of pregnant mother and baby kits with the support of well-wishers in the aftermath of floods. The need for pregnant mother and baby kits and the lack of prepositioned kits were reconfirmed. A list of items in the pregnant mother and baby kit was obtained. The necessary items were procured through voluntary subscription by well-wishers and assembled into kits in Colombo. Twenty-five maternity and neonatal kits procured and gathered through the voluntary subscription by volunteers were dispatched to the affected areas within 24 hours of the receipt of the request. The above action was mirrored by the Asia Pacific Alliance for Disaster Management (APAD). Stockpiling pregnant mother and baby kits even in small numbers in hospitals, getting into a memorandum of understanding with suitable stakeholders for urgent supply in disasters, and family level preparedness to take with them the pregnant mother and baby kit during flood evacuation are recommended.

Key words: *Pregnant mother and baby kit, Safe delivery, Floods, Disasters*

1. Background

Sexual and reproductive health needs become an important area of concern in disasters and crises (Inter-Agency Working Group on Reproductive Health in Crisis, 2018). Ensuring respectful maternity care needs to continue even during and after disasters (Inter-Agency Working Group on Reproductive Health in Crisis, 2018). Reproductive health kits have been proposed, which includes delivery kits which are meant both for self-delivery, as well as with the assistance of a trained health staff during a disaster, in which the access to a safe delivery facility may be restricted (Inter-Agency Working Group on Reproductive Health in Crisis, 2018).

With regards to health indicators, Sri Lanka has significant achievements; the maternal mortality being 33.8 per 100,000 live births in 2016 and neonatal mortality rate being 5.5 per 1000 livebirth in 2016 (Family Health Bureau, 2018). Less than 1% of total deliveries of Sri Lanka occur as home deliveries. Investments over time in substantial preventive, as well as curative aspects of maternal and child health, coupled with parallel investments in free education, have contributed to these indices. Maternal and child health sector spearheaded by the Family Health Bureau with well-established Medical Officer of Health unit network and hospital network with a referral system linking up to tertiary care level have

been a driving force in uplifting maternal and child health indicators of Sri Lanka.

Nevertheless, Sri Lanka has reported having the second-highest global climate risk score for the period of 1998 to 2019, showing its vulnerability for extreme weather events and related hydro metrological disasters (Eckstein et al., 2018). In addition, the country's vulnerability to low-frequency high impact disasters was evident from 2004 Tsunami. The 30-year-old internal conflict in Sri Lanka, which ended in 2009, followed by the internal displacement of large populations in the North, has taught Sri Lankan health sector many lessons in disaster preparedness and response.

Within the Ministry of Health, the Family Health Bureau has recognized the importance of ensuring sexual and reproductive health in crisis and emergencies and provides overall leadership in its operationalization. The Disaster Preparedness and Response Division (DPRD) coordinates the health sector response while communicating with provincial, national as well as non-health stakeholders, including the Disaster Management Center and the National Disaster Relief Services Center of the Ministry of Disaster Management, as well as provincial, district and divisional level health authorities. The World Health Organization (WHO) provides support to health sector disaster preparedness and response in general while United Nations Population Fund (UNFPA)

and United Nations Children's Fund (UNICEF) offers specific assistance for sexual and reproductive health and maternal and child health aspects, respectively. In the meantime, non-governmental organizations such as Family Planning Association works in close coordination with the government in ensuring the sexual and reproductive health needs during crisis and emergencies.

Circular guidelines have been issued by the Director General of Health Services in relation to the delivery of the above services in times of crisis (Director General of Health Services, 2011). In the meantime, technical guidelines and standard operating procedures for the provision of maternal and child health in emergencies and disasters are being drafted MOH 2018 (Ministry of Health, 2018).

December 2018 reported flash floods in Kilinochchi and Mullaitivu districts of Sri Lanka, with over 45,000 people being displaced in the peak (Government of Sri Lanka, 2018). It should be noted that the same districts were affected by the 30-year-old internal conflict, which ended in 2009, and some communities were in the long-term post-conflict recovery. As per the pre-disaster guidelines, all pregnant mothers above 36 weeks of period of amenorrhea were admitted to the hospital with hospitals with obstetric care (Director General of Health Services, 2011). Hospitals were ready to provide clinical care for the admitted mothers and those who would go into labor.

Pregnant mothers arriving at the hospital for delivery during non-disaster times bought a pregnant mother and baby kit, consisting of non-clinical items necessary for the mother and baby. It is customary for pregnant mothers to prepare these items by themselves throughout pregnancy as per the advice of the field health staff, which is also a part of psychosocial and practical preparation for motherhood.

However, in the aftermath of floods, these kits were needed for the pregnant mothers who went into labor during the immediate aftermath of the floods as well as for their newborn babies. During population displacement due to floods in the North of Sri Lanka in 2018, there was a need to provide pregnant mother and baby kits to the flood survivors. This case study describes the efforts of the health sector in the provision of pregnant mother and baby kits with the support of well-wishers in the aftermath of floods.

