The Benefits of Human Milk

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Breastfeeding

- Reduces the risk of necrotising enterocolitis (NEC), gastrointestinal tract infections, respiratory tract infections, otitis media, atopic dermatitis, childhood asthma, childhood leukaemia, diabetes type I, obesity, and sudden infant death syndrome (SIDS).
- Breastfeeding also facilitates maternal-infant bonding through complex behavioural and neuro-endocrine responses between the mother and her infant.
- in women: reduced risk of breast and ovarian cancers, osteoporosis, diabetes type II, cardiovascular disease, and rheumatoid arthritis

Preterm infants who receive human milk during their stay in the NICU:

- have a reduced risk of NEC, chronic lung disease, retinopathy of prematurity, SIDS, and rehospitalisation after NICU discharge.
- The positive impact of human milk appears to be linked to precise exposure in the early postbirth period, during which the exclusive use of human milk and the avoidance of commercial formula, are most vital

preterm milk

- has higher levels of energy, lipids, protein, nitrogen, some vitamins, some minerals, and in particular immune factors, including live cells, immunoglobulins and anti-inflammatory elements
- protection against <u>infection</u>, <u>provide nutrition</u> and promote <u>optimal development</u> of critical bodily systems
- development of the gastrointestinal tract, for neurological development and immunological protection.

Schanler R.J Am J Clin Nutr 85, 625S-628S (2007).

components of human milk

- The live cells from the infant's mother, cannot be replaced by <u>artificial sources</u>, which is why the feeding of human milk should be a NICU priority
- Fresh human milk, has the highest level of functional nutrients, growth factors, and many other protective components such as lactoferrin, secretory IgA and lysozyme.
- Moreover, fresh human milk is not sterile but rather contains a wide variety of living organisms, including non-pathogenic bacteria that colonise the infant intestine

the benefits of HMBs

- Increasing BF rates
- beneficial effects on neurodevelopmental outcomes
- risk of sepsis
- risk of necrotizing enterocolitis
- tolerance of feedings
- length of stay in the NICU
- direct cost savings.

Very preterm infants who received more than 50% breastmilk within the first month of life:

- had better neurodevelopmental outcomes at 7 years of age.
- An 0.5 point increase in IQ was seen for each additional day.
- Furthermore, there was an association between breastmilk intake and size of the deep nuclear grey matter and the hippocampus at term
- Academic achievement, working memory and motor scores at 7 years of age

Human milk bank, or breast milk bank

- A human milk bank is a service established for collecting, screening, processing, storing and distributing donated human milk
- The <u>optimum nutrition</u> for newborn infants is breastfeeding, if possible, for the first year.
- Human milk banks offer a solution to the mothers that cannot supply their own breast milk to their infant
- Mothers' Milk Bank (MMB) says, this service provides mothers with an alternative to <u>infant</u> <u>formula</u>

WHO and UNICEF, made a joint statement in 1980:

- "Where it is not possible for the biological mother to breast feed, the first alternative, if available, should be the use of human milk from other sources.
- Human milk banks should be made available in appropriate situations."

اهداف برنامه جمعیت سالم تا 2020

جدول ۲–۱: اهداف کلی «جمعیت سالم تا سال ۲۰۲۰»

اهداف اختصاصی «جمعیت سالم تا سال ۲۰۲۰»			
MICH-21: افزایش نسبت شیرخوارانی که با شیر مادر تغذیه شدهاند.			
۸۱/۹ درصد	تغذیه با شیرمادر تا هرسنی و هرمقداری	MICH-21.1	
۶۰/۶ درصد	در۶ ماهگی	MICH-21.2	
۳۴/۱ درصد	دریک سالگی	MICH-21.3	
۴۶/۲ درصد	انحصاری با شیر مادر در طول۳ ماه اول	MICH-21.4	
۲۵/۵ درصد	انحصاری با شیر مادر در طول۶ماه اول	MICH-21.5	
۳۸ درصد	افزایش نسبت کارفرمایانی که برنامههای حمایت از شیردهی را در محیط کار فراهم میکنند.	MICH-22	
۱۴/۲ درصد	کاهش نسبت شیر مادرخوارانی که در ۲ روز اول تولد شیر مصنوعی دریافت میکنند.	MICH-23	
۱/۸ درصد	افزایش نسبت تولدهای زنده در مراکز زایمانی که مراقبتهای لازم را برای مادران شیرده و شیرخواران را فراهم میکنند.	MICH-24	

KMC and Milk expression in unit





Fresh human milk contains bacteria

- including intestinal bacteria that are thought to contribute to vital programming of the infant's immune system to respond to commensal and pathogenic bacteria.
- The majority of identified organisms in milk are nonpathogenic normal skin flora from the mother's nipple or breast.
- Nonetheless, potentially pathogenic bacteria are also common in human milk. Staphylococcus aureus, including MRSA, B-haemolytic streptococci, Pseudomonas species, Klebsiella species, Proteus species, and enterobacteria are frequently identified and may place the infant at risk of infection.

