

ROTARY CLUB OF SEVEN HILLS DHARWAD
Charter No: 81175, RID 3170

GLOBAL GRANT PROPOSAL
Type of Project: Humanitarian Project
Rotary Area of Focus: Maternal & Child Health

ROTARY HUMAN MILK BANK AT DHARWAD

INTRODUCTION:

Breastfeeding is the most natural, inexpensive, environment friendly and easily accessible method to provide all children, rich or poor, with the healthiest start to life and ensures that all children survive and thrive. Breast milk offers the ideal source of nutrition for the first 6 months after birth, and may remain a part of an infant's diet for the first 2 years of age and beyond. There is evidence that demonstrates the value of breastfeeding for both a mother and her child.

However, many infants lack access to their mother's own milk (MOM) because of issues related to the mother's illness or death, abandonment, infant's illness, inability to latch, or delay in milk production. This lack of access to breast milk leaves infants more vulnerable to disease, poor health, or death, especially when they are born preterm, have low birth weight, or are severely malnourished. In such a situation, the World Health Organization and other policy groups recommend pasteurized donor human milk, made available through human milk banks, as the next best feeding option when MOM is unavailable.

A human milk bank is a facility to help newborns and mothers, with lack of access to human milk, that screens and recruits breast milk donors; collects, processes, and screens donated milk; and distributes the milk to infants in need. As part of integrated newborn care, human milk banks reduce death and illness as well as lower health-care costs. Data exists, which support the health benefits of donor human milk, especially for infants born prematurely, with birth weight less than 1,500 g, and for infants born in resource-limited settings where a non-breastfed child's risk of death is 6 times that of a breastfed child.

A myriad of studies demonstrate the positive effect of donor human milk on vulnerable infants as compared with formula, such as reduced risk of sepsis and necrotizing enterocolitis, greater feeding tolerance, reduced length of stay in NICUs, and substantial cost savings for resource-strapped public health systems.

Providing donor human milk to vulnerable neonates without access to MOM not only saves lives but also enhances awareness about breastfeeding and improves breastfeeding rates. This increase in breastfeeding rates is important because it has the potential to prevent around 820,000 "under-5" deaths (i.e., death before age 5 years), of which 87% are infants younger than 6 months of age. Improving breastfeeding rates worldwide is a fundamental driver to achieve Sustainable Development Goals by 2030.

Scenario in India: India faces its own unique challenges. Our country is the highest contributor to the global birth cohort, neonatal mortality rate, and birth of vulnerable infants, that is, infants born prematurely and with low birth weight. India has the highest number of preterm births in the world and breastfeeding rates are suboptimal.

Though India's first HMB was established in 1989, HMBs in the country gathered momentum only in the last 3-4 years. India now has nearly 80 milk banks, operational as per the National Guidelines on Lactation Management Centre in Public Health Facilities.

Nearly 50% of milk banks in India have been established by nongovernment organizations such as Rotary, the remaining supported by the local state governments.

Scenario in Karnataka State: The infant mortality rate in Karnataka is estimated at 28 deaths before the age of one year per 1,000 live births. Infant mortality is much higher in rural areas (33 per 1,000 live births) than in urban areas (20 per 1,000 live births). Although breastfeeding is nearly universal in Karnataka, only 55 percent of children under 6 months are exclusively breastfed, as the World Health Organization (WHO) recommends. Eighty-two percent are put to the breast within the first day of life, but only 58 percent start breastfeeding in the first hour of life (as recommended). It is recommended that nothing be given to children other than breast milk even in the first three days when the milk has not begun to flow regularly because prelacteal feeds limit the frequency of suckling by the infant and expose the baby to the risk of infection.

Need for Human Milk Bank (HMB):

Every year during the Breastfeeding Week in August (August 1st – August 8th), a lot of breastfeeding awareness activities are conducted by our Rotary club in the community and in the various hospitals in Dharwad. During one such activity conducted in the District Hospital in association with pediatricians from SDM Medical College and Hospital, there was a discussion on how many newborns especially the pre-terms were dying due to lack of adequate nutrition and breast milk from the mothers. The concept of a Human Milk Bank was discussed with the doctors and how it will be useful to save lives of newborn.

