

## Infant Feeding in Emergencies – is it relevant in the UK?

Late last night I eagerly watched the news to see the scenes of devastation, due to flooding, in my home town of Sheffield. Sheffield is well known for being built on 7 hills, which naturally means we have a lot of valleys and rivers. These valleys and rivers took the brunt of a months' rainfall falling in 24 hours. Local rivers were unable to cope with the volume of water, bursting their banks and subsequently flooding many roads, buildings and houses, causing severe disruption.

As I watched, my thoughts went out to all those affected by the flooding. I felt lucky to be living at the top of a hill and that the worst I had to cope with was a few clothes to dry, when the children returned home from school. My sister's basement had flooded and both her and my parent's home were left without electricity. Things were also not so good for those, left stranded at work. Rescue RAF helicopters were called in to the area to help winch over 100 people, including a woman and her baby, to safety.

So what's this got to do with breastfeeding?

Well SKY news and BBC news 24 reported late yesterday that 35,000 homes were left without power and some 250 homes had been evacuated. Sheffield Hallam Arena was providing emergency accommodation, as were local nightclubs, leisure centres, schools and various other places. I then began to wonder how many babies would have been amongst those evacuated or left in a home without power. How are those babies being fed, I wonder?

When we think about Infant Feeding in Emergencies (IFE), it's generally associated with some crisis in developing countries; a tornado, earthquake, tsunami or displacement due to conflict or fighting. The UK shouldn't really need to give much consideration to the WHO, IBFAN and Emergency Nutrition Network publications on IFE, which gives guidance and which applies worldwide<sup>1, 2</sup> because things like this just don't happen in the UK.

So when I heard the following day that in South Yorkshire alone 14,000 people remained evacuated from their homes and that 86,000 homes had disrupted power supplies with 32,000 homes being completely without power I wondered what systems, if any, do we have in place to protect vulnerable babies in these situations in the UK? When it does become a reality it must be worth highlighting that ***In emergencies, children under five are more likely to become ill and die from malnutrition and disease than anyone else. In general, the younger they are, the more vulnerable they are. Inappropriate feeding increases their risks.***<sup>3</sup>

Irrespective of any emergency, artificially fed infants *already* constitute a risk group<sup>4</sup>, and *should receive special attention from the health and social welfare*

system, so situations like this really emphasise the importance of breastfeeding. Without wishing to add to any mother's distress I think it is valid to ask how parents of formula feeding infants, are coping with this situation? Babies continue to need feeding. In these emergency shelters and when there is no power supply - how easy is it to maintain safety guidelines set out by the Food Standards Agency, Department of Health and infant formula manufacturers for preparing infant formula? Such as mixing powdered formula with water at 70 degrees centigrade (the temperature necessary to kill harmful pathogens)<sup>5, 6</sup> and cleaning and sterilising bottles and teats. A recent report in The Guardian newspaper highlighted the *acute risks that formula feeding presents to infants where there aren't the resources to safely support it.*<sup>7</sup> Whilst anecdotally it is discussed that we don't have the same problems as in developing countries, the current situation across South Yorkshire and other areas of the country show that occasionally we do.<sup>8</sup>

In a BBC Radio Sheffield interview, one man described how he was woken in the middle of the night by emergency crews who told him he and his family had 5 minutes to get ready and leave their home. This must have been an incredibly frightening experience, especially for those families with young babies and children. For a breastfeeding mother, so long as the mother and baby are kept together, the baby's food needs are pretty much catered for, plus the baby will have additional protection from the new environment she / he is faced with, via mum's antibodies. Breastmilk is known to contain anti-infective properties which provide protection against illnesses and reduce the severity of those that occur.<sup>9</sup> In a room full of strangers and unfamiliar bugs / germs, this will be very reassuring. But for those mothers artificially feeding, how must they have felt to have to leave their homes so suddenly without any necessary equipment or means to feed their infant? Their babies will not have any additional protection by any antibodies made by mum and are already at risk due to the pathogens already present in up to 14% of tins of infant formula.<sup>10, 11, 12, 13</sup>

If local authorities and other agencies are donating supplies of food; which includes infant formula milk are they following the UK Law<sup>14</sup>, WHO and UNICEF code and resolutions and IBFAN guidelines<sup>15</sup> in ensuring breastfeeding is protected and not undermined by emergency relief efforts and distribution of breastmilk substitutes? Are those aid workers / staff aware that such guidelines even exist? Any appeals being made on behalf of victims should be for money rather than donations. Many health workers and parents are not aware that infant formula is not even a sterile product to start with.<sup>16</sup>

Is this covered as part of the 'major incident' preparations? Is the importance of keeping a mother and her infant together understood and training given in assisting mothers with relactation, if necessary? Breastfeeding is the safest method of feeding infants. Those women who are feeding both breastmilk and infant formula should be encouraged to breastfeed exclusively and be informed

and educated about how supply and demand process of milk production works, if they have concerns about their breastmilk supply.

