

Human Milk Banking in the Volunteer Sector: Policy Development and Actuality in 1970s Australia

Abstract

Objective: to describe the development of rigorous milk banking policies in the voluntary sector in Australia, 1975-1979, by the non-government organisation, the Nursing Mothers' Association of Australia (now the Australian Breastfeeding Association), and the eventual abandonment of milk banking by the organisation.

Design: Ohistorical article.

Setting: Australia in the years 1975-1979.

Conclusions: During the period in which the policy development described here took place, conducting a milk bank to the rigorous standards set by the organisation required too heavy an investment of hours by unpaid volunteer coordinators to be sustainable.

Implications for practice: In establishing and continuing a successful milk bank, models which depend less on volunteer hours may be more sustainable.

Key words: human milk banks, policy, volunteer, Australia.

Introduction

Expressing excess milk after breastfeeding was a common practice in Australian maternity hospitals in the 1940s and postwar period, for two reasons: a belief that this practice was beneficial to milk production (Waller, [1952]), and for use in the hospital, either to feed premature babies or (at a time when mothers were discouraged from breastfeeding at night) to supplement full-term babies during the night (Thorley, 2000). The Maternal and Child Welfare Division of the Queensland Government's Department of Health and Home Affairs maintained

residential facilities in Brisbane, which often cared for premature babies and were supplied with expressed breastmilk (EBM) from mothers in the maternity hospitals; this milk was delivered each day (Thorley, 2000). Some hospitals formalised their ‘pooling’ of milk from the mothers who were in-patients into milk banks, an example of which was the Lady Goodwin Hospital in Rockhampton, Queensland (Annual Report of Health and Medical Services, 1953; Thorley, 2008). The practice of routine expression and the use of this source of mothers’ milk in maternity hospitals were gradually replaced by the use of artificial baby milks (ABMs) as more commercial products came onto the market in Australia from the late-1950s. These were marketed one-on-one to individual doctors and institutions by medical detailers, commonly called ‘reps’.

When the practice of routine expressing of mothers’ milk declined and a reliable supply of it was unavailable within the institution, or from nearby maternity facilities, hospitals sometimes sought donations of EBM from the community for premature or sick babies. For instance, in the early-1980s, the Royal Alexandra Hospital for Children in Sydney depended on EBM collected from mothers in the community for its milk bank which supplied babies in need. One such source of lactating mothers was the Nursing Mothers’ Association of Australia (NMAA), now renamed the Australian Breastfeeding Association, a non-government organisation providing mother support by trained voluntary breastfeeding counsellors throughout Australia. Kerreen Reiger has described how the hospital policies prevalent in the 1960s hampered a good start to breastfeeding and she has linked these reasons to the beginnings of NMAA in 1964 and its rapid growth to fill a need (Reiger, 1985). By the end of the 1960s, the organisation had gone national, with branches in each state and the Australian Capital Territory. The organisation, like most self-help and mutual aid groups of the time, had as its basic unit the

local group (Katz and Bender, 1976). A report in the *NMAA Newsletter* advised members that the Royal Alexandra Hospital for Children needed more mothers to donate their EBM (Nursing Mothers' Association of Australia, 1982). To assist the donors, the hospital provided bottles and manual breast pumps and collected the frozen milk from 'a convenient pick up point' (Nursing Mothers' Association of Australia, 1982). After bacteriological testing was conducted, the donated milk was fed raw to the babies, that is, it was unboiled and unpasteurised.

Method

After providing background on why donated human milk was sought and the sources used by hospitals to obtain it, this descriptive historical article will describe the development of milk banking policies in the voluntary sector in Australia, 1975-1979, by the Nursing Mothers' Association of Australia (NMAA). Sources used were archival materials of the NMAA from the John Oxley Library of the State Library of Queensland, the Virginia Thorley Papers in the Fryer Memorial Library of the University of Queensland, the Queensland Branch library of the Australian Breastfeeding Association, and the author's private papers.

Findings

This article will show that policy development began enthusiastically, with the association's executive acting to control and regulate what was beginning to happen informally at grassroots level. Detailed procedures and screening questionnaires were developed. By 1979, the association had changed its policy to withdrawal from involvement in formal milk banking.

Discussion

Babies in need

While babies have survived and grown on a variety of alternative foods, a few full-term babies are unable to absorb non-human milk adequately. Further, there was evidence available during this period that premature babies fed artificially were at greater risk of infection (Anon., 1961; Tassovatz and Kotsitch, 1961; György, 1971; Winberg and Wessner, 1971; Hanson and Winberg, 1972) and necrotising enterocolitis (NEC), a cascade of events which is potentially fatal (Addy, 1976; Barlow et al., 1974). However, sometimes mothers of sick babies had already abandoned breastfeeding and there was little support to relactate (re-establish lactation). Other mothers of very low birth weight babies were slow in establishing adequate lactation, especially during this period when frequent, early expression of their breasts was not understood to be best practice and not encouraged. So, where the mother could not provide enough, or any, EBM, another source was sought.