As local Rotary clubs have been working a lot in the community and especially during the COVID pandemic, we were asked if Rotary could help in any way to set up a Human Milk Bank. SDM Medical College & Hospital at Dharwad, expressed that they would be happy to collaborate with our Rotary club on setting up the Human Milk Bank. We called a meeting of our Global Grants Committee and had a discussion about the project, made a presentation to the management of SDM Medical Hospital and it was agreed to set up a Rotary Human Milk Bank at Dharwad, through a Global Grant project of the Rotary Foundation.

The HMB is proposed to be installed at SDM College of Medical Sciences and Hospital situated at Dharwad, Karnataka, India

SDM Medical Hospital:

- Is a tertiary care centre which caters to more than 4, 00, 000 outpatients and 45,000 inpatients, every year, from 10 districts of North Karnataka led by a dedicated team of professionals.
- The hospital has a tertiary care Neonatal Intensive Care Unit with 50 beds in NICU to take care of preterm and sick newborns from both rural and urban areas, with around 60 – 70 % of patients belonging to the lower socioeconomic status.
- The hospital has approximately 4000 - 5000 deliveries per year.
- LBW babies constitute over 40% of total newborns.
- Approx. 2500 newborn babies transferred for intensive care per year.
- Around 25% of newborns are preterm babies all of which require intensive care
- Around 50% of mothers have inadequate breast milk or lactation failure. Few mothers had complications such as breast congestion, mastitis, breast abscess due to excess milk production (15 -20%).
- Almost half the neonates in the NICU are put on artificial feeds due to lack of adequate mother's milk or inability for oral feeds – thus leading to higher feed intolerance and higher chances of infection.

- The cost of artificial feed per patient is also very high and not easily afforded by patients from the lower income strata (Cost of Artificial Milk Powder – 320 INR per 400 gm).
- The nearest Human Milk Bank is situated around 100 kms away in the neighbouring district at KLE Medical Hospital, Belgaum and therefore this project will help patients in Dharwad district get access to a State of art Human Milk Bank.
- Thus there is a real need for a well equipped HMB, which will not only serve this centre but the entire population in the area. It will be a significant step in the Focus area of “Maternal & Child Care” and result in decrease in infant mortality, decrease in artificial feed related complications and a significant increase in breastfeeding rates.

Responsibilities of Sponsor Club and Beneficiary Institute:

The sponsor club will:

- Apply for a Global Grant of The Rotary Foundation
- Arrange funding for the project through Rotary and non-Rotary partners
- Select quality equipments from known vendors with good track record
- Collaborate with an International Rotary partner
- Help setting up the HMB
- Arrange training of all staff
- Periodically monitor the progress of project after installation and regularly report to the Rotary Foundation.

The beneficiary institute will:

- Provide all infrastructure and space for setting up the HMB to be provided
- Operating costs, Maintenance costs and Manpower will be borne by the institute after installation
- Has a dedicated team with passion for HMB
- Milk will be provided free of cost for babies below poverty line and a nominal fee will be charged for private patients
- Microbiological testing of milk will be done at the institute
- Compliance with guidelines of HMBA India will be followed
- Give permission for Rotary members for periodic monitoring
- This ensures operation and sustainability of the HMB

Satellite Centre at the Dharwad District Hospital:

A satellite centre will be set up at the District Hospital. The district hospital sees about 100 deliveries every month and has a small NICU set up of around 10 beds. The satellite centre will serve as a point of collection of donor human milk which will then be transported to the main milk bank at SDM Medical College & Hospital for storage. The Satellite centre will be equipped with 2 hospital grade breast pumps and a deep freezer for storage. The milk will be transported in cold chain in a dedicated ambulance to the main milk bank which is less than 10 kms away.

The space, operations and maintenance will be looked after by the satellite centre. A set of dedicated counsellors, nurses will be posted to counsel and encourage mothers to donate excess milk.

Pasteurized human milk will be provided from the main milk bank to the NICU at the satellite centre (< 10 kms away) with prescription.