In situations where the infant is around 6 months and the mother is thinking of weaning, then consideration should be given as to whether it would be safer to continue exclusively breastfeeding, for a while, particularly if the necessary means to wean safely are not available.

Do health workers and other aid agencies have knowledge to inform breastfeeding mothers that stress has no effect on the milk-making hormone (prolactin), but it can have a temporary effect on the hormone which makes the milk flow out of the breast (oxytocin)? The temporary stoppage of this reflex is a useful biological mechanism to stop milk being ejected from the breast at difficult moments. The oxytocin reflex is sensitive: it can stop temporarily, but it resumes quickly. So lots of skin-to-skin contact and continued suckling is important. The skin-to-skin also can help the baby feel secure and limit the damage of the emotional traumas of stressful situations. The breastfeeding hormones help many women feel calmer in stressful situations.<sup>17</sup> Women should be given additional information about where they can get help with breastfeeding (regardless of current method of feeding).

For those babies being formula fed, is advice given to parents, that it could be safer to cup feed?<sup>18</sup> Cups are safer than bottles as they can be cleaned easier. Bottles and teats have intricate parts and need to be thoroughly clean, an important consideration when little or no mains water is available and the kitchen is not big enough for safe handling and preparation to cope with many different babies' equipment. Kitchen areas may have already been contaminated with debris from the river and also from burst sewage systems. For babies and young children, who's immune systems are still maturing and may not be fully developed until around 6 years<sup>19</sup> this becomes a real concern. Health workers should be aware that, at an already difficult time of cleaning up their homes and having to look after small babies and children, people may not have time or necessary resources to be so thorough.

Mothers using powdered formula should be informed that the ready to feed cartons of infant formula may pose less of a risk than powdered feed, during this time, particularly where the clean water supply has been affected. Bottled waters (mineral, spring and table) may be unsuitable to mix with powdered feeds<sup>20</sup>. This is because the solute levels (sodium, nitrate, sulphate and fluoride) may not be suitable levels for the infant's system to cope with. In circumstances where people are left without mains drinking water supply or any bowser water (communal portable container) bottled water may be the only option. The advice given by the Food Standards Agency and Health Protection Agency is that in circumstances where the power supply is affected then bottled water can be used unboiled. Prepared feeds should be used immediately<sup>21, 22</sup>. Whilst boiling water may kill off some bacteria and parasites it does not remove

chemical contaminants<sup>23</sup>. Repeated boiling may actually lead to further concentrating of certain chemicals as the water is boiled off.

If it is felt that the that Infant Feeding in Emergencies guidelines are not that relevant in this country then it's really time to think again. My feeling is that this highlights just how important it is in the UK as well as the rest of the world and I would urge the Government and other agencies to ensure systems are in place to protect this vulnerable group at such a difficult time.

Of particular concern is those people in disadvantaged groups and who are already experiencing inequalities in health. They are likely to be the most affected in these circumstances as they are more likely to have health problems, have lower incomes (ready-to-feed cartons of formula are usually more expensive than powdered formula), less likely to be able to afford house insurance (to replace any damaged items such as sterilisers, bottles and teats), and may be less likely to have their own transport to collect water from depots.

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## References

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<sup>1</sup> [http://www.ibfan.org/site2005/Pages/article.php?art\\_id=335&iui=1](http://www.ibfan.org/site2005/Pages/article.php?art_id=335&iui=1)

IBFAN **Infant feeding in emergencies**, 2000

<sup>2</sup> <http://www.euro.who.int/document/e56303.pdf>

WHO **Infant feeding in emergencies; a guide for mothers**, 1997

<sup>3</sup> <http://www.enonline.net/ife/view.aspx?resid=6>

**Infant and Young Child Feeding in Emergencies – Operational Guidance for Emergency Relief Staff and Policy-Makers**. 2007 IFE Core Group (UNICEF, WHO, UNHCR, WFP, IBFAN-GIFA, CARE USA, Fondation Terre des hommes and the Emergency Nutrition Network (ENN)), co-ordinated by the ENN.

