thebmj

Editorials

Risks of the unregulated market in human breast milk

BMJ 2015; 350 doi: http://dx.doi.org/10.1136/bmj.h1485 (Published 24 March 2015) Cite this as: BMJ 2015;350:h1485

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Urgent need for regulation

As healthcare workers we routinely emphasise the nutritional superiority of breast milk for infant feeding to new and expectant mothers. Some women, though, find themselves unable to breast feed. Although some of them turn to clinicians and health visitors for advice, as many as three quarters of new mothers now look to the internet for guidance.1 Online these women find emotive, moralising discourse around breast feeding and often fear inducing warnings that formula is inferior to human milk for infant feeding.

They may also find sites that facilitate the buying, selling, and trading of breast milk, as well as high profile media sites featuring celebrities who are engaged in this trade. In the absence of warnings about the dangers of buying milk online, this option might seem healthy and beneficial—the better choice if one can't breast feed oneself.2 What mothers, and many healthcare workers, don't realise is that this market is dangerous, putting infant health at risk.

The online market in human milk, growing fastest in the United States, is now also gaining popularity elsewhere, largely among mothers ineligible for milk from milk banks. Although a narrow group of adult consumers (including people with cancer, gym enthusiasts, and fetishists) buy milk online, most buyers are parents who require other women's milk for supplementation or as the sole source of nutrition for their infants. In countries such as the United States where milk banks charge up to $4 (£2.7; €3.7) an ounce, online milk is often the cheaper option. Unlike regulated bank milk, no expense is incurred in routine pasteurisation or testing for disease or contamination, and collection, storage, and shipping requirements are negotiated between buyer and seller, enabling prices to be kept lower.3

Troublingly, these cost saving measures lead to a high risk of communicable disease transmission, contamination, and tampering.4 Unlike donors at licensed milk banks online sellers are not required to undergo any serological screening, meaning that diseases such as hepatitis B and C, HIV, human T cell lymphotropic virus, and syphilis may not be detected.5 6 7 One study comparing milk bought online with that from licensed milk banks found that 21% of the samples bought online were positive for cytomegalovirus, compared with only 5% of bank samples.6

Samples bought online also showed higher overall bacterial growth, with only 9 of the 101 samples not having detectable bacterial growth. This is partly owing to the lack of pasteurisation but also to poor shipping and storage conditions. One study of 102 samples purchased online found that 25% of samples arrived with severely damaged packaging and were no longer frozen, leading to more rapid bacterial growth and contamination.7 Other studies identified occasional contamination with bisphenol A8 and illicit drugs5 and tampering including the addition of cow's milk or water to increase volume (as milk is sold online per ounce).9 Such contamination cannot easily be detected before infant feeding.

Health professionals must take action

What can healthcare workers do to help smarter and safer infant feeding choices? They should increase their awareness of the market and how it operates so that they can pass good information on to caregivers. Professional bodies and institutions currently do not advise on this practice, and training for healthcare professionals does not cover the online market in breast milk.3 Trusts and professional groups need to formulate their responses to this growing market and to supply accurate information to healthcare providers and service users.

Mothers need to feel confident to discuss the various barriers to breast feeding with health professionals so that, if necessary, healthy and safe alternatives to their own milk can be discussed. In paediatrics, general practice, and community care, post-birth check-ups offer an excellent opportunity to inquire about feeding difficulties and practices. New mothers experiencing difficulties breast feeding, and those who cannot breast feed, can learn of options that are much safer than the online market in breast milk.5 Healthcare professionals should also provide advice on the best storage and use of expressed milk,

However, our work must not end in the professional setting. Healthcare workers must also drive and inform the urgent implementation of regulation to ensure safety and quality of human milk.9 Legal regulation to ensure the safe collection, processing, shipping, and quality of human milk is needed, as are mechanisms to obtain redress against those who knowingly contaminate or dilute milk for profit. Moreover, women need legal protection against their exploitation in the production of breast milk for sale,

Although breast milk holds many known benefits, seeking out another's milk rather than turning to instant formula poses risks. When breast milk is screened and treated appropriately, as the World Health Organization states, it remains second to a mother's own milk as best for infant feeding.10 At present milk bought online is a far from ideal alternative, exposing infants and other consumers to microbiological and chemical agents. Urgent

action is required to ~~make this market safer.~~

- expand health provider ability to support a mother's choice to breastfeed
- Expand scale + reach of HMBANA milk banks
- Protect donors and recipients from exploitation of commercial interests, online and corporate.

Notes

Cite this as: *BMJ* 2015;350:h1485

Footnotes

- Competing interests: We have read and understood BMJ policy on declaration of interests and have no relevant interests to declare.
- Provenance and peer review: Not commissioned; externally peer reviewed.

References

*(Hint: PubMed + Google scholar are your friends.)

1. Buultjens M, Robinson P, Milgrom J. Online resources for new mothers: opportunities and challenges for perinatal health professionals. *J Perinat Educ* 2012;**21**:99-111.
2. Horton H. Josie Cunningham to sell breast milk: will she really make £300 a day? *Mirror* 2014 Oct 20. www.mirror.co.uk/news/ampp3d/josie-cunningham-sell-breast-milk-4467930.
3. Geraghty SR, Heier JE, Rasmussen KM. Got milk? Sharing human milk via the internet. *Public Health Rep* 2011;**126**:161-4.
4. Fentiman L. Marketing mothers' milk: the commodification of breastfeeding and the new markets for breast milk and infant formula. *Nevada Law J* 2009;**10**:29-81.
5. Keim SA, McNamara KA, Jayadeva CM, Braun AC, Dillon CE, Geraghty SR. Breast milk sharing via the Internet: the practice and health and safety considerations. *Matern Child Health J* 2013;**18**:1471-9.
6. Keim SA, Hogan JS, McNamara KA, et al. Microbial contamination of human milk purchased via the Internet. *Pediatrics* 2013;**132**:1227-35.
7. Geraghty SR, McNamara KA, Dillon CE, Hogan JS, Kwiek JJ, Keim SA. Buying human milk via the internet: just a click away. *Breastfeed Med* 2013;**8**:474-8.
8. Vogel SA. The politics of plastics: the making and unmaking of bisphenol A "safety." *Am J Public Health* 2009;**99**:559-66.
9. David SD. Legal commentary on the internet sale of human milk. *Public Health Rep* 2011;**126**:165-6.
10. World Health Organization. 10 facts on breastfeeding. Feb 2014. www.who.int/features/factfiles/breastfeeding/en.