Outsourcing human milk

The Nursing Mothers' Association of Australia (NMAA), now the Australian Breastfeeding Association, was used by some hospitals in major cities such as Canberra and Sydney as a source of EBM for premature or sick babies (NMAA Newsletter, 1974; Dowsett, 1979). For instance, in 1979 the children's ward of the Bankstown Hospital in Sydney

approached an NMAA group leader for EBM for a baby with a specific problem (Dowsett, 1979). Some members of her group provided their excess breastmilk, daily, for two weeks. Mothers in the community were also approached in this way in other states.

Development of informal milk banking in NMAA

Some local NMAA groups informally stored and froze donated milk while awaiting collection by recipient parents whose babies were doing poorly on alternative infant foods, thereby creating unofficial milk banks. For example, in 1972 the mother of a Brisbane baby had ceased breastfeeding very early because of breast refusal during bronchitis. He became very ill and began to do poorly, whereas he had previously thrived on breastmilk. He was initially diagnosed as being intolerant to other foods, and only later was his illness attributed to *Staphylococcus aureus*. In the absence of a human milk bank in Brisbane, eight NMAA members volunteered to express their milk for this baby, and most of them continued to do so for about two months. Every second day, the baby's father did a 'milk run' of 80-96 km (50-60 miles) to collect the frozen milk as some of the donors lived some distance away. Consequently, an 'unofficial milk bank' was started for convenience (NMAA Newsletter, 1973). Donated EBM for this baby, and later for other babies, was stored in a deep freezer at her home by the leader of a suburban NMAA group, each batch meticulously labelled and handled (Thorley, 2009).

Concern was expressed that the association could not control the process at every stage, to prevent contamination or a bacterial infection being transmitted to a recipient infant through

milk sourced from the NMAA. Consequently, the association's national executive committee developed policies and procedure to protect all parties involved in milk donation. The author believes that the development of such policies and procedures in the volunteer sector was unique in Australia.

Policy development

Through the 1975-1977 period, NMAA counsellors and the organisation's executive committee (later the NMAA board) in Melbourne grappled with policies for donation of expressed breastmilk. A set of policies and procedures titled 'Milk Bank – Expressed Breast Milk' was issued to office bearers in October 1975 as an enclosure in *Talkabout*, the association's newsletter for its office bearers (Nursing Mothers' Association of Australia, 1975). The preamble to this 1975 policy stated that the NMAA group leader must understand that: firstly, milk-banking is time-intensive, requiring effort and emotional energy; secondly, her primary aim must be to help the mother establish or improve her own lactation; and thirdly, donor EBM is an emergency measure and temporary, that is, for no longer than four weeks (Nursing Mothers' Association of Australia, 1975).

The responsibilities and procedures for the local NMAA group leader involved in milk banking were onerous. First, she was to notify the Branch Representative (now branch president) of her state or territory of any request for EBM and also to notify the 'nearest NMAA milk bank' (Nursing Mothers' Association of Australia, 1975). She then had to explain to the parents of the baby who was to receive the donor milk that there was a four-week limit on supply and to ascertain whether the mother intended to breastfeed. If so, the group leader was to offer

assistance with breastfeeding issues. She was also to advise the recipient mother that, while the EBM was free, it is the recipient who is responsible for any costs, such as transport. The group leader was also to ensure that the appropriate paperwork was signed. This involved processing a written request from the baby's doctor for donor EBM to be supplied and having the mother sign two copies of a certified release, without which she could not receive donor EBM for her baby. The medical referral letter was to be mailed to the NMAA national headquarters and the group leader was to keep a record of the doctor's name and contact details. One copy of the mother's consent form was to be sent to the NHQ, the other to be retained by the mother (Nursing Mothers' Association of Australia, 1975). After this paperwork was completed, the group leader could supply EBM to the mother of the recipient baby. She would also need to find donors to replenish stocks and forward a report to both the state level of NMAA and the national headquarters (Nursing Mothers' Association of Australia, 1975).

The group leader's responsibilities as regards the donor mothers involved screening them and their families, making sure they understood the hygiene requirements, such as sterilisation of containers, and that they could follow the procedures for storing the EBM as set out in a duplicated sheet of instructions. At this stage, the health screening required the donor to sign a certified form attesting to her good health and that of her family (Nursing Mothers' Association of Australia, 1975). The information to be provided to the mother of the recipient baby started with the statement, 'N.M.A.A. has established central milk banks to provide the emergency supply of E.B.M.' (Nursing Mothers' Association of Australia, 1975). To date I have found no evidence of the existence of 'central milk banks' within NMAA, despite including questions about milk banking by this organisation in interviews for a separate study. This appears to have been an intention that was never fulfilled.