Equipments involved:

Sl. No	Name of Equipment	Use in the HMB	
1.	Sterifeed S90 Human Milk Pasteuriser (Fully Automated)	Pasteurization of expressed breast milk	It is the most important equipment needed for a human milk bank
2.	Electric Hospital Grade Breast Pump- Medela	Expression of Milk	Helps donor mothers to comfortably express excess breast milk
3.	Miris- Sonicator	Homogenizes milk samples for the reliable results that truly reflect composition.	
4.	Laminar Air Flow	For processing milk samples in sterile environment	To maintain aseptic precautions
5.	Deep Freezer & Refrigerator	Storage of collected and pasteurized milk	

Budget:**TOTAL BUDGET OF THE PROJECT – 75000 USD**

- Inclusive of Equipments – Automated Pasteurizer (Sterifeed, UK), Medela Hospital Grade Breast Pumps, Consumables (Food grade bottles for collection, storage and transport), Laminar Air Flow, RO Filter, Deep Freeze, Refrigerator, Online UPS and Bottle Sterilizer.
- Training of all staff at the Proposed Human Milk Bank
- Setting up of the entire advanced state of art Human Milk Bank.
- Infrastructure and space will be provided by the beneficiary institution and satellite centre.

	Category*	Description	Supplier	Cost in local currency (INR)	Cost in USD (July RI Exchange Rate = 74)
1	Equipments	Sterifeed Fully Automated Human Milk Pasteuriser (S90) – 1 unit	Mettle Innovations	28,55,555.00	38588

2	Equipments	Medela Symphony Electric Hospital Grade Breast Pumps – 6 units	Mettle Innovations	8,95,620 .00	12102
3	Equipments	Reusable Kits for Medela Symphony Breastpump	Mettle Innovations	1,50,500.00	2033
4	Equipments	130ml Re-usable BPA FREE Bottle in Bulk	Mettle Innovations	21,500.00	290
5	Equipments	250ml Re-usable BPA FREE Bottle in Bulk	Mettle Innovations	23,900.00	322
6	Equipments	Laminar Air Flow	Mettle Innovations	1,75,546.00	2372
7	Equipments	Vertical Deep Freezer	Mettle Innovations	1,40,890.00	1904
8	Equipments	Horizontal Deep Freezer	Mettle Innovations	40,000.00	540
9	Equipments	Refrigerator	Mettle Innovations	60,000.00	810
10	Equipments	Desktop, Barcode Printer Barcode Scanner LCD Screen	Mettle Innovations	80,000.00	1081
11	Equipments	RO + Pipeline + Water Tank		50,000.00	676
12	Equipments	UPS		60,000.00	811
13	Equipments	Sterilizer		5,500.00	74
14	Tax (18%)			6,83,383.00	9235
15	Tax (12%)			18,060.00	244

16	Tax (18%) for accessories			1,10,095.00	1488
17	Training			100000.00	1351
18	Public Image Activities			60000.00	811
18	Signage			20000	270
				5550253	~75003

PROPOSED FUNDING PATTERN:

SOURCE	AMOUNT CONTRIBUTED	SUPPORT	TRF CONTRIBUTION (2021-22) (80% matching for DDF only)
Rotary Club of Seven Hills Dharwad	6000 USD	300	0 USD
District Designated Fund (RID 3170)	10000 USD		8000 USD
International Club Contribution - 1	6000 USD	300	0 USD
International DDF -1	10000 USD		8000 USD
International Club Contribution - 2	5000 USD	250	0 USD
International Club Contribution - 3	7000 USD	350	0 USD
Funding from non Rotary partner organization	15000 USD	750	0 USD
TOTAL = 75000 USD	59000	1950	16000 USD

SPONSOR CLUB:

Rotary Club of Seven Hills Dharwad: Ours is a 12 year old club chartered in 2009 consisting of 44 lady Rotarians from diverse professional backgrounds. We regularly conduct activities in the local community and some of the major projects done by our club are: - provision of solar lights for villages, Menstrual Hygiene Management awareness program conducted in 110 schools in Dharwad, **Global Grant worth 38000 USD on Wash in Schools (GG1984018, 2018-19)** - for construction of gender segregated toilet blocks, provision of hand wash stations & clean drinking water in 4 Government schools in Dharwad. Ours is a vibrant club with intent on partnering with a similar club abroad.