<sup>4</sup> [http://www.who.int/child-adolescent-health/New\\_Publications/NUTRITION/gs\\_iycf.pdf](http://www.who.int/child-adolescent-health/New_Publications/NUTRITION/gs_iycf.pdf)

WHO/ UNICEF **Global Strategy on Infant and Young Child Feeding**, 2003

<sup>5</sup> <http://www.food.gov.uk/news/newsarchive/2006/dec/infantform>

Food Standards Agency **Revised guidance on powdered infant formula**, 2006

<sup>6</sup> <http://www.food.gov.uk/multimedia/pdfs/formulaguidance.pdf>

Food Standards Agency / Department of Health **Guidelines for Health Professionals on safe preparation, storage and handling of powdered infant formula**

<sup>7</sup> <http://www.guardian.co.uk/comment/story/0,,2090780,00.html>

The Guardian **Formula milk is even more deadly in disaster zones**, by Marie McGrath, Wednesday May 30<sup>th</sup>, 2007

<sup>8</sup> <http://news.bbc.co.uk/1/hi/uk/6239828.stm>

BBC News **Floods force thousands from homes** Tuesday, 26 June 2007

<sup>9</sup> <http://www.waba.org.my/wbw/wbw05/actionfolder.pdf>

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- <sup>10</sup> <http://www.cfsan.fda.gov/~dms/inf-ltr3.html>  
**Health Professionals Letter on Enterobacter sakazakii Infections Associated With Use of Powdered (Dry) Infant Formulas in Neonatal Intensive Care Units**, U. S. Food and Drug Administration, April 11 2002 Ref: Muytjens HL, Roelofs-Willemse H, Jaspas GHJ.
- <sup>11</sup> <http://www.blackwell-synergy.com/doi/pdf/10.1111/j.1740-8709.2004.00008.x?cookieSet=1>  
Iversen, C., & Forsythe, SJ. 2004 **Isolation of Enterobacter sakazakii and other Enterobacteriaceae from powdered infant formula milk and related products**. Food Microbiology as cited in New Scientist 5 June 2004.
- <sup>12</sup> <http://www.pubmedcentral.nih.gov/picrender.fcgi?artid=266435&blobtype=pdf>  
**Quality of powdered substitutes for breast milk with regard to members of the family Enterobacteriaceae**. J Clin Microbiol 1988;26:743-746.
- <sup>13</sup> <http://www.cababstractsplus.org/google/abstract.asp?AcNo=20043165927>  
Iversen, C., & Forsythe, SJ. 2004 **Isolation of Enterobacter sakazakii and other Enterobacteriaceae from powdered infant formula milk and related products**. Food Microbiology as cited in New Scientist 5 June 2004.
- <sup>14</sup> [http://www.opsi.gov.uk/si/si1995/Uksi\\_19950077\\_en\\_1.htm](http://www.opsi.gov.uk/si/si1995/Uksi_19950077_en_1.htm)  
**The Infant Formula and Follow-on Formula Regulations 1995**; Statutory Instrument 1995 No. 77
- <sup>15</sup> [http://www.ibfan.org/site2005/Pages/article.php?art\\_id=51&iui=1](http://www.ibfan.org/site2005/Pages/article.php?art_id=51&iui=1)  
The WHO / UNICEF **International Code of Marketing of Breastmilk Substitutes and Subsequent WHA Resolutions**
- <sup>16</sup> <http://www.food.gov.uk/multimedia/pdfs/powderinfantform.pdf>  
**COI and FSA Powdered Infant Formula Qualitative Research Final Report** Coi Ref: 272546 (Define ref: 1547) April 2006
- <sup>17</sup> <http://www.euro.who.int/document/e56303.pdf>  
WHO **Infant feeding in emergencies; a guide for mothers**, 1997
- <sup>18</sup> <http://www.euro.who.int/document/e56303.pdf>  
WHO **Infant feeding in emergencies; a guide for mothers**, 1997
- <sup>19</sup> <http://www.kathydettwyler.org/detwean.html>  
Katherine Dettwyler, PhD **A Natural Age of Weaning**
- <sup>20</sup> <http://www.babymilkaction.org/pages/bwater.html>  
Baby Milk Action Briefing Paper, **Bottled water and infant feeding**, June 1998
- <sup>21</sup> [http://www.hpa.org.uk/flooding/health\\_advice.pdf](http://www.hpa.org.uk/flooding/health_advice.pdf)  
Health Protection Agency, **Health Advice Following Flooding**
- <sup>22</sup> <http://www.food.gov.uk/news/newsarchive/2007/jul/flooding>  
Food Standards Agency, **Food Safety advice for people affected by flooding**, Tuesday 24<sup>th</sup> July 2007
- <sup>23</sup> <http://www.bt.cdc.gov/disasters/foodwater.asp>  
Centres for Disease Control and Prevention, **Keep Food and Water Safe after a Natural Disaster or Power Outage**