In August 1976, the internal NMAA publication, *Talkabout*, reprinted an article and other information about research on boiled *versus* fresh donor EBM. The main concern reported for infection via EBM was *Staphylococci*, from the donor's skin, nose and mouth. The report noted that hospital milk banks in the United Kingdom undertook bacteriological testing, after which the EBM was pooled and pasteurized (Nursing Mothers' Association of Australia, 1976a). The report concluded, with enthusiasm: 'Proper organization of milk banks within N.M.A.A. is possibly a better solution; we have to establish our very own high standards and stick to them' (Nursing Mothers' Association of Australia, 1976a). With this in view, 'milk bank release forms' were mentioned in *Talkabout* in November 1976 (Nursing Mothers' Association of Australia, 1976b). Group leaders were reminded that, without the signed release forms, they could be held personally liable in the event of contamination.

By 1977, there were very detailed procedures for screening mothers who wanted to donate their excess milk, and for every stage of the process, such as hygienic expressing and storage of their milk, labeling the containers, transporting the milk, and consent forms (Deakin, 1977). As part of this, a detailed screening questionnaire, not dissimilar from that used by the Red Cross Blood Bank, was developed. As well as handling the paperwork from the medical officer requesting the EBM, consent forms from the parents of the recipient child and internal NMAA paperwork, the NMAA 'office bearer' (breastfeeding counsellor) was required to explain the policy and procedures to the donor mother and check the details of the health questionnaire with her. This 1977 screening tool was rigorous in its coverage of health issues, environmental issues, and medications. Prospective donors were required to sign and date a statement of good health on the forms, and they were to notify the milk bank coordinator if they or a family member became ill (Deakin, 1977). Details from the NMAA health screening form are

reproduced in Table 1.

Instructions on how the questionnaire should be used included the following examples. A mother who was smoking was to be excluded, but a past smoker could donate her milk if she had experienced a pregnancy and lactation since last smoking. Mothers were to express their milk by hand and not use breast pumps because of concerns about contamination.

A formal NMAA milk bank

To the author's knowledge, only one formal NMAA milk bank was established, in Townsville in conjunction with the paediatric ward of the hospital. A report of the establishment and operation of this milk bank was published in the *Medical Journal of Australia* in 1978 (Beal et al., 1978). An NMAA volunteer, a midwife by training, coordinated the milk bank, a task involving considerable paperwork and time. She recruited the donors, instructed them in hygienic procedures for expression and storage of their milk, collected the milk from the donors' homes, and delivered it to the dedicated freezer in the paediatric ward. A sample of each batch was also delivered to the government microbiologist for testing. Because of the rigorous screening and the microbiological testing, the hospital used the milk raw and unpasteurised after thawing (Beal et al., 1978). Careful record keeping was implemented at every stage, including by the nurses in the paediatric ward who accessed the frozen EBM. The Townsville milk bank continued under a second coordinator after the first one resigned.

When the second coordinator relinquished the position, the milk bank was forced to close as no replacement could be found who was able to devote the very considerable volunteer commitment required (Dallas Beal, pers comm., June 2009). This was despite the fact that there

was strong medical support for the milk bank. The closure came in the late-1970s, when concern about potential vertical transmission of HIV through milk had yet to be raised. Indeed, some Australian postnatal wards continued the pooling of EBM into the early-1980s (Thorley, 2011), before the potential for transmission of HIV became an issue of concern in the second half of the 1980s (Ziegler et al., 1985; Mok et al., 1987; Anon., 1988; Bell, 1988).

Although during this period NMAA members in various states occasionally provided their EBM to other mothers (and sometimes to a hospital, on request), no direct evidence has been found in a subsequent study of any formal milk bank with NMAA involvement outside of Queensland (Thorley, 2011).

Reversals in policy: 1978-1979

A new 1978 policy statement from the NMAA Executive in Melbourne was less encouraging of milk donation (Nursing Mothers' Association of Australia, 1978a). The statement required the counsellor to ask why the mother had insufficient milk, why she had requested EBM, and in what other ways NMAA could help her. It was a product of its time in its attitude to attachment and grief in mothers of frail premature babies, in that it discouraged the idea of promoting early, frequent expressing, which would be recommended as best practice today (Meier, 2001; Furman et al., 2002; Human Milk Banking Association of North America, 2005).

Possibly for concerns about legal liability, the association withdrew from milk banking

and changed its policy, almost before it had started (Nursing Mothers' Association of Australia, 1978a). The new NMAA policy on milk banking of 1978, restated by the editor of *Talkabout* the following year, reveals a complete reversal of the enthusiasm previously expressed for involvement in milk banking. The policy stated that, because of lack of consistency in supervision,

NMAA is not to be responsible for the establishment or maintenance of human milk banks.

