

# Effect of implementing a programme of exclusive human milk feeding in a NICU

**Dr Maria Wilińska**

The Medical Centre of Postgraduate Education, Warsaw, Poland

Human milk has unique nutritional, immunological and trophic properties, especially for preterm and sick neonates. Appreciating the benefits of breastfeeding for the health and development of the child, the World Health Organization as well as other organizations, associations and scientific committees make many efforts to promote breastfeeding.

The rate of breastfeeding in Poland is insufficient. While about 90 % of women breastfeed their children at discharge, this indicator rapidly descends to about 15 % of exclusive breastfeeding after three months of life. Feeding with human milk is extremely important for immature, prematurely born children. Under the auspices of the National Consultant of Neonatology prof. Ewa Helwich, we created a Programme of Early Stimulation of Lactation in Poland devoted to that population. At present this programme is implemented by the Polish Ministry of Health to all grade III neonatology and obstetric centres.

I work in one of the grade III neonatology intensive care units. For the last three years all neonates in our NICU are fed only with human milk. We never use any formula, even if the child is outborn. This is possible due to the implementation of the Programme of Early Stimulation of Lactation, as well as the availability of pasteurised milk from a human milk bank (HMB). This was the first HMB in Poland. Thanks to the participation and support from many people, we opened the HMB in my hospital on the 28<sup>th</sup> March 2012.

Today in Poland we have four HMBs, and milk from a HMB is the first choice in situations where the mother's own milk is unobtainable. HMB operations are bound by strict procedures surrounding the milk's collection, transport, processing, storage and feeding. On the basis on these operations we have introduced the original Project of Exclusive Breastfeeding for Premature and Sick Babies in our Neonatal Intensive Care Unit. It is the leading principle in the area of feeding for our patients.

Preliminary observations indicate a very good effect of breastmilk only, especially for gastrointestinal tract function, resulting in a very early introduction of enteral nutrition and a reduction in the occurrence of necrotising enterocolitis.

For three years running we have conducted ongoing analysis of the introduction of this philosophy of feeding in the NICU. The aim of this presentation is to present the analysis of the medical and financial outcomes after three years of introducing our Programme of Exclusive Breastfeeding to patients in the neonatal intensive care unit.

A dedicated group of 4 people analysed the medical documentation of each NICU patient. This included the length of hospitalisation and the costs of antibiotics and formula in the period from April 2011 to March 2012 (before the HMB) and from April 2012 to March 2014 (when milk from the HMB became available). Accuracy and reliability of the information has been verified by the special monitor of the project. In this prospective observational study we established two groups of patients: group I, fed only with human milk (own mother's milk and from HMB), and group II, fed in a mixed way (mother's own milk and formula).

Groups did not differ from each other in terms of birth weight ( $p = 0.99$ ), maturity ( $p = 0.72$ ) or clinical status at birth measured by Apgar score at 5' ( $p = 0.118$ ). There were no differences in the incidence of late onset sepsis ( $p = 0.234$ ), retinopathy of prematurity ( $p = 0.076$ ), mortality ( $p = 0.269$ ) or the length of hospitalization ( $p = 0.691$ ). Time to introduce well tolerated minimal enteral feeding in group I was significantly shorter ( $p < 0.001$ ), as well as length of total parenteral nutrition ( $p = 0.019$ ), and duration of the use of central venous catheters ( $p < 0.001$ ). The incidence of necrotising enterocolitis ( $p = 0.015$ ) and the number of days of antibiotics therapy was lower in group I ( $p = 0.007$ ). We have reduced spending on antibiotics by 63 % and on formula by 67 %. Exclusive breastfeeding at discharge was 78 % for premature babies during the programme compared to 62 % in the previous time.

Medical professionals favourably consider the HMB and its use for feeding neonates. The pro-lactation behaviour of nurses and parents has been reinforced. Parents perceive the HMB especially well, seeing it as