2. Subjects and Method

The DPRD obtains situation reports of any disaster on a daily basis from disaster-affected areas. The current status of the disaster, its impacts on the communities and health facilities, as well as any needs are collected and compiled and communicated to the health authorities as well as other stakeholders for prompt action. The need for pregnant mother and baby kits was received on Day 2 of the

disaster. The need was triangulated with the health authorities, and it was found that the health authorities did not have the means to obtain kits on their own.

The items in the pregnant mother and baby kits, except the sanitary pads, are not routinely supplied by the Ministry of Health. The Family Health Bureau, WHO, UNICEF, UNFPA, and FPA were contacted to see if the pregnant mother and baby kits were available with them. None of the agencies reached had a stock of such items. As the request was made on 23rd December close to the Christmas Holidays and towards the end of the financial year, none of the agencies reached could assure the availability of such kits to arrive within a meaningful timeframe.

A list of items routinely brought in by pregnant mothers to the hospital was obtained in consultation with the health authorities of the North. The list of items included non-clinical supplies to be useful by the mothers during delivery and things for the care of the newborn.

Although these items were essential for the wellbeing of both the mother and the newborn, these items did not come out from the routinely supplied items from the health sector to hospitals. Hence, it was not possible to attempt the procurement through the government supplies system. Further, given the time of the year, the feasibility of such an attempt would have been futile.

It was decided to reach out to well-wishers to contribute towards the kits. The items were procured from Colombo, as per the lists provided by the affected health authorities. The kits were color-coded as "male" and "female" as per the usual cultural practices. Twenty-five kits pregnant mother and baby kits were assembled.

It was essential to transport the kits as soon as possible to the North. The routine logistics supplies would have an unnecessary delay on the day of Christmas. Hence, an ambulance that transported a patient from Colombo was used to transport the kits after consulting the health authorities of the North.

3. Results

It was possible to assemble and deploy 25 pregnant mother and baby kits to North of Sri Lanka in the aftermath of floods in 2018 in Sri Lanka within 24 hours of the receipt of the request. List of items in pregnant mother and baby kits are given in Table 1 and Figure 1. The kits were received by the Kilinochchi hospital. Some were distributed to already admitted flood-affected pregnant mothers and were beneficial for the mothers who went into labor and their babies during the immediate aftermath of floods. Others were to be distributed as per the requirement during the next few weeks.

Even though the general public was keen on donating food, water, and other items, they

were not mindful of the needs of the pregnant mothers and newborns. The need was communicated to the Asia Pacific Alliance for Disaster Management (APAD), an NGO working on disaster relief. With the advocacy by the DPRD, they were able to procure 50 more additional maternity and neonate kits and deploy them to Kilinochchi and Mullaitivu hospitals.

4. Discussion

The case study shows how health staff who are aware of and motivated to ensure the sexual and reproductive health needs crisis and emergencies could explore innovative means to achieve the same. The need for pregnant mother and baby kits was picked up by such trained health authorities. In the meantime, the urgency of action taken to procure and deploy maternity and neonatal kits by the national level health staff demonstrated in the case study, bypassing the bureaucratic and financial hurdles, is also commendable as a means to ensure a respectful, dignified and safe motherhood. However, the subscription by well-wishers to such kits could not be seen as financially sustainable.

Pregnant mother and baby kits, though not necessarily medical items, need to be considered by the health sector in the disaster response. Preparation of the item lists to be included in the kits as well as stockpiling few kits at each hospital could be useful in preparation for disasters. It is also recommended to initiate a discussion between

the Ministry of Health and the Ministry of Disaster Management in exploring the possibility of stockpiling such items with the Ministry of Disaster Management as a relief item. In addition, the hospitals could come into a memorandum of understanding between non-governmental organizations of the area for urgent procurement of such items in the aftermath of the disaster. Last but not least, educating pregnant mothers and families to take their maternity and neonatal kit during evacuations could also be useful.

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Conflict of Interest

The authors do not have any conflict of interest.

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Table 1: Items in the Pregnant Mother Kit and Baby Kit

Pregnant Mother Kit		Baby Kit	
Item	No.	Item	No.
Bed Jacket	2	Baby Towel	2
Lungi	2	Baby Napkins	6
Towel	1	Baby Gowns	6
Soap	1	Baby cap, gloves and socks	1
Toothbrush	1	Cot sheet	1
Toothpaste	1	Baby Mosquito Net	1
Sanitary pads with loop	1	Baby Soap	1
Slippers pair	1	Baby Cologne	1
		Baby Cream	1
Basket to pack the items	1	Bag to pack the items	1



Figure 1 : Pregnant Mother Kit and Baby Kit