Subsequently NMAA members and/or NMAA Counsellors are not to collect, or stockpile, donated expressed breast milk (EBM) on behalf of NMAA.

NMAA accepts no responsibility for EBM donated by its members. NMAA members who donate EBM do so at their own risk and expense, as breast feeding mothers, not on behalf of NMAA (Australian Breastfeeding Association, [1978b]; Editorial note, 1979).

Thus, by 1979, NMAA had completely withdrawn from any direct involvement in milk banking. The editor of *Talkabout* recommended that NMAA counsellors obtain further details from the local regional representative or branch representative, about the procedure to follow if a woman requested EBM. In effect, she was to be given information on milk banks (Editorial note, 1979). Since there was limited access to formal milk banks, such advice was effectively useless.

The appeal for donors of EBM for a New South Wales hospital, published in the *NMAA Newsletter* in 1982 and already cited, met the requirements of the 1979 policy amendment (Nursing Mothers' Association of Australia, 1982). This policy was later to be expanded in a way that would have included appeals for donors by an institution, such as this, but not requests from individual mothers. In 1999, the policy was amended with a new preamble and an additional bulleted point inserted, which read:

[NMAA] is not to advertise for or actively seek volunteers on behalf of any mother who wishes to either donate expressed breastmilk or receive donations of expressed breastmilk (Nursing Mothers' Association, 1999).

This addition to the policy was, however, occasionally ignored. For instance, in the first decade of the 21st century an internal email discussion list passed on a request for donations of expressed breastmilk for the mother of premature twins, with the understanding that this was a personal matter and not endorsed by the Australian Breastfeeding Association (ABA, formerly NMAA) (Ros Lording, pers comm., 14 July 2009). The counsellor who made the request for her friend did, in fact, collect the EBM from donors, for convenience. Today representatives of ABA sit on at least one committee working towards the establishment of formal human milk banks based in hospitals, a situation which is within both the text and the spirit of the 1978 policy and its 1999 amendment.

Conclusion and implications for practice

The lack of access to donor human milk by the parents of babies in high needs categories led the NMAA in the 1970s to respond to requests from hospitals and individuals for donations of EBM by developing policies for the establishment of its own milk banks. The organisation at first responded enthusiastically to this challenge. Policies and procedures, including a rigorous screening questionnaire, were developed to control every aspect of the process and prevent contamination and infection during selection of donors and handling of the milk. This enthusiasm was short-lived, and fears about legal liability led the association to withdraw from involvement in milk banking and concentrate on its core business, that is, providing a variety of services to those mothers who required information and practical support in breastfeeding their babies.

The heavy involvement of time by volunteers was an important further factor and was the direct reason for the closure of the Townsville milk bank. The lesson from this is that milk banks established and run entirely with volunteer labour are particularly vulnerable and difficult to sustain. Another human milk bank, on the Gold Coast of Queensland, has been operating since 2006 with volunteer labour and a lack of public funding, and has struggled to raise enough money to maintain its service though, at present, it is continuing to operate. The implication for practice is that, for a milk bank to survive, a sustainable source of funding is desirable to pay a coordinator and maintain equipment, whether or not volunteer hours are also utilised.

Conflict of interest statement

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Figure 1. *Items on the NMAA's 1977 health screening questionnaire for donors of EBM.*
(Adapted by the author)

Infectious and other

■ Brucellosis

Lifestyle questions

diseases:

- Cytomegalovirus virus
- Hepatitis [unspecified type]
- Tuberculosis
- Kala-azar
- Leprosy
- Yaws
- Syphilis
- Cancer Toxoplasmosis
- Typhoid fever
- Herpes

- Glandular fever
- Jaundice [hepatitis?]
- Thrush

Vaccinations:

- Smallpox
- Yellow fever

Recent infections:

- Mastitis
- Common cold / URTI
- Gastroenteritis – rota virus / bacterial

- Smoking
- Environmental exposure, e.g. dieldrin, in past 12 mos.
- Radioisotope exposure
- Diagnostic X-rays involving barium meal or dyes

Questions on medications (1)

- Oral contraceptives – when last used?
- Gold injections [highly toxic]
- Anti-malarials
- Anti-spasmodics / phenylebutazoliden
- Anti-inflammatory meds
- Major tranquilisers or anti-depressants
- Epidural anesthesia, narcotics / opiates
- Barbiturates

Questions on medications (2)

- Minor tranquilisers
- Analgesics
- Antibiotics
- Fungicides
- Flagyl
- Anti-thyroid
- Atropine
- Ergometrine
- Antihistamines
- Asthma & allergy meds
- Anti-epileptics
- Adrenaline
- Any other medications?
- Alcohol in last 24 hrs
- OTC medications