Jeurink, P.V. et al. Human milk: A source of more life than we imagine. Benef Microbes 4, 17-30 (2013).

Best	1. Mother's own breastmilk (fresh)	Helps bonding Helps establish lactation	
	2. Donated fresh preterm milk	Good balance of nutrients (may need supplemental calcium and Vit. D) Prevents infection Easily digested	
	3. Donated fresh term mature milk	Prevents infection Easily digested, but lacks adequate protein Usually foremilk, so may lack fat	
	4. Pasteurized donated breastmilk	Easily digested HIV destroyed, anti-infective factors partially lost	
	5. Preterm formula	Correct nutrients, but not necessarily easily digestible No anti-infective properties More severe infections	
	6. Ordinary formula	Wrong balance of nutrients No anti-infective properties Less optimal growth and development More severe infections Difficult to digest and utilize	
Worst			



Specific Refrigerator in Each unit One basket for one Infant



Participation of Family in care is an Integral part of NIDCAP



بانکشیرمادران دانشگاهعلومپزشکی تبریز

Breast Milk Bank of **Tabriz University of Medical Sciences**

بانک شیر مادر، مسئول جمع آوری و آماده سازی شیر مادر اهدایی برای نوزادانی است که یا بیمار یا نارس اند.

اهدای شیر مادر پاستوریزه شده به نوزادانیکه شیر مادر ندارند

















آزمایش از نمونه ها

سازمان بهداشت جهانی (WHO) برای نوزادانیکه به هردلیل از شیر مادران خود محروم اند شیر مادران دیگر را توصیه می کند. مادران محترمی که قصد اهدا شیر را دارند لطفا با آدرس و شماره تلفن زیر تماس بگیرند: تبریز، خیابان ارتش جنوبی، بیمارستان الزهرا، ساختمان شماره ۲ ، بانک شیر مادران. تلفن : ۵۵۷۷۲۲۵-۵۱۳۰ Alzahrahosp.tbzmed.ac.ir



استريل كردن ظروف











Logo of Breast Milk bank of TUOMS



Opening Ceremony of First Iranian Breast Milk Bank



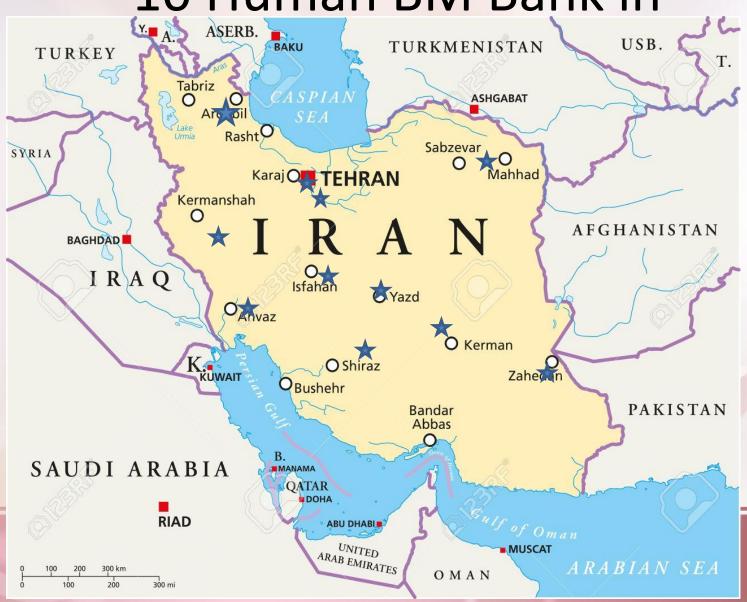
Opening Ceremony of First Iranian Breast Milk Bank



Opening Ceremony of First Iranian Breast Milk Bank

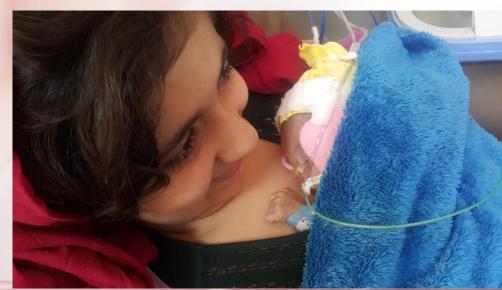


10 Human BM Bank in



At First Consider your Mothers in your NICU's





Facilitate KMC and Breast feeding