Partnering NGO/ hospital/ Experts that could help in implementation

a. Administration of SDM Medical College & Hospital, Dharwad, Karnataka state

b. Dr. Vijay Kulkarni
Consultant Pediatrician,
Head of Department, Dept. of Pediatrics,
SDM Medical College & Hospital, Dharwad.

c. Dr. Sreenath Manikanti
MBBS, MD (Pediatrics) DCH (London)
MRCPPH (UK) Fellow-Neonatology (UK)
PGPN (Boston University USA)
HOD and Consultant Neonatologist
Fortis La Femme Hospital, Bangalore

Note: Dr.Sreenath will share his expertise in the implementation of the Project. He has established ‘AMARA ‘ – first Human milk bank in Karnataka at Fortis La Femme Hospital in Bangalore and is successfully running for the last many years. He has agreed to provide the required training to the staff over here and establish Best Practices and procedures for the efficient running of Human Milk bank.

d. The team from Mettle Innovations – Mr. Mukund Deshpande and Ms. Vrushali Deshpande who will guide and train the installation, operation and maintenance of the equipments.

Statistics:

Details for the year 2020 for SDM Medical College and Hospital, Dharwad are enclosed.

Summary is as follows:

Total number of deliveries	5547
Number of Preterm Deliveries	700
Preterm Average no. of Hospital stay for a child	25-30 days
No. of Preterm mothers who lacked lactation	229
Preterm Child Mortality rate	49

Premature babies are likely to die of various problems such as infection, nutritional deficiency, breathing problems etc. Breast milk contains all the substances required to prevent infection, promote growth, and maturity of organs of all neonates in general and premature babies in particular. The Mamo-Gut-Humoral axis is the most important for neonates to be metabolically and immunologically stable for survival.



With the Head of NICU

Dr. Vijay Kulkarni



50 bedded NICU a SDM Medical College & Hospital, Dharwad



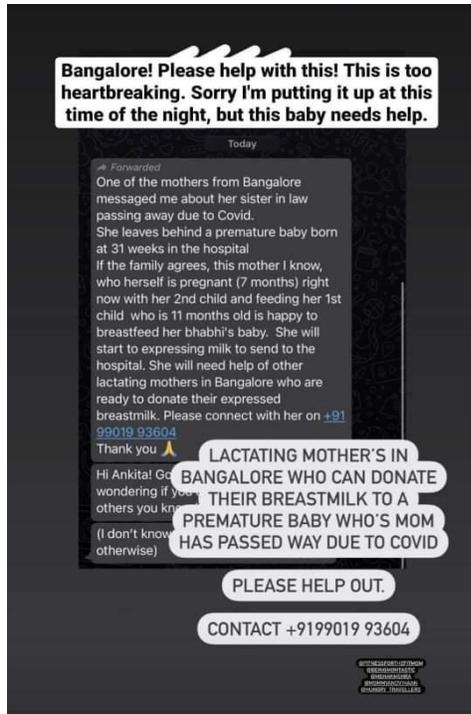
8. Sustainability

- Place for installing Human Milk Bank will be made adjacent to the NICU of SDM Medical College & Hospital, Dharwad. Around 1200 sqft. Of space has been allocated for the purpose of set up of the Human Milk Bank.
- Operation and maintenance will be completely managed by the management of SDM Medical Hospital.
- Pediatricians, Nurses, Data entry operators, counsellors are already working in hospital and their services will be extended to support the milk bank.

9. Number of lives benefitted

- Every month at an average 25 – 30 babies will be benefitted initially and the number is expected to increase steadily as the mothers are counseled and demand increases. A small proportion of babies in the satellite centre will also be benefitted.
- With the Human Milk Bank in place, we expect to save the lives of at least 60 to 90 preterm born children at the beneficiary hospital.

EFFECT OF COVID-19 ON MATERNAL & CHILD HEALTH:



The COVID-19 pandemic has completely shifted the focus from all other health sectors in terms of funding and infrastructure. Maternal & Child health sector has especially suffered as many pregnant women, new mothers and newborns were infected with COVID-19 and have faced morbidity and mortality. India's deadly second wave highlighted the problems faced and there were many requests on social media about the need for human milk to feed babies who had lost mothers due to COVID-19. A human milk bank would have immensely helped the newborns in such a situation.

A request on Social Media for
Human milk from lactating
mothers

The presence of a milk bank will not only reduce the neonatal morbidity and mortality significantly but also help in reducing malnutrition rates as breastfeeding rates and use of Pasteurized Donor Human Milk will increase and pre-terms and low birth weights babies will receive adequate nutrition.

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